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dent; C. E. Lacey, vice-president; and J. T. Butler, secretary-treasurer. In his report to stockholders, Moulden stated that the company's mining property at Chloride, Arizona, is at present being leased by Jagerson and Given. The mine is electrically equipped and the mill is capable of handling 50 tons daily, according to Moulden. O. T. Dennhardt, Box 4, Chloride, Arizona, is operating both mine and mill, including dumps, under sub-lease from Jagerson and Given.

The Finneli Mining and Milling Company of Los Angeles has acquired 20 acres in the Gold Hill district near Nogales, Arizona, and a 25-ton mill is being built under the direction of Edres Herbert, Nogales engineer. George K. Hogan, resident engineer for the company, has spent the past eight months in making a complete examination of the property. Ray Finneli, president of the company, visited Nogales recently and contracted for a good supply of ore.

Burton Brothers, Rosamond, California, George Wyman, and Nelson Sweetser have acquired the Sunrise-St. Patrick mine, located 14 miles north of Trona, California, in the old Argus mining district. A 750-foot tunnel has been driven along a fault, encountering at 600 feet vertical depth an ore shoot which had been exposed in two tunnels above. At this point a 10-foot width of ore shows values of \$16.80 per ton in gold. The Ruth mine in the same district has been operated by this group for 18 months and 70 tons of ore are being treated daily in a cyanide leaching plant, after crushing to one-quarter inch. The ore body consists of a sheared zone, 500 feet long and 40 feet wide. Mill heads run from \$5 to \$7. The stopes are being worked on a semi-shrinkage system, and about 1,000 tons of ore have been accumulated in them. Both mill and compressor plant are Diesel driven. The group has also been developing the Davenport claims under lease and option for the past six months where six hundred feet of tunnel work has been completed, and a drift is being run on a vein 200 feet in from the portal. There is a considerable tonnage of milling ore exposed on this property and it is planned to haul the material to the Ruth mill for treatment.



The Norabagua mine, under development by the Campbell Grass Valley Mining Company, Grass Valley, California, is employing a crew of 54 men on a two-shift basis and the milling plant is running 20 hours each day. George W. Worthington, manager, is in the east at present, conferring with company officials. During his absence, operations are directed by A. A. Larson, superintendent.

Sixteen men are engaged in reopening old workings and reconditioning the furnace at the Franciscan quicksilver mine near Parkfield, California, formerly known as the Patrician. The property is under lease and option to a group of Monterey,

California, men, and operations at the mine are directed by R. J. McEwen, general superintendent. Equipment includes a 50-ton Gould rotary furnace.

A new inclined shaft is being sunk from the old tunnel at the Lucky Gold Hill mine La Porte, California, for the purpose of opening up a large gravel deposit. It was found that the main tunnel was too high to reach the gravel advantageously. Stanley W. Cummings, who has had the property under development for the past eight years, plans to put on a large force this summer preparatory to going into production.

Two shifts have been put to work at the property of the Operator Consolidated Mines Company, Johannesburg, California, continuing the drift into the adjoining Pinmore claim. The purpose of the drift is to tap a reputedly high-grade ore vein discovered some years ago but virtually sealed subsequently when a charge of dynamite ruined the shaft. A portion of the funds provided by a recent assessment of one cent a share went into new machinery to increase the capacity of the milling plant and it is understood that 100 tons of ore per day can now be handled. The crusher, screens, etc., have been set in place and ore treatment is expected to be resumed in the near future. Major J. Paul Jones, Box 213, Randsburg, California, is manager at the mine. E. A. Weller, Bank of America Building, San Jose, California, is president of the company.

The Shanghai mine at Columbia, California, is reported to have been taken over by a new group headed by George H. Thomas, which is preparing to resume operations at the property. The main shaft is to be pumped out and sunk an additional 200 feet.

O. D. Gibson and associates of Oroville, California, have acquired a 500-acre tract of dredging land located 12 miles west of Plymouth, California, for a consideration said to be approximately \$100,000. For the past year the property has been under development by the Lincoln Gold Dredging Company.

George W. Hallock, president of the Sixteen-to-One Extension Mining Company at Alleghany, California, has gone east to complete reorganization of the company and refinancing for development work. It is planned to raise sufficient funds for shaft extension and lateral development. Operations are expected to be resumed about July 1.

Socorro Mines, Inc., operating the Plumbago mine at Alleghany, California, and the American Girl mine near Ogilby, California, has been reorganized under the name of O'Brien Mines, Inc. A. J. Balmforth, Box 465, Ocean Beach, California, is secretary and consulting engineer for the company.

The Rim Cam Gold Dredging Company is operating a dredge and a one-yard Northwest dragline on Woods Creek in Jamestown, California. Work was started on the project April 17, 1938. The company is composed of C. E. Rimmer, A. A. Rimmer, and Jack Cameron.

Lessees are operating at the old Ushchebo silver-lead mine, located about 94 miles

southwest of Beatty, Nevada, in Death Valley, California, and several carloads of ore have been shipped from the property. The mine is owned by Grant Snyder, Continental Building, Los Angeles, California, and comprises nine claims, three of which are copper claims. Principal development consists of a tunnel about 900 feet long with drifts and crosscuts. The property has produced approximately \$100,000 in high-grade, lead-silver ore, and 23 carloads are said to have netted \$55,453, averaging over 60 per cent lead and about 17 ounces of silver per ton, with a small amount of gold. A road to Ubehebe Creek has recently been surfaced, leaving only 22 miles to the mine, which is reached by a good road.

Enlargement and alteration of the milling plant of the Birch Creek Mining Company, Big Pine, California, has been completed and the mill is reported to be running satisfactorily. It treats ore from the Commetti mine and will now handle custom ore also. David T. Davis, Big Pine, and associates are the operators of the property.

Installation of a new mill is under way at the Washington mine, French Gulch, California, operated by the J. H. Scott Company, 465 California Street, San Francisco, California. The new milling plant will be equipped with a four by eight-foot rod mill, and Pan-American jig and classifier in closed circuit, together with Pan-American flotation cells, etc. The mill is expected to be completed and ready for operation by August 1. The Washington mine has been under development by the Scott interests since November 1, 1937, and results have been sufficiently satisfactory to warrant construction of the new mill. The mine, which is being operated under lease and option, has a very favorable history, having produced in excess of \$2,000,000. Austin Merrill is superintendent at the property.

Installation of hoisting equipment is under way at the Rattlesnake mine, seven miles north of Mono Lake, California, preparatory to sinking the shaft below the present 60-foot level. The mine is being developed by the Mono Mining Company, Dr. Robert S. Wade, president, 801 Bush Street, Santa Ana, California.

The new plant at the quicksilver property of the Cloverdale Mining Company, Cloverdale, California, is rapidly nearing completion and will be placed in operation soon. Included in the new equipment is a 450-ton washing and screening plant, followed by a table and flotation concentrating mill. It is designed to handle steam shovel product from a large surface cinnabar deposit. Installation is in charge of the Western-Knapp Engineering Company, construction engineers of San Francisco. Electric power is to be furnished by a newly installed Caterpillar Diesel engine, and a new retort for extraction of the quicksilver from the concentrate has also been added. George H. Burr, II, president and general manager, is directing work at the mine.

James C. and Otto G. Geringer, Box 71, Mojave, California, are preparing to resume operations at their Gwynne mine, located in the Piute Mountains, 50 miles north of Mojave, California. The 25-ton mill

will be reopened following the winter shutdown and a crew of about 12 men will be employed in the plant, in addition to the mine crew. A \$20,000 RFC mine loan was granted last year for development of the property.

The Safeway mine, located near Garden Valley, California, is being developed by Albert Straub, who has secured a lease on the property from George B. Rymal, owner, Placerville, California. Straub is reported to have encountered a three-foot vein carrying a two-inch high-grade streak which assays as high as \$1,482 per ton. The ore without the high-grade is said to run approximately \$10 per ton.

Dewatering of the Argonaut mine at Jackson, California, is under way and the work will require about two months, according to Alex F. Ross, general superintendent of the Argonaut Mining Company. In a recent inspection of the 4,950, 5,250, 5,550, and 5,700-foot levels, no traces of gas were found and conditions were better than had been expected, according to Ross. Preliminary clearing and repair work is under way. It is understood that the fire which caused a shutdown of the mine in February, did not get below the 4,800-foot level. Development work has also been resumed at the property of the Kennedy Mining and Milling Company, with 25 men em-

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ployed underground, according to William Sinclair, superintendent. The Kennedy was also forced to close down at the time of the fire as the two mines are connected on the lower levels.

The Pilot Knob Mining Company, Gilbert Chisholm, managing director, is developing the 450-acre Skinner property, located about three miles west of Rescue, California. A 20-ton Chilean mill is operating on a 24-hour basis and a crew of seven men is employed at the property. Plans are being made for installation of a ball mill with a capacity of 60 to 80 tons per day. Ore is being taken from drifts on the 50-foot level and plans are under way for further sinking in the present shaft. It is also planned to sink a new shaft about one-half mile west of the present one. The property is owned by E. R. Skinner, 816 Sixth Street, Sacramento, California, and is under lease to the Pilot Knob company.

Sinking and drifting continue at the Recovery mine, located nine miles southwest of Benton, California, which is being developed by the Holland Mining Corporation, John C. Holland, president, Box 566, Bishop, California. The company is shipping the better ore to the Burton Brothers mill at Rosamond, California, averaging three truckloads per week, and it is planned to increase shipments shortly. Returns from the shipments are averaging \$17.16 per ton. When two years' supply of milling ore has been blocked out on three sides, it is proposed to install the first small mill unit. The mine, which was discovered about two years ago and was acquired by the company last November, is opened by two shafts, now down to a maximum of 85 feet, and about 100 feet of lateral workings. The company also owns the Coronation mine in Trinity County, California, and the Fairplay mine near Leadville, Colorado. Both are producers.

The Mercury Production Company, operating the Picacho, Bonanza, and Nora Lee mines in the Hernandez district of San Benito County near Coalinga, California, is working one shift daily and shipping quicksilver to King City, California. The vein has widened and is said to be carrying higher values. Fred Kinney, Angels Camp, California, is superintendent at the mine.

A net profit of \$19,431 before deduction for depletion, depreciation, etc., is reported by the Anglo American Mining Corporation, Ltd., 206 Sansome Street, San Francisco, for the quarter ending March 31. Revenue from sale of gold and silver bullion totaled \$113,472 and from sale of quicksilver, \$21,348. Revenue from other sources amounted to \$2,280. Operating costs totaled \$117,669. The new mining, crushing, screening, and grinding operations at the Yellow Aster mine, Randsburg, California, were gradually brought up to capacity during the quarter, and treatment of ore from this source in the cyanide plant was started in April. Higher operating expenses were principally caused by starting up the new mill and the change-over of operations.

Hemming Brothers are developing the Alameda mine, one patented claim located 2 1/2 miles northwest of Jamestown, California. The property is equipped with a 16-

ton ball mill and a six-stamp mill, which have been operating intermittently for the past two months. Recovery is by means of amalgamation and concentration. The mine is owned by Mrs. J. N. Lyons, Mrs. W. F. Lyon, and W. G. Fitzgerald, all of Jamestown.

Negotiations have recently been completed whereby the Big Oak Tree mine at Colfax, California, will be operated in conjunction with the Rising Sun mine, adjoining. L. A. Hughes, superintendent of the Rising Sun Mining Corporation, has secured a lease on the property from the Werry and Russell estates, owners.

A hoist and ball mill, together with other equipment, have been installed at the Blue Gravel mine near Redding, California, following discovery of a vein carrying free gold. The vein is widening consistently and at a depth of 60 feet is 18 inches wide. A cyanide plant will be added to the mill soon and electric power is being provided and water piped from the city water supply. Holton Cochran is superintendent at the mine for J. C. and J. S. Larson of Sacramento, who hold a 25-year lease on the property from the city of Redding, owner. The mine netted the city \$1,170 in April, which represented 10 per cent of the earned profit.

The milling plant of the Lode Development Company at Garden Valley, California, is operating 12 hours per day, treating approximately 50 tons of ore taken principally from the 200-foot level of the Rosencranz mine. About 25 men are employed. Development work is being carried on in drifts to the north of the main three-compartment shaft. Concentrates are shipped to the Selby smelter. At the Rich Gulch mine, also held by the company, one shift of men is carrying on prospective work. Operations are directed by Charles Hopper Brown, superintendent, Garden Valley, California.

W. A. Drury of Sacramento plans to operate the Owens Ranch mine this summer. The property is located on Goodyears Creek near Downieville, California.

The new tunnel for hauling ore from the Soledad property has been completed by the Golden Queen Mining Company, Charles Kumke, mine superintendent, Mojave, California. The ore will be transported by trains to the Queen mill for treatment. The tunnel was begun on the 600-foot level of the Golden Queen mine and driven approximately 3,500 feet to connect with the Soledad property. A spur will be driven from the tunnel to the Lode-star mine whose ores are also treated at the Golden Queen.

The new 50-ton milling plant has been completed at the Midway molybdenum mine, Julian, California, and will be placed in operation soon by W. C. Davis and A. G. Foster, operators. It is estimated that there are 4,000,000 tons of molybdenum ore available on the 120-acre property, acquired about three years ago from the J. E. Parker estate.

The dragline equipment of the Kanaka Corporation, Nevada City, California, is handling approximately 2,000 yards of

gravel per 24 hours at its property on Kanaka Creek, Sierra County, California. A crew of 15 men is employed under the direction of R. A. MacAfee, superintendent. Archie Koppes is dredgemaster. The corporation is headed by Henry L. Day, Day Building, Wallace, Idaho.

A new type jig-equipped dragline dredge has been placed in service near Cottonwood, California, by the Gold Acres Dredging Company. Helen Ardelle, president, Box D, Cottonwood, California. The new plant has a nominal capacity of 150 bank yards per hour. The Bodinson Manufacturing Company constructed the dredge for Gold Acres.

The Pacific Gold Dredging Company, John T. Shepard, vice-president and general manager, 565 Westcourt, Redding, California, is operating a dragline dredge on West Weaver Creek near Weaverville, California. Equipment includes a Bodinson boat and a one-yard Lima dragline. The company was recently incorporated by Shepard, in association with Adolph Teichert, Jr., 1846 Thirty-seventh Street, Sacramento, California; Hal J. Sames, 2280 Eunice Street, San Francisco; and Alfred F. Chance, 825 Forty-sixth Street, San Francisco.

Engineers representing the Walter W. Johnson Company, Balfour Building, San Francisco, have been engaged in sampling the Emery gravel property at Mountain Ranch, Calaveras County, California. A crew of 12 men is employed.

Ted Lindbald, 1217 K Street, Sacramento, California, is operating dragline dredge equipment at his Thompson mine located south of Roseville, California. Equipment includes a one-yard dragline, hopper, trommel, and sluices. Operations are on a two-shift basis and approximately 800 yards per day are handled.

Frank Ahlburg, 1610 North Vermont Avenue, Los Angeles, California, has acquired the Red Cloud mine, located in the Chuckawalla Mountains, 50 miles east of Mecca, California. A crew of 20 men is employed and a 35-ton cyanide mill is under construction.

It is understood that preparations are being made for reopening the Telegraph mine, nine miles north of Downieville, California. The mine was badly damaged by floods last December and the loss is said to have approximated \$25,000. The property is owned by John M. Sheedy.

Two thousand tons of \$10 ore are reported blocked out at the Last Chance mine near Jamestown, California, and the 10-ton Straub mill is operating steadily under the direction of J. R. Anderson, superintendent. When the material on hand has been treated, operations will be continued from the 100-foot level, where a vein ranging from two and one-half to four feet in width will be developed. Three men are employed. M. Seuberth and Everett Baker of Wisconsin are interested in the property.

Plans for extensive development of the Big Silver mine near Darwin, California, have been announced by the Saline Valley Mining Company, Paul Bolton, president, 203 1/2 South Park View Avenue, Los An-

geles, California. The property has been developed by a series of tunnels and drifts which are reported to have exposed several veins carrying promising silver values. Work is scheduled to start June 15. Smelter shipments were made several years ago when the property was operated by the National Silver Corporation.

Howard Harp and Jack Bright, working on the North No. 2 vein at Tropic Hill under a lease from Burton Brothers, Rosamond, California, are reported to be mining high-grade ore which runs as high as 20 ounces of gold per ton.

A new vein, uncovered last summer by heavy rains, is being developed by means of shaft sinking and tunneling, by the

Holmes and Nicholson Mining and Milling Company, Kenneth Holmes, general manager, Box 828, Yuma, Arizona. The company is operating the Padre and Madre mines in the Cargo Muchacho Mountains near Ogilby, California. A milling plant which the company operates at Winterhaven, just west of Yuma, is to be moved to the Padre and Madre property, according to reports, at an estimated cost of \$50,000, which will include the sinking of wells. A seven-mile power line will be required to serve the plant with electricity. A crew of approximately 30 men is employed at the mines.

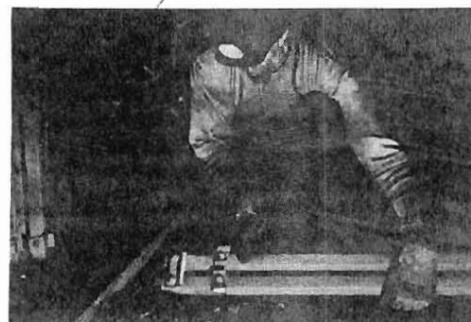
According to the annual report for 1937, the Lava Cap Gold Mining Corporation,

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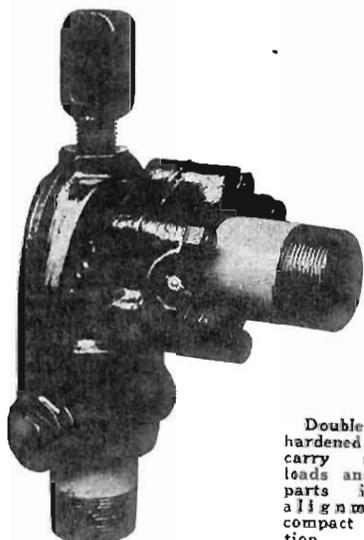
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Nevada City, California, mined and milled 104,020 tons of ore with heads averaging \$11.34 in gold and \$2.06 in silver. Development work, listed as total advances, represented 14,805 feet of drifts, raises, cross-cuts, and shafts, and 36,922 cubic feet of stations, pockets, and sumps. The company reports a profitable ore outlook in both the Banner and Central mines with plans under way for intersecting additional ore systems. The Lava Cap's gross receipts were cut approximately \$50,000 during the year due to the drop in the price of silver. Otto Schiffler, Nevada City, is general manager of the company.

The Indian Mining Company, D. W. Benson, superintendent, is engaged in developing the Eclipse mine, located on the H. G. Vincent Ranch about 30 miles northeast of Wasco, California. An Ingersoll-Rand compressor has been installed and work is progressing on a new 400-foot working tunnel which is expected to contact the vein, the apex of which has been located on the hill above. Associated with Benson are J. G. Binswanger, Box 835, Wasco, and Jacob Camenisch of Bakersfield, California.

The United States Milling Corporation, F. E. Nemeec, president, Beatty, Nevada, is engaged in developing the Oscar Jacobson property in the Garden Valley district of California, and is also negotiating for a mining property in Arizona.

A newly-installed five-stamp mill is operating one shift daily at the Kentucky Ridge mine in the Newton district near Grass Valley, California, under the direction of A. B. Adams, Grass Valley, owner of the mine. The plant is capable of treating 10 to 15 tons per day. The ore is coming from the 400-foot English tunnel, or Slave mine, which carries some pockets of high-grade, supplemented by ore of fair milling quality over a wide face. A second tunnel, 260 feet in length, covers additional potential ore reserves. The milling plant and generator are powered by a 10-horsepower semi-Diesel engine and water is pumped from an irrigation ditch a quarter of a mile distant. Adams has granted an option on the property but in the event it is not exercised, he plans to place his operations on a 24-hour basis and proceed with the development of additional ore reserves.

The war department has approved the \$345,987 contract for construction of the North Forks debris dam, which has been awarded to A. Teichert and Son, Inc., 1846 Thirty-seventh Street, Sacramento, California. The structure will be of the concrete arch type, 620 feet long and 155 feet high. About 26,500 cubic yards of rock will be moved in excavation work and it is estimated that 28,000 cubic yards of concrete will be required to complete the structure. Irwin E. Burks, Auburn, California, is resident engineer in charge of construction for the war department.

Operations at the North Star mine of the Empire Star Mines Company, Grass Valley, California, have extended as deep as possible with present hoisting equipment and production from the 10,000 and lower levels must await the installation of new underground hoisting machinery for

the winze. The new equipment will be placed in the space now occupied by the smaller machinery. The greatest depth attained with the old equipment was 9,800 feet. General mining operations and ore production continue at the old North Star shaft under the direction of Phil Dowd, and this shaft is now worked almost independently of the Central shaft, maintaining its own hoisting equipment and surface buildings. F. W. Nobs is manager of the North Star.

C. Nugent and associates, with the assistance of the Empire Star Mines Company, are reported planning the reopening of the Osborne Hill shaft near Grass Valley, California. The old shaft, partially filled with water at present, was entered last fall by Fred W. Nobs, manager of Empire Star, and the lessees for a preliminary examination. A compressed air line was run to the shaft and the old air was blown out at that time.

A permit has been issued to the Ruby mine, L. L. Huelsdonk, manager, Goodyears Bar, California, for the diversion of 2.5 cubic feet of water per second from Rocky Springs for mining and domestic purposes. A. W. Lackey, Alta, California, has also secured permission to divert 2.5 second feet of water from Rocky Springs for mining and domestic purposes. The cost of each project is estimated at \$5,000.

Edd Addington and E. B. (Jack) Hilton, Feather Falls, California, are developing the Horse Shoe mine, located seven miles north of Forbestown near Lumpkin. The property is under lease from the Feather River Pine Mills. A small Gibson mill and a hoist have been installed and it is planned to continue shaft sinking and crosscutting to more completely develop the property. A 2½-foot pay streak on the footwall is reported to assay \$31 to \$44 in gold.

A crew of four men is employed at the Eureka mine, located seven miles northwest of Downieville, California, under the supervision of Jerry Bickel. Hydraulic lifting is to begin at once and two monitors will be used. Flumes capable of carrying 2,000 inches of water will be constructed at the property.

The Fairview gold property in San Miguel County, south of Telluride, Colorado, is being reopened by the American Smelting and Refining Company. The Fairview group consists of the Fairview; Fairview Nos. 1, 2, 3, 4, and 5; Aspen;

Scandia; Dynamo; Electric; Little Rose; and Gold Medal claims. The property is owned by Vic Nordgren of Telluride, Harry J. Johnson of Telluride will be superintendent of the work under J. Fred Johnson, resident manager for A. S. & R. with offices at 609 McCornick Building, Salt Lake City, Utah.

The King or Jewel mine in Boulder County near Crisman, Colorado, is being operated by the Black Swan Mining and Milling Company under the direction of William McKenzie of Nederland. Regular

COLORADO

The New Light property of the **Monica Mines, Inc.**, is reaching steady production, being operated under lease to Roy and Frank Staples of British Columbia. Production is being started from the Glory Hole vein where high-grade gold values are stated to have been opened. S. S. Callahan of Winthrop, Washington, is president of the owning company which maintains business offices in the Peyton Building, Spokane.

A net profit of \$13,053 before provision for surtax on undistributed profits for the first three months of 1938 is reported by the **American Zinc, Lead and Smelting Company** and its wholly owned subsidiaries. This compares with \$92,531 for the same period of 1937. During this time net sales amounted to \$1,883,296 and the cost of goods sold is listed at \$1,674,265. Other income was \$23,146 and other expenses, including administrative and selling expenses, were \$94,799. Provision for depreciation and depletion amounted to \$112,500, and \$11,825 was set aside for normal income taxes. A decrease of approximately 50 per cent from the same period of 1937 is shown in sales for the quarter, and tonnage shipped shows a reduction in by-products and quarry products of 10 per cent. Manufactured products are about 30 per cent below the 1937 figures. Operating schedules at all properties are being kept in line with actual shipments. On March 31, all production was discontinued at the Metaline Falls, Washington, properties in which the company holds a 51 per cent ownership. These

properties will remain idle until zinc and lead prices are well established above 4½ cents. Company headquarters are at 943 Paul Brown Building, St. Louis, Missouri, Howard I. Young, president.

PLACER MINERS SUSPEND WORK FOR WEEK-END FISHERMEN

PLACER operators in Jackson and Josephine counties in southern Oregon are now working according to the agreement reached last fall between the mining and fishing interests. The miners have agreed to close down five shifts of the 21 shifts in each week, the shut-downs being staggered so as to keep the streams clear over the week-end for the benefit of fishermen. As a result of this agreement a suit instituted by the fishing and recreation interests against the miners was cancelled.

Placer miners in northern California were faced with the same problem. However, it is reported that members of the Northern California Mines Association are preparing to ask the state legislature to change the dates, July 1 to November 1 of each year, during which mining must be suspended. This law, known as the Klamath River bill, was made effective July 1, 1937, in California. In speaking of the injustice of the bill in California, one proprietor of a resort and general store is quoted as saying,

"While we operate a resort and cater to sportsmen during the fishing season, we depend upon the miners and mining industry along the Klamath River for our liveli-

hood. I feel personally the closing down of mining operations each year on July 1 is a gross injustice to the mining men of this district."

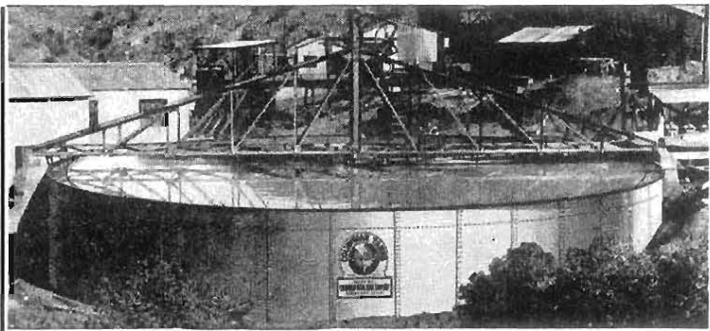
The Oregon miners in the lower Rogue River area are trying this operating schedule for the first time this spring.

SECRET OF LODESTONES LED TO MINERAL SEPARATION METHOD

THE ANSWER found by bureau metallurgists to the age-old question of why lodestones have retained their magnetism for centuries was told by Dr. R. S. Dean, chief engineer of the metallurgical division of the U. S. Bureau of Mines at the College of Engineering, University of Maryland, College Park, Maryland.

The knowledge of how to make permanent magnets of mineral particles enabled the bureau to develop improved methods of beneficiating ores which may greatly increase the useful life of the great iron ore deposits in this country. In the new method the mineral particles converted into small permanent magnets are excited into a rapid jumping motion by an alternating magnetic field and actually move away from the worthless gangue.

The lecture by Dr. Dean was the last of the series for the present school year. The series will be continued next fall. Succeeding speakers will be outstanding members of the staff of the bureau of mines, selected because of broad and varied experience in fields of wide technical and public interest.



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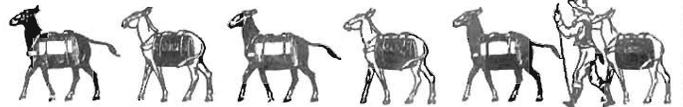
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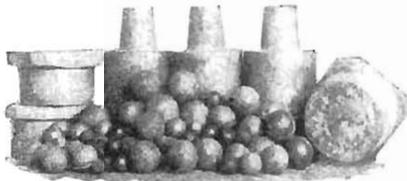
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Washington: Roger O. Oscarson, president, Northwest Mining Association, Spokane.

In addition to the convention sessions there will also be held the annual exposition of mining equipment and supplies. With the cooperation of an exhibits committee, headed by Y. D. Hills, Timken Roller Bearing Company, Los Angeles, exhibits of all types of equipment and supplies necessary for modern mine and mill operation are being planned for the convention week. Both exposition and convention sessions will be held at the Ambassador. At this early date, over 30 nationally known manufacturers have contracted for a large amount of the available exhibit space.

Julian D. Conover, secretary of the American Mining Congress, will attend the program committee meeting and work with the Los Angeles committees in developing plans for all phases of the annual conclave. He will then visit a number of important western metal mining areas in the interest of the convention.

A cordial invitation is extended all associated with the mining industry to attend the October convention.

**TAX AGREEMENT REACHED;
AID TO BUSINESS CLAIMED**

FOLLOWING are listed the essential features of the modified corporation income and capital gains tax bill which was passed by congress and which became a law without the President's signature:

1. Corporations having a net income in excess of \$25,000 will pay the maximum income tax of 19 per cent with a graduated credit based on the amount of earnings distributed to stockholders, the maximum credit being 2½ per cent in case of a 100 per cent distribution. Exemption from undistributed profits taxes is provided in cases where the corporation uses earnings to retire debts or to replace capital impaired during the year.
2. Corporations earning \$25,000 or less will pay from 12½ to 16 per cent income tax and will be exempt from undistributed profits taxes.
3. Banks, insurance companies, and trust companies are subject to a flat 16½ per cent income tax.
4. The capital gains and losses provision calls for: (a) the inclusion in ordinary income of gains received from the sale of assets held less than 18 months; (b) a 20 per cent tax on gains from the sale of assets held more than 18 months but not more than two years; and (c) a 16 per cent tax on gains from the sale of assets held more than two years. An optional feature is included in the compromise for low income bracket individuals who would be permitted to pay either the 15 per cent on long term capital gains or add to his regular income 50 per cent of the gains and pay the regular individual tax rates on the aggregate of the regular income and capital gains.

While some observers claim that the compromise measure will go far toward helping business and industrial recovery tax experts, however, have been reported as privately forecasting that the measure will fall far short of producing the anticipated revenue due to the recession.

The battle on taxes is expected to extend through the coming elections and culminate in the next session of congress in a drive to revise the new bill which is not approved of by the President. In refusing to sign the bill, although allowing it to become law without his signature, President Roosevelt recommended tax revision to stimulate the investment of private capital automatically.

**HOMESTAKE MINING CO. TO
HAVE NEW 5,000-FOOT SHAFT**

THE HOMESTAKE Mining Company, Lead, South Dakota, has authorized the construction of a new operating shaft, according to an announcement by Guy N. Bjorge, general manager, and preliminary work is already under way. It is estimated that 2½ years of construction work will be required to complete the project.

According to a statement by Bjorge, "This shaft will eventually replace the Ellison shaft which will be wrecked by ground movement when pillars now supporting it are mined.

"The new shaft will be located at Flag Rock on the ridge above the South Mill. It will be equipped for the same depth capacity as the Ross shaft—that is ultimately to operate to the 5,000 level. The cost of the shaft and surface plant will be \$2,500,000.

"This shaft will be called the Yates in memory of B. C. Yates, who was general manager of the Homestake Mining Company for 20 years.

"All work of shaft sinking and construction of the surface plant will be done by the Homestake organization. There are now more men in the Lead community than will be needed for the additional work. Outside workmen are advised not to come to Lead to seek employment."

**MINE AND MILL METHODS
STUDIED IN OREGON AREA**

UNDER THE title "Gold Mining and Milling in Northeastern Oregon," Information Circular 7015 was issued by the United States Bureau of Mines in May of this year. The report was made by S. H. Lorrain from field work done in September of 1936. At that time lode mining in that area was still more or less in the development stage, the region having undergone a revival after many years of inactivity. More detailed descriptions of mining and milling methods will be made in supplemental papers as operations become more firmly established.

This report is generously supplied with maps, flow-sheets, and tables and deals with each mining district and the specific mines and mills therein active at the time the field trip was made. The larger mines which were not active at that particular time are also mentioned briefly.

**NEW BOOK PUBLISHED ON
USE OF GRAPHIC INSTRUMENTS**

A BOOK on the use of graphic instruments in increasing the productive capacity and the efficiency of industry has been published by the Esterline-Angus Company, Indianapolis, Indiana. Written by John W. Esterline, it is a volume of experience rather than opinion. There are more than 250 case studies, each covering a distinct problem, giving the procedure followed, the graphic charts obtained, and the solution reached.

The volume contains 320 pages, and includes 450 illustrations. It is bound in tooled, brown Fabricoid. The introductory section comprises 30 pages, and is divided into three chapters, under the captions "The High Cost of Inefficiency," "What Graphical Representation Means," and "Classification of Industrial Problems."

The remainder of the book is in five divisions—"The Problems of Power,"—"The Problems of Machines,"—"The Problems of Processes,"—"The Problems of Men,"—"Research and Special Problems." The case studies throughout the 19 chapters are numbered serially, and are carefully cross-indexed.

This volume is a practical contribution to the art of applying the scientific method to the conduct of industry. It discloses the modern technique of critical examination and diagnosis of industrial operations. It is interesting reading because, from beginning to end, the author has endeavored

not only to impart information, but to spur the reader to a continuous re-appraisal of his methods and achievements.

For its practical value as a book of instruction and reference, and as a means of inducing a realistic, scientific approach to the every-day problems of industry, executives and engineers will find this volume of real interest. The book, "Graphic Routes to Greater Profits," sells for \$3.

**NEW INDUSTRIES STUDIED
BY OREGON STATE BOARD**

A DETAILED study of the feasibility of an iron and steel industry for the Portland area of Oregon will be made and the reports published by the State Department of Geology and Mineral Industries as soon as the department has completed its analysis of the Bonneville power rate schedule. This work is being done by Raymond M. Miller, consulting metallurgical engineer of the war department in the office of the division engineer of the North Pacific Division, with offices at 523 Pittock Building, Portland, and it will be carried on in cooperation with the State Department of Geology and Mineral Industries.

Facts and figures will be given concerning the feasibility of establishing a substantial local steel industry with an analysis of the market situation and the availability of raw materials. If such an industry is started in Oregon it is believed that it would cause the establishment of ferro-alloy and other metallurgical indus-

tries. It is also possible that it would prove practical to establish an electrolytic zinc plant in the lower Columbia area. This would particularly favor underground mines from Mount Hood to the Bohemia district, because their ores carry a zinc content of no value to present operators since coast smelters are not equipped to recover and pay for zinc.

**JAPS TO MINE COPPER AT
BRITISH COLUMBIA PROPERTY**

JAPANESE interests are said to have formed a new company, known as the Sidney Inlet Mining Company, for the purpose of opening and operating the Indian Chief mine on Vancouver Island, British Columbia. The new organization was incorporated in British Columbia late last year with a capitalization of \$200,000.

The property consists of eight claims owned by the Tidewater Copper Company, Ltd., but has never been an important producer. It has been idle since 1923 with the exception of some development work that was done by the Pacific Tidewater Company, Ltd., a subsidiary of the British Metals Corporation of London, which negotiated a lease on the holdings. Diamond drilling and other exploration conducted by Pacific Tidewater are said to have resulted unfavorably.

The Japanese concern is said to be planning to equip the Indian Chief and to place it on an operating basis. The product is to be shipped to Japan.

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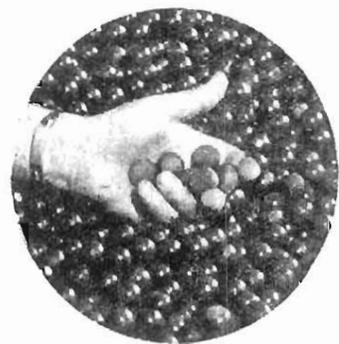
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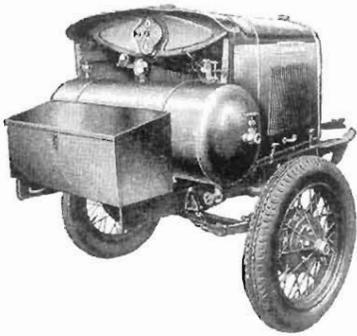
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EL PASO

TEXAS

plaining some of the details of the process. He expressed himself as highly pleased with the results obtained as he wanted a chemically pure antimony for certain storage battery parts and the highest grade he had been able to secure was "Cookson C Brand."

The solvent used is a 6 per cent solution of sodium hydroxide, which made a selective solvent serving as the electrolyte. The plant consisted of a hammer mill from the Jeffery Manufacturing Company, such as was being used for pulverizing limestone. The pulverization was to 20 mesh only. The dissolution is remarkably rapid, all the Sb. being in solution after 20 minutes exposure to the solvent.

This solvent—sodium hydroxide 6 per cent—is especially adapted to the treatment of sulphide ores. Sodium sulphide, 6 per cent, also gives good results, but overloads the solution with sulphur. For the treatment of the oxide ores the sodium sulphide solvent and electrolyte is preferable. The gravity of the solutions may be regulated by adding sodium chloride. There is still some work to be done to determine the best methods of regenerating the precipitated solutions.

Ordinary filter bottom percolation tanks were used with woolen filter cloths. The generator used was manufactured especially for me by the Chandeysson Electric Company of St. Louis, Missouri, and was a 5,000 ampere, shunt-wound dynamo of variable voltage type, wound to operate between 2 and 2½ volts—2½ volts gave too hard a precipitate and 2 volts gave too flocculent a precipitate, while 2¼ volts was just right and the crystals of pure antimony could be scraped off with a putty knife. The anodes and cathodes were both of sheet iron. Telluride ores treated by this process are then amenable to cyaniding.

Sincerely yours,

GUILLERMO A. BURR,

Consulting Engineer, Mazatlan, Sinaloa,
Mexico.

JOHNSTON AND WITCHER TO WORK DISPUTED GROUND

A TWO-YEAR mill supply of gold ore has been released for treatment through an agreement reached by the Tom Reed Gold Mines Company, United Eastern Mining Company, and Johnston and Witcher Mines, Inc., all of Oatman, Arizona. The ore has been the subject of controversy in recent years, the Tom Reed and United Eastern companies being unable to agree on ownership because of varied interpretations of the apex law.

Under the present agreement, Johnston and Witcher have a joint lease from the two companies covering an area 250 feet wide, equally distributed between the United Eastern and Tom Reed ground, in which lies the deposit of apex ore involved in the dispute. They will work this ground in conjunction with their other operations on the Big Jim claim, which they also hold under lease from United Eastern.

Another angle of the agreement is the leasing of the lower levels of the Big Jim claim to the Tom Reed company. That company, through its Black Eagle shaft, at a depth of 1,100 feet, has mined to the

south endline of the Big Jim. The 1,100 level of the Black Eagle approximates the 900 level in the Big Jim; therefore, the Tom Reed company will enter the Big Jim ground on the vein some 200 feet below the bottom of the present workings in the Big Jim. This affords the Tom Reed company a new tonnage of probable commercial ore.

Johnston and Witcher have installed a headframe, compressor, electric hoist with transmission line from the Big Jim line, a change room, hoist house, tool room, and blacksmith shop. New guides have been placed in the shaft, the timbering re-blocked and newly lagged, and a one-inch water line and a three-inch air line have been laid down the shaft. This work has been completed to the 200 level, from which station the operations will be conducted. Later the shaft will be repaired to the 300 level and the ore bodies opened at that depth. This work will block out an estimated 150,000 to 250,000 tons of commercial mill ore sufficient to supply a mill for a period of two to four years.

At present Johnston and Witcher are furnishing the Tom Reed mill with 10 to 15 tons of ore per day from the Big Jim dump. Ore from the joint lease will be delivered from the Grey Eagle shaft, beginning about June 15, at the rate of 50 tons daily, working one shift. As working conditions permit, following the opening of more faces and stopes, this tonnage may be gradually increased.

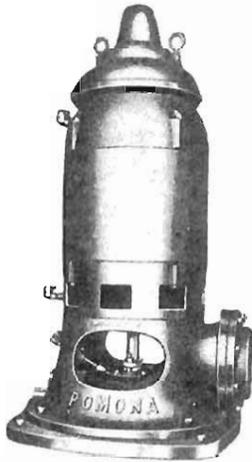
Johnston and Witcher have operated in the Oatman district for some time and during 1932 and 1933 removed the pillars and other ores from the Big Jim mine, totaling about 40,000 tons, and according to government bulletins, issued at that time, established a cost record for production of \$5.50 per ton. They have also been interested in various other properties in the county and at the present time are contemplating further operations at the Tintie mine, Chloride, Arizona, where they have carried on considerable exploitation during the past several months.

MINE INFORMATION AVAILABLE TO MINERS AND PROSPECTORS

TWO ASSAY laboratories, established by the State Department of Geology and Mineral Industries last August, one at Grants Pass, Oregon, and one at Baker, have made to date 868 determinations for gold, silver, lead, copper, zinc, mercury, chromium, tungsten, and platinum. In addition to an assayer, a mining geologist maintains headquarters at each of these laboratories to give advice to prospectors and small mine owners concerning mining, geology, and mineral identification. They also cooperate with the county judges throughout the state in the selection of grubstake applicants.

In the three months from January 1 to April 1 of this year, 2,406 persons called at the two offices for information and help with their mining problems. In addition to serving as a general information bureau for miners, the department has a service whereby prospective mine buyers, sellers, and lessees may be brought together.

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No. 5 dump of the old Congress mine. Twenty-five men are employed.

The Eagle-Picher Mining and Smelting Company has obtained a mortgage on the Hilltop group of claims, located near Hilltop, Arizona, via Rodeo, New Mexico. The consideration was \$14,000. In 1936 judgment was rendered in favor of Thomas A. Baynes, Ira A. Brewer, and Antoine Lauerma, as trustees, against the Hilltop Metals Mining Company. A certificate of sale was issued by the trustees to O. O. Mattox and this year a sheriff's deed was issued to Mattox, who in turn gave the Eagle-Picher company a mortgage on the property. The Eagle-Picher organization has recently completed an extensive examination of the Hilltop with F. H. Lerchen in charge.

Frank E. Ball, Jamestown, California, has completed arrangements with a large dredging firm for development of a 50-



acre tract of placer gravel on Woods Creek below Sonora, California, and of a 100-acre tract on the Stanislaus River at Byrnes Ferry, near Copperopolis, California. Both operations will begin early in July. Ball is also completing negotiations for several other dredging projects.

Preparations are being made for a resumption of operations at the Buckeye gravel mine, located near Sonora, California. The plant has been installed and development work in the tunnel has been completed. L. E. Whitney, Route 1, Sonora, is directing operations.

The 850-foot shaft of the Pine Tree mine, Bear Valley, California, is being sunk another 100 feet, following core-drill testing of the ground by W. E. Minshall. The property is operated by the Pacific Mining Company, Philip R. Bradley, Jr., manager.

Operations have been resumed at the Sliger mine near Greenwood, California, with 40 men employed under the direction of C. W. Plumb, superintendent. The mine was optioned to the Mountain Copper Company, Ltd., last year and that company continued the shaft an additional 300 feet to the 1,400-foot level. However, the option was relinquished and the property reverted to the Middle Fork Gold Mining Company, former operator, which has resumed work under Plumb's direction. The mine is rated as having an extensive ore body with values averaging \$11 per ton, but it is said to be difficult to operate, due to very hard ore and soft walls, and to the fact that the veins are shattered and irregular.

Paris Poletti, Alec Conte, and Tony Leda have leased the Cleveland placer channel property near Volcano, California, and are carrying on a development program. The property is owned by William L. Lagomarsino and associates.

The Golden Gate placers, also known as the Cassinelli placers, located on the Cassi-

nelli Ranch, five miles east of Volcano, California, are being operated by Seattle interests, and are on a production basis. An extensive development program is getting under way at the property also.

The development of extensions of the main ledges is planned at the Tullock mine near Angels Camp, California. Rehabilitation and development are being carried on by a small crew. The new equipment installed during the past three months included a compressor, hoist, pump, lighting system, headframe, and surface buildings.

The Deep Moon mine near Downieville, California, has been leased to William Burns and associates of Camptonville, California. All new equipment is being installed at the property to replace that washed away and damaged by severe floods last December. Provision is being made for water power. A satisfactory season is anticipated by the new operators as the rim of the deep channel had been reached by the owners of the property prior to the flood. The mine is owned by H. C. Windell, Box 111, Downieville, in association with D. H. Hotchkiss and Carl D. Ross.

S. L. Morona of Campo, California, reports that he has located a deposit of chromium near Campo which is approximately 50 feet wide. Three assays are said to have run approximately 20 per cent chromium. The property was recently inspected by E. C. Leistikow, engineer, formerly with the Campo Molybdenum Company. Morona plans to develop his property in the near future.

James Davis, Downieville, California, has purchased equipment for the Mayme Golden Mining Company from G. E. Lukens and Sons, Auburn, California, mining machinery dealers. The equipment will replace that lost during floods in December, 1937.

Natomas Company, Thomas McCormack, president, Forum Building, Sacramento, California, has declared the regular quarterly dividend of 20 cents a share, payable July 1 to stock of record June 13.

The Alaska Juneau Gold Mining Company, P. R. Bradley, president, 1022 Crocker Building, San Francisco, California, reports for May, 1938, a gross income of \$480,000, and a net income before depreciation, depletion, federal income taxes, or undistributed profits surtaxes, of \$206,300.

The Burton Brothers mill at the Tropico mine, Rosamond, California, is again operating at full capacity, following the installation of new equipment and a general overhauling. Fifty men are employed in the mines and mills and an increase in the amount of ore received from distant points is reported.

Ogden C. Chase and associates, with offices at 420 Kearns Building, Salt Lake City, Utah, are preparing to resume operations at the old North Hubbard-Ready Relief group of mines located in the Banner district near Julian, California. Mining machinery and equipment are being moved to the property. The camp is well equipped with bunk houses, administration building, and assay office, and also has a plentiful

supply of water piped from springs 600 feet above. George B. Guillotte, engineer for the Chase interests, will direct the work.

C. D. Skrable, Monticello, California, is preparing to uncover two or three hundred feet of the vein on his property by means of a Caterpillar and scraper. The vein is said to be buried only about six or seven feet beneath the surface.

Development work is in progress at the Bitterwater quicksilver mine near Llanada, under the direction of H. V. Underwood, Hollister, California, one of the owners. In running a drift across the ledge a new body of ore has been opened up which averages from 0.75 to 1 per cent cinnabar, and the vein is said to be widening as the drift proceeds. Several tons of the ore have been stockpiled on the dump.

Garden Valley Gold Mines, Ltd., an Ontario, Canada, company, was incorporated March 18, 1938, to take over the property formerly operated by the Gold Company, Ltd., at Garden Valley, California, and operations are progressing satisfactorily, according to C. L. Duesling, managing director. The 30-foot ore body from which the company is taking milling ore has been opened up to a width of about 60 feet. The ore is mined by gasoline shovel and trucked to the bins. Rupley Brothers have the contract for the mining and transportation of the ore.

Frank Kay, Junction City, California, and associates are operating the Bergin

placers, located three miles south of Junction City on the Trinity River. Two giants are being used and 500 yards of gravel per day are moved. Values average about 25 cents per yard. From three to five men are employed. The mine is under lease from J. W. Bergin, owner of the property.

The Horseshoe Bend placer claim, 10 miles northeast of Junction City, California, on the East Fork of the North Fork of the Trinity River, is being prepared for production by J. S. Young, Helena, California, owner of the property. Pumping equipment is being installed and operations will be started with the end of the high water season.

The Williams Bar Gold Dredging Company recently paid a dividend of 50 cents which was in the form of a royalty to stockholders of the old Mammoth Gold Dredging Company. The Williams Bar company is working gravel just below the lower Smartville Narrows on the Yuba River under lease from the Mammoth organization, which has held the deposit for almost 50 years but has never worked it. Williams Bar operations are directed by Elliot S. Check, resident manager, Marysville, California.

H. A. Spindler, Weaverville, California, is running a 110-foot drift on his Unique placer claim, located 32 miles northwest of Weaverville on the North Fork of the Trinity River. Three men are employed at present. It is planned to handle the gravel by means of sluicing equipment which will be installed in the drift now being run.

Mrs. Ellemerie Morgan, Greenwood, California, has made application to the division of water resources for a permit to divert three cubic feet of water per second from Canyon Creek for power purposes. John D. Rourke, Hayfork, California, has applied for permission to divert 80 cubic feet per second from Big French Creek for mining purposes, and estimated cost of the project is \$12,000. Among other applications are those of Ellert A. Hill, Placerville, California, for three cubic feet per second from south Webber Creek for mining; W. C. Werle, Standard Gold Mine Company, Mokelumne Hill, California, for one cubic foot per second from China Gulch for power purposes; R. L. Hollingsworth, Louis Cichorzewski, and Darold D. DeCoe, Box 162, Sacramento, California, for 15 cubic feet per second from Fraser Creek, Dan's Ravine, and Nelson Creek, for mining and domestic purposes, estimated cost, \$1,500; and C. N. Dillin and Mrs. Adele Truex, Helena, California, for three cubic feet per second from Brock Gulch for mining.

C. A. George, Cecilville, California, has secured a permit to divert for mining purposes five cubic feet of water per second from the east fork of the Salmon River. Estimated cost of the diversion is \$4,500.

The Golden Gate mine, located on Bald Mountain near Michigan Bluff, California, is being prepared for production under the direction of Frank N. Tillotson, Auburn, California. The mine is owned by A. Borchard, Foresthill, and is being operated by

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Alterations and improvements under way at the Alabama mine of the Alabama-California Gold Mines Company, Auburn, California, include a new three-compartment shaft, a new steel headframe, two 150 to 200-ton steel ore bins, and a secondary crusher which will give the ball mill a capacity of 300 tons daily. At present a primary crusher breaks the ore to 2½ inches and it is reduced in the mill to 100 mesh. The pulp then passes through two Bendelari jigs which remove the coarse concentrate, then to amalgam barrels where the free gold is recovered. The barrels are followed by plates and flotation cells. Production is averaging 220 tons per day and a crew of approximately 100 men is employed under the direction of William A. Beaudry, superintendent.

Engineers are engaged in designing a new mill for the Rawhide mine of Canyon Mines Corporation, Baxter, California. F. B. Keever, Baxter, is general manager.

Thomas M. Cahill is operating under lease the Clipper mine, three miles east of Georgetown, California, and is employing a small crew of men in development work. The mine is owned by Glen Talbot.

Harold Hanson, superintendent of the Pine Tree mine at Bear Valley, California, and three associates are developing a prospect near the old Pendola Gardens under lease. The shaft has been sunk to a depth of 100 feet and drifting is under way.

Richard Boyd, is reported to have acquired the Burton half interest in the lease on the Beauregard Extension property, located above Kernville, California. The five-year lease and option was secured recently by G. Holmes and Ben Burton from B. D. Sawyer. The mine is to be completely equipped with mining machinery, including compressors, receivers, hoists, jackhammers, headframe, air blowers, tram car, and rails. Work is to be carried on through the Sarah Jane shaft, which is 300 feet deep with practically no drifting or crosscutting. It will be necessary to do some retimbering as the mine is about 60 years old. It is planned to start a drift on the 300-foot level, from which will be run a crosscut to the old Jeff Davis vein.

Test runs are being made on ore from a large low-grade deposit near Portola, California, owned by Dr. J. Dodson of Portola. The ore is said to carry values ranging from \$2.60 to \$14 in gold and silver. Considerable development work has been done in blocking out ore. The formation is said to be especially suitable for power shovel operations, and installation of a mill is said to be contemplated. Water and timber are available.

Whitmore Mines, Inc., Rosamond, California, has resumed sinking operations at the No. 6 shaft following a shutdown of approximately two weeks during which new machinery and equipment was installed and general improvement work completed. The No. 6 shaft is now down 120 feet and will be carried to a depth of 200 feet, where crosscutting and drifting will be under-

taken in an effort to contact two veins. It is believed that the veins will be found within a few feet from the shaft when a depth of 200 feet has been reached. Robert Dameron is superintendent.

If the Fairview shaft encounters ore of sufficient value to warrant the move, a tunnel will be driven from that shaft to connect with the 900-foot level of the Tropico mine, according to A. H. Johnson, superintendent of the Tropico, Rosamond, California. When the Fairview shaft reaches the 750-foot level, which corresponds to the Tropico 900-foot level, a tunnel will be driven with a view to locating an old ore body formerly worked through the Tropico. If the value of the ore is sufficient to warrant it, the tunnel will then be continued to connect with the Tropico shaft.

Arthur K. Wintereck and Herman Sahlman have leased from M. G. Siller mineral lands in Yuba county near Marysville, California, on a royalty basis. The property comprises 320 acres.

The collar of the shaft is being repaired and preparations are being made for installation of a mill at the Mt. Vernon mines, known as the old Kirkham property, north of Nevada City, California. The mine has been under development for several months and a crew of nine men is employed. Denton and Ralph Kirkham, sons of the late Thomas Kirkham, are understood to have an interest in the project.

A depth of 90 feet has been reached in operations at the Cotton Creek mine, located on the Williams property in Hunter's Valley near Hornitos, California, and extraction of ore has been proceeding as the sinking progressed. The mine is being developed by Oakland interests.

Work has been completed on the installation of the new treatment plant for tailings and concentrate at the property of the Central Eureka Mining Company, Sutter Creek, California, under the direction of James Spiers, superintendent. The new plant, which is equipped with facilities for flotation and cyanidation, has a capacity of 150 tons. When the new winze has reached a depth of 130 feet, it is planned to start drifting to open up unexplored ground below the 3,000-foot level. A seven-foot width of milling ore is being mined from one of the stopes on the 2,650-foot sub-level, and an 11 to 12-foot width is being mined from two other stopes on the same level. Blasting and timbering have been completed at the 2,800-foot sub-level preparatory to starting a raise to the 2,650-foot level. Average assays indicate ore of milling grade.

A new strike of tungsten six miles west of Randsburg, California, is reported by Ben W. Krieser, 503 Rose Avenue, Long Beach, California, who, with his partner Wiley Walders, 727 American Avenue, Long Beach, has several tungsten and gold claims in the district. The partners have staked out two claims in the area of the discovery.

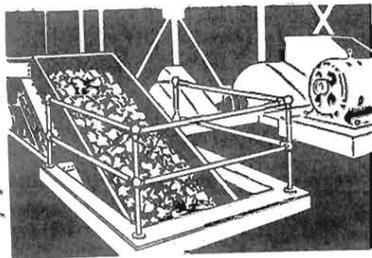
Jess Knight, owner of the Gum Tree mine, Mojave, California, is shipping ap-

proximately 35 tons of low-grade ore per week to the Tropic mill at Rosamond, California. The ore is being taken from a vein located on the 160-foot level. The mine is being worked under contract by George and Sidney Smith.

J. M. Hoff, manager and operator of the Fortuna mine, Nevada City, California, and the Gracey-Glencoe mine in the same district, has discontinued operations at both properties until additional financing can be secured. Approximately 32 men are affected by the layoff, 20 at the Fortuna and 12 at the Gracey-Glencoe.

The Golden Queen Mining Company, W. C. Browning, general manager, 1214 Pacific Mutual Building, Los Angeles, California, has discontinued permanently all mining operations at the Silver Prince mine, located in the Middle Buttes near Mojave, California. It is understood that the mine was abandoned because it was impossible to operate it on a paying basis. The Silver Prince has been worked by the company for approximately one year and during that time no ore of sufficient value to warrant continuance of operations was encountered, it was stated. All machinery and equipment will be removed and returned to the Golden Queen mine at Mojave. The equipment includes a large electric hoist, two compressors, fan blowers, pneumatic drills, headframe, tram car and rails, and a hoist house.

Operations are on a three-shift basis at the Worchester mine, located near Tuolumne, California, and mill returns are re-



ported satisfactory. The mine is equipped with a 30-stamp mill. King C. Laylander is superintendent. The property has been operated under lease by the Worchester Mining Company, 1512 Financial Center Building, San Francisco, since the formation of the company on August 17, 1937.

The National Cinnabar Company is preparing for operations at its property located 8 1/2 miles northwest of Bodie, California. The property comprises approximately 50 acres and the cinnabar values are reported to be located in a veneer deposit averaging 50 feet in depth. Samplings are said to have shown eight to 10 pounds of quicksilver per ton. Mining will be carried on with a power shovel. A 100-ton reduction plant is to be installed under the direction of H. W. Gould and Company, 10 Penthouse, Mills Building, San Francisco, California.

The Simpson mine near Leevining, California, is being reopened following the winter shutdown.

Prospecting operations have been discontinued at the Del Norte group of claims

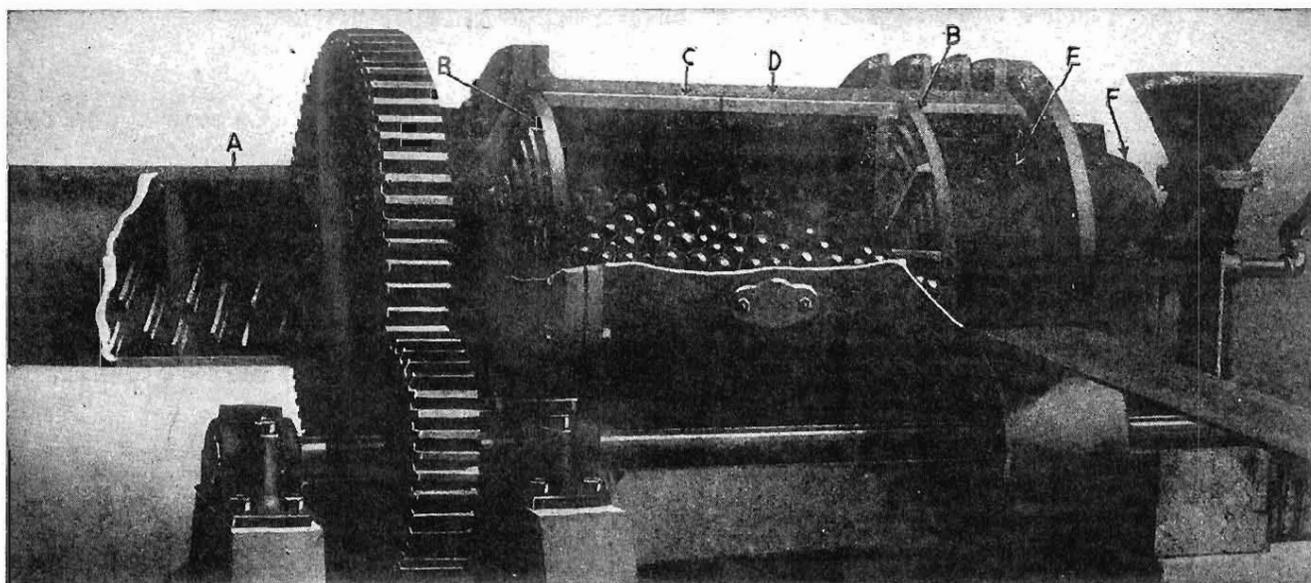
located in the Skidoo district of the Panamint Mountains, adjoining Death Valley. The Gold Fields American Development Company, Ltd., W. C. Browning, western representative, 1214 Pacific Mutual Building, Los Angeles, California, in association with John Higgins of the Lodestar Mining Company, secured an option on the claims early in the year and an exploration program was launched. A camp was established with a crew of 20 to 25 men employed under the direction of Edward Oshier, superintendent, and a number of sample shafts were sunk to determine the value of the land. No announcement has been made as to future plans for the property.

Joseph H. Hubble, operator of the Mic Gem mine near Jacumba, California, and Ben J. Cox of Santa Ana, California, report the location of what may be a valuable asbestos deposit near Jacumba. The deposit is said to carry serpentine suitable for use in paint manufacture as well as long-fiber asbestos.

The Colorado mine near Nevada City, California, is being developed under lease by Thomas Brown and associates. The tunnel and workings are being cleaned out and repaired preparatory to steady operations. Charles Kistle of Nevada City is the owner of the property.

A dolly hoist is being installed as an adjunct to the Idaho-Maryland shaft No. 1, the principal shaft of the Idaho Maryland Mines Corporation, Grass Valley, California. The new equipment will operate

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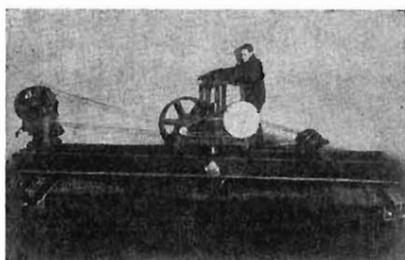


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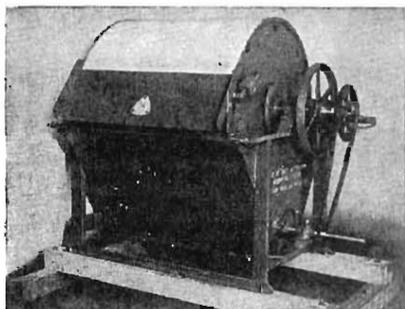
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independently of the major power noists, which occupy three compartments of the four-compartment shaft. The dolly shaft will be opened from the surface to the 1,000 level for the present but later it may be continued to the 2,000 level. The Idaho Maryland shaft has four compartments to the 1,000 level and three-compartments for the second 1,000 feet. The dolly shaft will be used for transportation of supplies, equipment, and materials, and also for surface and inter-level transportation of foremen, bosses, and workmen. Albert Crase is general manager of the company.

L. Snyder of Fairmont, California, is hauling high-grade ore from his property in the Coss Mountains to the Burton Brothers mill at Rosamond. Various samples are reported to have yielded assays running from \$49 to \$979 per ton although the shaft is still very shallow.

Active mining and milling operations are scheduled to get under way immediately at the Buzzard Hill mines, Happy Camp, California. Machinery and equipment for an 80-ton mill are on the ground, and the Vandercook mercuric cyanide process is to be used for treatment of the ore. Extensive tests indicate that the most profitable recovery of gold can be obtained with bulk leaching of the porous oxidized ores ground to a coarse 3/8-inch size. H. C. Cutting is president and general manager of the company which is preparing to develop the property.

Mining of an immense deposit of gold-bearing gravel is proceeding at the property of the Stenshaw-on-Klamath Gold Mining Corporation, located near Somes Bar, Siskiyou County, California. Water is conveyed to the machinery by a 2,000-foot pipe line and delivered under a pressure of 250 feet to the hydraulic giants. The property is equipped with a plant capable of handling approximately 1,000 yards of gravel daily. Work at the mine is directed by B. W. Delgass, vice-president and general manager, Somes Bar. Charles P. Franchot, 1636 Lincoln Building, New York City, is president of the company.

A. E. Stephenson, Arizona Hotel, Yuma, Arizona, and John Garrison report the discovery of gold ore at the Little Bear mine in the Ogilby district of California. The ore, said to run as high as \$300 per ton, was encountered at a depth of 38 feet. They have let a contract for 200 feet of development work to Felix Mayhew.

Russell J. Wilson, owner of the Black Oak mine at Garden Valley, California, recently acquired the John Quiggle property in the Kelsey district, comprising approximately 30 acres.

Forty men are employed at the Shovel Placer Mining Company, Nevada City, California, under the direction of C. B. Pierson, general manager. Eight trucks handle 700 yards of gravel in two shifts and it is expected that the work will be increased to handle 800 yards per shift.

Mark U. Weber and Clarence Olson, both of Auburn, California, are cleaning out a 100-foot shaft at the Evening Star mine located in the Rock Creek district.

Production is expected in July from the Washington group of claims located four miles from Climax, Colorado, near Kokomo, which E. D. Van Keuren of Kokomo and L. J. Gould of Denver leased several months ago. Credited with a production record of around \$500,000, mine values are said to be principally in silver and lead with some gold and zinc. A tunnel is being driven and platforms are being built preparatory to moving ore. No deep development work has been done in the district.

COLORADO

Mill construction is being contemplated by the Atlanta Mining Company, Dr. J. M. Gaume of Salina, Kansas, president. The company is developing the Atlanta mine near Independence, Colorado. William H. Camp, Box 135, Independence, is general manager.

Roy Williams of Victor, Colorado, is in charge of the development work being carried on by the Arizona-California Exploration Company in the Sitting Bull property on Bull Hill in Cripple Creek district. A crosscut is being run from the main shaft on the third level.

The Dooley Leasing Company plans to repair the main shaft on the Alamo-Rittenhouse property at Cripple Creek, Colorado, from the fifth to the seventh level and to explore the lower section of the mine. The company is 51 per cent owned by the Macmillan Petroleum Corporation, R. S. Macmillan, 530 West Sixth Street, Los Angeles, president. The other 49 per cent is held by R. A. Dooley and associates. Frank J. Channing, 315 Carr Avenue, Cripple Creek, is the engineer in charge.

T. E. Hughes and associates of Grand Junction, Colorado, are planning to install a compressor for development on the second and third levels of the old Matchless silver mine at Leadville.

Extensive development work is planned by the Homestake-Le Roi Mining Company, headed by M. Z. Ivy of Idaho Springs, Colorado. Two crews are working under lease on the Edward claim of the company's property near Idaho Springs and making regular shipments to the Golden Cycle mill. Holdings consist of six patented lode claims and lining each other. A power house, compressor house, and other necessary buildings are on the ground.

A group of Boston men have organized the Longfellow Mining Company which has secured a lease on the Longfellow mine at Cripple Creek, Colorado, from the Stratton Cripple Creek Mining and Development Company. J. O. B. Keener, Box 146, Cripple Creek, is in charge of the Stratton properties. The hoist on the Moon Anchor property and a 75-horsepower motor are being moved to the Longfellow mine. The Longfellow shaft is down 600 feet and five levels have been opened from it. H. C. Nelson of Empire is in charge for the Longfellow company.

Harold W. Haskins of Silver Plume, Colorado, has located ground where a seven-foot vein of gold ore is said to have

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THE MINING JOURNAL
Phoenix, Arizona

H. A. SAWIN* and C. M. ROMANOWITZ* discuss

Metals Used in the Dredging Industry

DURING the last few years of the nineteenth century, a few forward-looking men saw possibilities for use in California of a small mining dredge which had been developed in New Zealand and used to advantage on gold placer properties in Montana. These men, from crude designs and with limited experience, built for use on the Feather River near Oroville, California, several small dredges of the New Zealand type, using elevator buckets for digging, revolving screens for classifying, and conveyor buckets for stacking tailings. From the earliest dredge, metals, principally steel, entered into the construction of dredging equipment. The improvements in dredge capacities and efficiency can be traced largely to improvements in steel.

Early hulls were of wood and, today, there are instances when wood hulls are economical. In the Arctic such hulls, together with timber superstructure, last indefinitely. Under California conditions a wood hull has a life of about 12 years, while in the tropics they are not practical. Wood hulls sometimes are used with steel superstructure and gantries and, occasionally, wood superstructure and gantries are used on steel hulls. Steel plates and sections came into early use for dredge construction and the large dredges of today, with their problems of deep digging, are entirely of steel.

As dredging ground becomes more scarce, the large deep-digging dredges which are being built today will probably be used more and more in the future. Yuba No. 17, digging 112 feet below water level, displaces 3,500 tons. Such a dredge represents an investment of well over a million dollars if erected in California, and a correspondingly larger amount if shipped and erected abroad. The depth of digging and the cost of building larger dredges eventually, of course, will reach a point where it becomes economically impossible to produce gold or other metals in paying quantities. At the present time, this point has not yet been reached. Recent reports issued show that two of California's large dredge operators, (Natomas Company and Yuba Consolidated Gold Fields) who operated 17 out of 45 dredges in the state, in 1926 produced about 183,000 ounces of gold, digging and handling nearly 55,000,000 cubic yards of gravel. These figures have been taken from a report published in February, 1928, "Mining and Metallurgy," included in an article entitled "World Gold Production Costs" by John J. Croston.

To answer a common question before it is asked: Mining dredges are land-locked. Floating machines that dig their own ponds

*Yuba Manufacturing Company, San Francisco, California. Paper delivered before Western Metals Congress in Los Angeles, California.

The improvements in dredge capacities and efficiency can be traced largely to the improvements in the steel used in dredge construction. Steel is now employed in the construction of practically all important units of the dredge—from the hull and superstructure to the digging ladder and stacker and on to the recovery units.

as they move across the property being mined. Metals deposited by prehistoric streams or deposits of glacial workings are recovered from gravel dug and concentrated on the dredge. Only the final retorting or refining of the metal occurs on shore after periodic clean-up of dredge metal recovery tables.

Many dredges used throughout the world today are based on what has become known as the California type. This type embodies the use of endless elevator bucket line for digging; revolving screens of two or three different types, including scrubbers; sluices equipped with Hungarian-type riffles for metal recovery; and an endless rubber conveyor belt for stacking. Tables have, of recent years, been supplanted, to some degree, by jigs, sometimes used secondary to the riffles and sometimes installed as primary equipment, either supplanting the tables entirely or being used ahead of riffles.

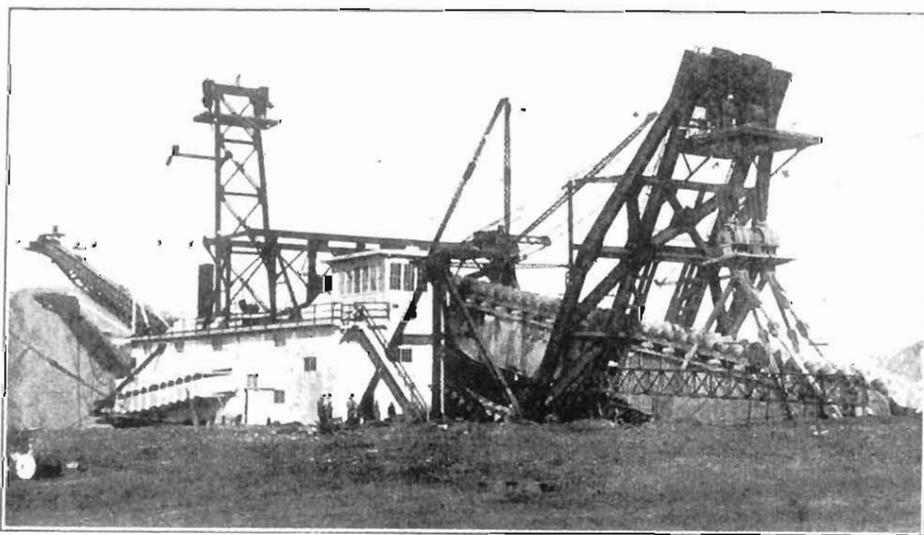
In only one important instance have metals been displaced on a dredge by another material. I refer to the use of modern rubber conveyor belts for stacking

tailings which, early in the dredging history of California, replaced the bucket and chain belt stackers.

Naming quickly the several units of a dredge which are ordinarily of steel or one of its alloys, one thinks first of the steel hull and superstructure, then the endless bucket line, the digging ladder of structural steel, with rollers for carrying the buckets, the upper tumbler, which corresponds to a huge sprocket for driving the bucket line, and the lower tumbler, which keeps the line in place at the lower end of the digging ladder. Material dug and elevated by the buckets passes into and through a hopper to a revolving screen which is used for classifying.

The tables on which fines are washed and gold or other metals recovered are usually built from steel sheets formed into troughs supported on the deck of a dredge. In these troughs or sluices are the riffles, usually Hungarian type. On dredges using jigs, steel and other metals enter into the manufacture of the jigs. The stacker is a steel truss with cast iron or steel troughing idlers and return idlers for carrying the belt. The various drives on the dredge, including the bucket line drive, known as the main drive, and the screen drive and stacker drives, are built up of shafts, gears, and other parts incorporating cast iron, mild steel, and steel alloys.

On large dredges, the winches are usually divided, one of seven drums or more being used for swinging the dredge and for moving ahead or sideways by use of shore lines. On this same winch will be found drums for raising and lowering the spuds against which the dredge thrusts when digging. Spuds are of structural steel with cast steel points. Some dredges use a head line instead of spuds for holding position



The No. 4 dredge of the Capitol Dredging Company which is operating near Folsom, California. This is the second largest dredge in the state.

when digging and the head-line drum, if used, is on this winch. Bow-line winches are sometimes used independently. Wire rope is used exclusively for hoisting, swinging, and suspension lines. The other principal winch on a dredge is for raising and lowering the digging ladder, and like the swing winch is built of cast iron and steel parts on a structural steel base. Alloyed steels are utilized to some extent for winch shafts, chrome-vanadium steels giving good service, as do nickel steels. Nickel-chrome steels have been used for shafting, but are not entirely suited because of torsional stresses.

Digging buckets forming an endless elevator chain, today, are of cast manganese-steel, usually of the two-piece type with lip riveted in place and using manganese-steel back eye bushings. Newer type buckets, with lips bolted in place by one of several methods, are now available. These new lips can be readily changed without removing the buckets from the line. This is an advantage for it cuts down lost operating time. Any improvement in metals or methods increasing running time is looked upon favorably by dredge operators.

Early day buckets were built up of three or more units. The bases, incorporating the front and back bucket eyes, were sometimes cast and sometimes forged from steel. On small buckets, bases were machined from heavy bar stock or plate. The hoods were generally formed, from mild steel plate, over a die, then fitted to the bases and riveted in place. To the hoods were fastened lips, made first from steel plate and later of cast steel. They, in turn, were riveted to the hoods.

Cast steel lips made a vast improvement in buckets and later the hoods were cast, using mild and high-carbon steels and nickel-chrome steels. The hoods and bases were cast integral and foundry practice improved. Nickel-chrome steel buckets were not successful because of a tendency to fail without warning, many of them literally bursting apart. This may have been due to foundry strains not being properly relieved. The average life was about two years as against four years or more for modern manganese-steel buckets.

Twenty years or more ago, manganese-steel buckets, bushings, and lips rapidly replaced most other types of buckets and are used today generally throughout the industry. They have been improved constantly in design and strength to provide long life and clean-cut action in digging and dumping. Any failure in manganese-steel buckets usually develops during the first year of use. Even after a crack appears, a bucket may be used for a long time without further failure and until discarded as worn out.

Bucket pins, from the earliest days of dredging, have presented serious problems to the operator. It takes no great imagination to picture the possible damage and lost time caused by the breaking of a bucket pin and the loss of a bucket line in the bottom of a dredge pond which, in modern times, can be over 100 feet deep. When such an accident occurs, it is necessary to send down a diver to untangle the line and to hook on tackle necessary to replace the

line on the dredge. Long bucket lines actually tie themselves in knots, and I think that you will agree that such a knot can be quite a knotty problem.

Bucket-pin manufacturers, starting with mild steel and high-carbon steels, were pioneers in the use of alloys. Yuba, early in its history, developed a nickel-chrome steel specification, which with later improvements approached very closely the present SAE specification 3140. Higher contents of carbon have been used to secure harder pins, but always it is necessary to avoid brittleness. Cast manganese bucket-pins have been tried, but have not proved practical. Bucket pins, to provide smooth bearing surfaces, must be machine finished. Tolerances are maintained reasonably close to the diameter of the bucket eyes. The slots provided for bucket-pin lugs are ground to tolerances, varying from a few thousandths of an inch with some operators to one-thirty-second of an inch for customary practice. Close fits are costly and questionable because after a few turns, the bucket-pins seat themselves in the bucket eyes and fine fits are lost. It is desirable to maintain the fits as close as is practical without spending too much money for fine machine finishes. Movement of the pin in the bucket eyes should be kept to a minimum, however, thereby saving the cost of frequent replacing of pins and bucket back eye bushings, which are of manganese steel with ground bearing surfaces working against the pins.

In recent years, Yuba bucket pins of a steel alloy containing molybdenum as well as nickel and chromium, have been manufactured for customers in the Far East who feel that the increased life justifies the slightly higher cost. The use of nickel-chrome molybdenum in place of nickel-chrome alloys for bucket pins is debatable and the local data available do not indicate that such pins wear longer. Pin diameters are not based on required strength only. A sufficient wearing surface is necessary to secure a reasonably long life.

Structural steel used in digging ladders, hulls, superstructures, and trusses has kept pace of improved products of rolling mills. Wide plates and improved sections are utilized and help to keep down costs of building dredges. So far as I know, no use has been made in the industry of new light-weight alloys. There has been some talk of using such steels for structural members and digging ladders. High tensile plates have been suggested for hull use to lower weight, and corrosion resisting steel has been advised where hulls are subject to salt water. These refinements are still experimental, I believe. As digging ladders became larger due to deeper digging and



larger buckets, the early open truss ladder were replaced by deep girder, beam-type ladders.

Lower tumblers on modern dredges usually incorporate the use of a nickel-steel shaft (SAE 2330) and cast manganese steel tumbler bodies, either one or two piece, generally the latter because of greater ease in assembling and elimination of some foundry difficulties. Early lower tumblers were mild steel, later replaced with high-carbon chrome-steel and were some times five-sided. Lower tumblers today are generally cylindrical in shape with flange, serving as a guide to keep the bucket line from working off the ladder while digging. Lower tumbler shaft bearings are sometimes babbitted, but cast iron has been found practical and desirable under certain conditions when properly lubricated.

Graphite greases have been used largely in these bearings and modern dredge construction provides for the use of a soft rubber seal, introduced by Columbia Steel Casting Company of Portland, Oregon, to keep out abrasive material. It seems perhaps unnecessary, but it might be well to remind you that the lower tumbler when working is digging in the mud under water 90 per cent of the time and the pond water contains much suspended abrasive material. Abrasion in the lower tumbler bearings has long been of serious concern to dredge operators. Improved metals have more than demonstrated their value at this point.

Upper tumblers in early days were in two or more pieces using cast steel bodies pressed or keyed to shafts with cast cushion and wearing plates bolted or riveted to the bodies. Modern wearing plates are of forged nickel-chrome steel, replacing cast manganese steel which they outwear. Due to the requirements of the large dredges first built in California about 20 years ago, the Columbia Steel Company of Pittsburg, California, co-operating with the dredge men, made available the first large steel castings manufactured on the coast. Upper tumblers weighing over 20 tons are cast in one piece incorporating the body and shaft. Of particular interest is the fact that after eastern sources found it impossible to cast such tumblers and large idlers, the Columbia foundry developed methods of handling them and contributed much thereby to the dredging industry.

Bucket idlers nearly 10 feet in diameter and eight feet through the hubs, with a weight of about 16,000 pounds, are cast in one piece from methods developed at Pittsburg by Columbia. The comparatively light radial arms made these idlers a problem which, as in the case of one-piece upper tumblers, was overcome here in California.

Bearings and ladder ends are cast steel, as also are the main drive gears and pinions. Drive shafts for the upper tumbler drive were strengthened through the use of 2 1/2-per cent nickel steel and vanadium steel early in the history of the use of that metal. Intermediate gears and drive pinions with herringbone teeth are of nickel steel.

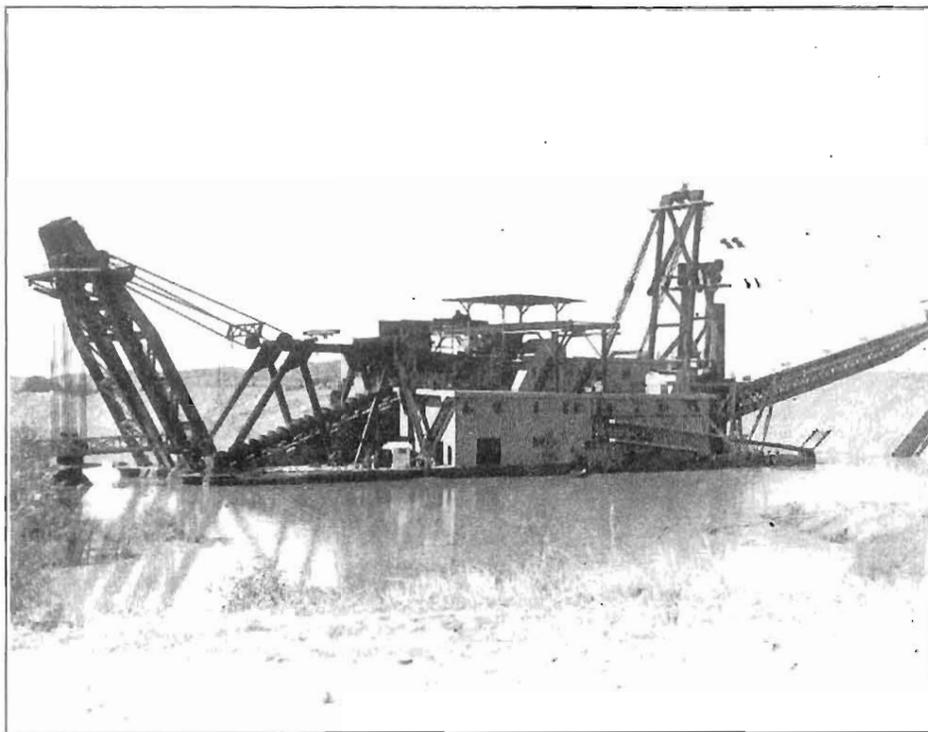
To give you some idea of the tremendous forces and power in a bucket line, let me

point out that the main drive motor on Yuba No. 17, an 18-cubic-foot bucket dredge digging 112 feet below water level, has a capacity of over 600 horsepower and speed of 514 revolutions per minute. This speed is reduced to three revolutions per minute on the upper tumbler providing for bucket line movement of about 20 buckets per minute. Seventeen's line has 126 buckets and requires over six minutes to make a complete circuit. The weight of 17's digging unit, including suspension and material in buckets, is about 900 tons. This tremendous weight helps to hold the line in place when digging in tough formation.

On this particular dredge, and coming into use on other deep digging dredges, is a Perry bucket idler. Idlers have been used on dredges below the upper tumbler to keep the bucket line clear of the hopper and end of well in hull. The Perry idler is used underneath the ladder about midway to control the catenary of the bucket line in its return to the lower tumbler. An idler for this purpose makes possible the successful operation of deep-digging dredges now working and being built. Yuba No. 17 is a striking example of the benefits to be gained through using such an idler.

The Perry idler is named for its inventor, O. B. Perry, and was developed by him from many years of dredging experience in Alaska and other parts of the world. It is of cast steel with manganese steel liners and mounted on a nickel steel shaft (SAE 2330). Bearings are carried on structural steel hangers mounted under the ladder and are of cast steel, babbitted. The idler, of course, moves very slowly as the lips of the buckets ride on its surface in their travel to the lower tumbler. It is interesting to note that the use of the Perry idler on Yuba 17 has greatly reduced the cost of replacements of bucket pins and wearing plates on the upper tumbler. The life of these wearing parts has been increased more than 100 per cent over that of similar parts on other dredges digging only 80 feet but without idlers. A Perry idler was installed on Capital Dredge No. 4 recently built and operating near Folsom, California.

An interesting development of deep-digging dredges is the need for a means for removing the fine material which slides into the ponds from tailings. This fine material in the pond of Yuba 17 at Hammonston crowded the bucket line and caused serious interference with the swinging of the dredge. To eliminate this trouble, a mud-pumping system was developed and patented by Yuba Manufacturing Company to remove this mud a second time from the pond bottom, pumping it through a line carried by the digging ladder, through the dredge and out over the stacker. This fine mud is pumped 40 feet or more beyond the face of the rock tailing pile to a point where it cannot again slide into the pond. Such a pump has also been installed on Capital 4 which digs 77 feet below water level. It is an eight-inch pump and operated against a total head of about 225 feet. The pump itself is a Byron Jackson, built for this specific purpose for Yuba. Wearing parts for this pump originally furnished were later changed to "Yuballoy," a cast



The No. 17 dredge of Yuba Consolidated Gold Fields, near Hammonston, California. This dredge has a digging depth of 112 feet below water level.

nickel-chrome iron which provides better wearing qualities.

I shall not attempt to describe other pumps used on dredges which include high and low-pressure pumps, supplying water to the screen and tables. The water is taken from the pond, but, on several dredging operations, keeping the pond water sufficiently clear is a problem which must be met in one way or another. Some dredges, working against high banks, use a monitor pump for sluicing down the bank.

Improvements in metals used for screens have contributed to the profits of the dredge operators very materially. Early day screens, both revolving and of the shaking variety, used mild-steel plates such as were available. As plates improved, screens improved. Steel with higher carbon content became available and screen manufacturers used these plates for screens. Shaker screens were replaced early with revolving screens and the tread rings on the latter were improved through a higher carbon content and use of chromium.

It is in the screen plates themselves that the most improvement has been made. Screen plate thicknesses vary, but a commonly used plate is $\frac{3}{8}$ -inch thick. Plates as thick as possible have a longer life before replacement is necessary. Manganese-steel foundries have, for many years, produced cast manganese-steel plates which have been acceptable and which have a longer life and correspondingly lower operating cost than high-carbon steel plates. Drilled high-carbon steel screen plates with carbon at 0.42 have been used for many years. Recently Yuba has replaced high-carbon steel with U. S. Steel Corporation's abrasion-resisting steel, having a hardness of about 235 Brinell. Harder plates have been used on dredges as liner plates for their abrasion resisting qualities.

Abrasion-resisting steel screen plates can be manufactured at a cost competitive with cast manganese-steel plates and field experience indicates that the life of such plates is about equal to that of cast manganese. The advantage in drilled plates of any type is that the holes can be maintained on closer centers and can be drilled more uniformly than holes can be cored. The manufacturing time for abrasion-resisting steel screen plates is double that of high-carbon plates. This, of course, increases the cost but does not make it unduly high because of the longer life received and greater yardage handled.

Transportation plays an important part in the design and fabrication of dredge units. Several dredges in varying stages of completion, have been successfully towed across the Gulf of Mexico to Colombian rivers and thence to their dredging fields. Such hulls have passed the requirements of underwriters. Dredges for New Guinea fields are transported by air in units of less than 7,000 pounds. The larger dredges there weigh over 1,200 tons each. A pontoon-type hull has recently been shipped to Alaska and made possible the starting of an 8-cubic foot dredge weighing 1,400 tons, last November instead of next summer. Shipment was made from Alameda, California, on August 6 and the dredge was digging platinum on November 10. Pontoon-type hulls are easily erected and moved.

There are in the world today probably more than 300 dredges of the bucket-line type, not including smaller equipment or washing plants fed by other methods. These dredges are mining gold, platinum, and tin. The use of metals plays an important part in this interesting phase of the mining industry.

Hydraulic Miners Won Through Cooperation

HYDRAULIC mining interests now foresee the successful conclusion of the efforts which they have made over a period of many years. Federal funds are available and work has been started on the first of the three dams to be constructed for impounding tailings from hydraulic mines on the Yuba and American rivers in northern California. That there will be a resumption of this once-great industry is attested by the preparations being made for the time when the dams will be completed.

Already, many men are employed in building flumes, digging ditches, and preparing old hydraulic workings for the nearby operations. The mining communities have felt this revival and the results are being reflected in the rebirth of confidence in the industry. It is expected that, after the dams are completed, employment will be afforded to many thousands of men, a large number of whom undoubtedly will have been employed on the construction of the dams themselves.

The assurance of construction of three dams, with probably one more to follow within another year, brings to mind the bitter fights between agricultural, power, and community interests of the California valleys with the hydraulic miners over a long period of years, starting about 1879. The outstanding feature of the proceedings during the past two years has been the quiet, intelligent, and practical education of all factions interested in the problem. The mining industry, as a whole, should take many pages from the book written by California Hydraulic Mining Association and a few of its pioneer predecessors in the matter of cooperation for the betterment of mining and apply the lessons to the many pressing current problems in which the industry is at present so vitally interested.

The C. H. M. A. was organized by a few logically minded men who were willing to act upon their convictions and not merely to discuss problems. To them, and to the experience they gained from their predecessors, full credit for the present success is due. Outstanding in the successful effort and in leadership have been George W. Hallock, president; C. E. Clark, vice-president; and W. W. Esterly, secretary. These men have served without remuneration and have accomplished what, at many times, appeared to be the impossible. Congressman Harry Englebright was an important and vital factor in the final accomplishment and success, for without him federal assistance would not have been obtained.

The effort of the C. H. M. A. had support of newspapers as well as communities which realized that to reestablish hydraulic

The success of the California Hydraulic Mining Association is the direct result of close study of the subject, and coordination of the many interested factors. It is an object lesson for other mining associations.

mining would bring benefit not only to the locality of the mines but to nearby cities, towns, and agricultural communities which would supply the necessities for the large number of men who would be employed as well as to furnish equipment and supplies necessary to the mine operations.

Notably, the bitterness which followed each of the previous efforts was absent and, what is more important, the cooperation of the many and diversified interests was secured. This was particularly true in the cooperation secured between the many mining interests and groups. The lack of such cooperation in the past and a shortsighted policy had prevented success being attained in preceding years.

In discussing the present success the names of two leaders in former efforts should not be forgotten for they fought alone and almost unaided, each using his personal funds and means in order to carry on the fight. To omit the names of these two mining engineers, James D. Stewart of Auburn, California, and Frank A. Crampton of Nevada City, would be to overlook the effort and groundwork laid down by them and which is the foundation of the present success. These engineers, who almost single handedly fought the fight of the hydraulic miner, did so without substantial cooperation by the mining groups and with no funds excepting those which they themselves contributed. To them let the credit and thanks which is their due be given for without their work, background, and experience the foundation would not have been laid. That they were not successful, in that the dams were not built, is to the discredit of an industry for which they worked, for they fought the fight alone and unaided.

THE success of the C. H. M. A. is to be credited to the fact that its leadership recognized the necessity for education and absolute cooperation. Mistakes made by the operators in the hydraulic mining industry of former years were entirely lacking. Now that the situation is clear it is interesting to review the conditions which resulted in the abandonment of the hydraulic mines and the efforts to revive an industry. One court decision, that of the perpetual injunction by U. S. Federal Judge L. B. Sawyer on January 23, 1884, had wiped

out an investment of over \$100,000,000 and had thrown thousands of men out of employment. The result of the decision was an immense reduction in the gold production of California, an abandonment of valuable lands and water rights, the scrapping of plants and the general decay of an industry which had contributed nearly \$500,000,000 to gold production and which had been a major factor in the development of the State of California.

Repeated efforts were made to revive the industry, but it was not until 1891 that the Caminetti Act passed Congress and the California Debris Commission, under direction of the United States War Department, was created.

While the Caminetti Act made possible the resumption of hydraulic mining under certain and drastic restrictions and regulations, it was not adequate to provide the proper protection for the community and agricultural interests in the valleys below the mines and which had seriously suffered in the past. In fact it was not entirely possible, under the regulations of the act, to stop the flow of the roiled and muddy water from passing through the required restraining barriers and damaging agricultural and power interests.

It was unfortunate that, during the period of attempted rehabilitation following the Caminetti Act, there were many who openly, or by moonlight, disregarded the law. Among these was a group of older hydraulic mining operators who refused to understand the situation and who could not be convinced that the valley people had any rights to curtail or to stop hydraulic mining. These "die-hard" operators took the position of prior rights and contended that the gold miner was first in California, that he had actually made California an Empire, and that nothing should be done to stop his preempted basic and assumed right to do whatever he pleased, no matter what the damage to his neighbor. In fact the C. H. M. A. was the victim of such thought, but those directing its efforts had the courage, ability, and foresight to profit by the experience of past failures. Their groundwork was made upon the foundation laid down by Stewart and Crampton and those who had gone before.

The fight for the resumption of hydraulic mining was started by James D. Stewart of Auburn soon after the Caminetti Act came into existence. While Stewart attempted the organization of the industry, he met great resistance to the theory of compromise and conciliation and virtually carried the fight single handed for many years. There were times during this period that success seemed imminent and, in fact, a bill which would permit resumption of hydraulic mining did pass the California legislature, only to be vetoed by Governor Young.

*Mining Engineer, Nevada City, California

From 1926 to 1929 the effort towards hydraulic mining was at its height and some organization was appearing, but the general support faded away upon the counsel of the "die-hards." With only the assistance of Abbot Hanks and a few loyal friends Stewart tried on.

In April of 1928 the Commonwealth Club of San Francisco, realizing the matter to be one of great civic importance, held a public debate of the subject under its auspices, both sides presenting their respective viewpoints. This debate aroused general interest and resulted in the matter being taken up seriously in the United States Congress. During the period much literature was published as a result of several and varied investigations.¹

From reports submitted¹ it was obvious that there was a vast yardage of placer gravel available and adaptable to hydraulic mining methods. Figures published at that time revealed the minimum recoverable gold to be worth about \$600,000,000 at the then current price of \$20.67 for an ounce of gold. The maximum figures placed the value in excess of \$1,000,000,000. Conservative friends of the industry accepted a lower figure, believing it sufficiently large to warrant their hopes and efforts for a revival. At the present price of \$35 an ounce for gold the minimum would be over \$1,000,000,000.

The efforts of Stewart and others failed in 1929, largely for the reason the "die-hards" continued to resent the necessity for cooperation and advised against the course set down. The industry, during this time, was its own worst enemy and its purposes were defeated because of the lack of understanding, cooperation, and sympathy toward those others who were vitally concerned.

During the years intervening between 1929 and 1933 much substantial groundwork was done and in the 1933 session of the California legislature, Stewart, through Senator Jervold Scawell, introduced a bill designed to assure cooperation between all operators whose interests would be affected. This work Stewart was assisted by Frank A. Crampton, then a member of Governor Rolph's committee for the investigation of mining and insurance problems.

Crampton assumed the task of educating the mining groups and legislators of Southern California in the importance of hydraulic mining. From April of 1932 until the legislature met the following January, two pages of the southern press were used as a means for that education. The Los Angeles Times, particularly, took a strong and full page articles and special features appeared in many issues. Meanwhile, the powerful Los Angeles Chamber of Commerce through its mining committee, of which Crampton was secretary, took action and the result of the combined



efforts was to convince the legislators of the merits of the cause.

In its 1933 session the California legislature passed the bill, now known as the Placer District Act; but even then protests were so great that Governor Rolph held a hearing for the presentation of both sides of the question. It was at this meeting that a report was presented by Crampton, and Governor Rolph made the statement that it was upon this information that he signed the bill. Seemingly the work of many years was drawing close to a successful conclusion.

Unfortunately, at that time, three hydraulic mines were in full operation on the Bear River and tailings were being carried into the power plants of the Pacific Gas and Electric Company and roiled water into the water systems of the valley communities. A suit was entered against the miners only after the P. G. & E., as well as the valley communities, had attempted for months to secure cooperation and an agreement from the mine owners who refused to consent to plans for a limited curtailment of operations and the erection of dams under the Placer District Act. These dams, it had tentatively been arranged, were to be built by funds subscribed by private interests not connected with the mining operators, or by the means of a federal loan. Already, negotiations were under way with the federal government, through Congressman Englebright, for the erection of dams through appropriations by congress.

As a result of the lack of cooperation with the valley communities and power interests, a suit was tried and resulted in an injunction somewhat more drastic in its detail than the famed Sawyer Injunction of 1884.

IT WAS fortunate that the younger generation of hydraulic miners, taking a lesson from the continued defeats of the operators who accepted the advice of the "die-hards," followed the course laid down by Stewart and Crampton and which was discussed in an article in *The Mining Journal* of August 30, 1936.² The industry then cleaned house and commenced its campaign which has resulted in the splendid success of the C. H. M. A.

Profiting by the experiences of Stewart and Crampton, where the lack of cooperation was so obviously a reason for failure, the hydraulic industry undertook the task once more. Although the job of education and conciliation was a hard one, the results achieved are worthy of the greatest commendation. Success has been so broad that what had been thought an impossible feat in past years has become an accomplished fact and should be recorded in the annals of mining as one of the real achievements of the industry. And who could believe that Marysville and Yuba City, leaders in the opposition and instigators of the suits terminating in 1884, would have become staunch supporters and that, in fact,

the Marysville section of the organization boasts a greater membership in its chapter than any other? And it is interesting to comment that the membership of the C. H. M. A. is steadily increasing!

The moral of the success of the C. H. M. A. is clear. Where an object is to be accomplished, cooperation and conciliation are required, plus organization and ability. Today, the C. H. M. A. stands out as a most potent and powerful organization for mining in California. Its paid membership is greater than that of any other mining association of California. Its success has been largely due to the sincere efforts of a few men, but the efforts of those men, without the background of membership to support them, would have been as futile as the preceding efforts where the battle was carried on by a few without cooperative support. It is numbers that count in the end and the politician understands the power of numbers and translates them into possible votes.

Not only has the C. H. M. A. been the one factor to meet tangible success in the field of hydraulic mining, but it has been quietly furthering the interests of lode mining as well and in these efforts has been as successful as in the hydraulic problem. In this day of intensified organization the mining industry needs as great a force as it can muster to meet and fight opposition which is slowly creeping in to throttle it. Few realize that mining is the world's greatest industry. It is only through publicity, education, and effort that the people, whether urban or suburban dwellers, and our legislators, whether state or federal, will come to understand and realize what a potent and vital force mining is to the local communities and to the nation as a whole.

The C. H. M. A., with its close contact with state and federal legislators and legislation, its successful efforts in California, its close cooperation between all factions and groups, the quietness with which it goes about its business doing little talking but giving much action, has shown the way to the mining industry. It would be well for those interested in the future of mining to take a few pages from the book this association has written and to follow its intelligent and substantial example.

OPERATOR OF TRAIL SMELTER PAYS SEMI-ANNUAL DIVIDEND

A DIVIDEND of \$1 has been announced by the Consolidated Mining and Smelting Company of Canada, Ltd., which includes a semi-annual dividend of 50 cents and an extra dividend of the same amount. Payment will be made July 15, 1938, to stockholders of record June 20 and will aggregate approximately \$3,264,492. In 1937 the company paid \$11,413,188.50 in two dividends.

Company income comes from its mines in British Columbia and its smelter at Trail. The smelter, which is under the general management of Vice-President S. G. Blaylock of Trail, serves mining properties on both sides of the United States-Canadian line.

¹ Document 50, 75th Congress, May 28, 1935. Document 90, 70th Congress, April 28, 1928. California State Mining Bureau, Volume 23, No. 1, January 1927. California State Mining Bureau, Bulletin No. 92, June 1923. Transactions of Commonwealth Club, May 29, 1928. ² *The Mining Journal*, August 30, 1936. *The Hydraulic Mining Problem in California*, by Frank Crampton.

of ore. There are two small custom mills in the process of construction in the county. These will go a long way toward filling the need of facilities for the treatment of small lots of low-grade ores at points economically accessible to the properties.

Placer mining has been on the increase along Big Bug Creek and two dry-land dredges have been installed which are equipped with bowls for recovery of values. This method of placering has been perfected and its possibilities have been demonstrated by the Universal Placer Mining Company, operating a dry washing plant in the vicinity of Octave. The Lynx Creek Placer Mine Company has increased recovery at its dredging operation by the installation of jigs to replace the old sluicing methods. It is reported that recovery has been increased in this manner by 50 per cent.

Recognizing the need of an organization to protect the small miner, the Arizona Small Mine Operators Association was formed in February, 1938, and now has a membership within the state that totals nearly 1,700 miners. The association was organized for the purpose of giving the small miner a voice in legislative action that directly affects him and with the hope that his activity can be so brought to the attention of state authorities that they will recognize the fact that Arizona is an important mineral producing state and will continue to be so in the future if properly protected.

The activities of the association have produced concrete results already. Intra-state freight rate increases were denied on ore shipments, mainly because of the action of the association, and the Wages-and-Hours legislation was definitely influenced. Industrial insurance and compensation rates are scheduled for an investigation in the near future, as it seems at present that there is a certain amount of unnecessary burden placed on the small miner by this commission.

The backing that is being given this association by the small miners is playing an important part in its success and it is hoped that all who can possibly attend the Arizona Miners' Summer Jamboree this August will do so, as policies and by-laws will be definitely outlined at that time. Prescott is prepared to give all the miners that attend a rip roaring time with top-notch food and entertainment.

MINE ASSESSMENT BILL WAS SIGNED BY THE PRESIDENT

PRESIDENT ROOSEVELT, on June 29, signed the mine assessment moratorium bill, granting once more to prospectors in the United States and Alaska the right to hold their mine claims without performing the \$100 worth of annual development work required by the federal mining law. The period covered by the current legislation was from July 1, 1937, to July 1, 1938.

The relief under the act applied only to those who paid no federal income tax for the year 1937 and limited the number of claims on which exemption would be granted. It also required claim owners to file

by noon of July 1 a notice of their desire to hold the claims. Such notice had to be filed in the office in which the location notice or certificate was recorded.

Suspension privileges applied to not more than six lode-mining claims held by the same person, nor to more than 12 held by the same partnership, association, or corporation. Similarly, it applied to not more than six placer claims of not to exceed 120 acres in all held by the same person, nor to more than 12 of not to exceed 240 acres held by the same partnership, association, or corporation.

The legislation was opposed by Secretary Ickes and the mines and mining committee of the house, but was passed by congress on June 16, a few hours before adjournment.

MOUNTAIN CITY ORE TO BE TRUCKED OVER NEVADA ROUTE

ABANDONMENT of ore hauling from the Rio Tinto mine of the Mountain City Copper Company, near Mountain City, Nevada, to the railroad at Mountain Home, Idaho, was announced by Francis Knowles, manager of the Knowles Brothers Trucking Company. This trucking concern has operated its Diesel 18-wheel trucks and semi-trailers over this route since the beginning of major activity at the mine. In the future ore will be hauled south to Elko, Nevada, for reshipment, Knowles advised.

The change in routing was occasioned largely by the action of the Idaho Public Utilities Commission which ruled the trucking company to be a common carrier. Ed-

ward Knowles, testifying before the commission, contended that his company was operating solely as a contract carrier for the copper company. Business interests Boise and Mountain Home made strenuous demand upon the commission uphold the trucking concern, stating that the business developing from its operation netted the state some \$125,000 in revenue a month.

ROCK DRILLING CONTEST HELD IN BOULDER COUNTY

THE fifth annual Boulder County, Colorado, rock drilling contest was held usual on the Fourth of July at Boulder. The time limit was 10 minutes. George Boubles and Mickey Coughlin of Sugar Loaf took first money, \$150, in the doubles, drilling 22 3/4 inches. Second prize \$100, was awarded to Ed Saunders and Howard Vickery of Boulder who drilled 21 3/16 inches; and third, \$70, went to Frank and John Eecker of Blackhawk for 20 3/8 inches.

Roy Peterson of Boulder won the single drilling contest, doing 13 3/4 inches which took the first prize, \$100. George Brand of Nederland came in for second money \$75, with 13 11/16 inches and Frank Eecker of Blackhawk placed third, \$50 with 12 7/32 inches.

The two young Coughlin boys drilled six inches in seven minutes and the small Eecker boy drilled, single, 2 3/4 inches in seven minutes.

SAFETY LAWS OF WESTERN STATES TO BE STUDIED BY WPA

SAFETY laws and orders of 11 western states are the subject of a survey to be made by a new WPA project at a cost of \$10,000. This project, just approved by the federal government at Washington, will be directed by C. H. Fry, chief of the industrial accident commission of California, and interim chairman of the Western Safety Conference to be held in Los Angeles, September 12-16.

Under the provisions of the project, 27 experienced safety engineers and attorneys will unite in re-codifying all safety laws and orders for the prevention of accidents in traffic, the home, and in industrial vocations.

Aiding in the movement are the states of California, Oregon, Washington, Idaho, Montana, Wyoming, Colorado, Utah, Nevada, Arizona, New Mexico, which are subjects of the survey, as well as British Columbia, Alaska, Hawaii, and Lower California.

Uniform safety laws have long been the dream of safety engineers and others interested in a lowering of the terrific loss of life from all public and industrial causes. Plans have been made for a series of conferences at the Western Safety Conference which are expected to have a far-reaching effect.

It is expected that the conclusions reached by the several thousand safety experts attending the conference will be of great value in the deliberations of the experts making the survey, many of whom will take part in the conference.

AVERAGE PRICES OF METALS (Figures by American Metal Market)

	Copper Per Lb. Conn. Valley	Lead Per Lb. New York	Zinc Per Lb. St. Louis	Silver Per Oz. New York
1924	13.024	3.097	6.344	66.731
1925	14.042	3.020	7.322	69.065
1926	13.795	3.417	7.337	62.107
1927	12.920	6.755	6.242	56.370
1928	14.570	6.305	6.027	58.176
1929	13.107	6.333	6.512	52.903
1930	12.982	5.517	4.556	38.154
1931	8.369	4.244	3.638	28.701
1932	6.792	3.131	2.381	27.892
1933	7.276	3.870	4.031	34.728
1934	8.658	3.8595	4.162	47.973
1935	8.830	4.0648	4.331	64.273
1936	9.710	4.7091	4.903	45.033
1937	13.391	6.0085	6.517	44.805
1938				
Jan.	9.250	4.500	4.850	47.250
Feb.	9.250	4.5152	4.361	44.750
Mar.	9.250	4.600	4.900	44.750
Apr.	9.400	4.600	4.900	44.900
May	9.500	4.600	4.900	44.869
June	9.500	4.600	4.382	44.750
July	9.596	4.600	4.787	44.750
Aug.	9.750	4.600	4.841	44.760
Sept.	9.750	4.600	4.850	44.750
Oct.	9.846	4.6808	4.850	44.750
Nov.	10.432	5.1136	4.983	45.441
Dec.	10.995	5.55	6.277	45.352
Ave. 1936..	9.710	4.7091	4.903	45.088
1937				
Jan.	12.660	6.00	5.86	44.912
Feb.	13.60	6.2356	6.435	44.75
Mar.	15.990	7.1889	7.377	45.130
Apr.	15.346	6.175	6.989	45.460
May	14.00	6.00	6.75	45.025
June	14.00	6.00	5.75	44.818
July	14.00	6.00	6.929	44.750
Aug.	14.00	6.4519	7.205	44.75
Sept.	13.780	6.400	7.170	44.75
Oct.	12.060	5.746	5.087	44.75
Nov.	11.022	5.0326	5.632	44.75
Dec.	10.236	4.375	5.111	43.810
Ave. 1937..	13.391	6.0085	6.517	44.805
1938				
Jan.	10.425	4.870	5.60	44.714
Feb.	10.00	4.6318	4.510	44.75
Mar.	10.00	4.50	4.412	44.446
Apr.	10.00	4.50	4.152	42.75
May	9.60	4.40	4.043	42.75
June	9.00	4.1481	4.143	42.75

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THE MINING JOURNAL
Phoenix, Arizona

Approximately 25 tons of asbestos per month are being mined from the Canadian mine, located near Chrysotile, Arizona, under the direction of Norman F. Barber, lessee, Box 1010, Globe, Arizona. Four men are employed on a one-shift basis. The property is owned by the Globe-Los Angeles Mining Company.

Dixie Gold, Inc., Frank Neels, superintendent, Chloride, Arizona, is producing approximately 25 tons per month of gold ore. The property is located in the Weaver district. Additional air facilities are being installed with a view to increasing production. The mine is operated under lease by Neels Brothers.

Operations are on a three-shift basis at the property of the Golden Crown Mining Company, W. L. Simon, manager, Box 73, Crown King, Arizona. The shaft has been retimbered and development is under way with a crew of 18 men employed. The ore values are in gold, silver, and lead.

Drifting and crosscutting are under way at the Cypress mine, located in the Big Bug district near Mayer, Arizona, which is operated by the Gold Medal Mining Company, Frank P. Leach, superintendent. The mine is owned by Charles Elliott, 37 Front Street, San Francisco.

Archie Levy, Box 164, Chloride, and associates are developing the Golden Eagle mine, located in the Cerbat district near Chloride. The property carries values in gold, silver, and lead.

The Golden Pheasant Mining Company, Gleeson, Arizona, operating the No Count mine, is treating approximately 250 tons of gold ore per month. The mine is located in the Turquoise district and is owned by J. L. McLendon, Gleeson.

Approximately 15 tons of asbestos per month are being produced at the Ladder mine, owned and operated by Guy G. Phillips, Route 1, Box 270, Miami, Arizona. Seven men are employed.

The Ripsey Canyon Mines, Martin Fishback, operator, Kelvin, Arizona, is producing approximately 200 tons per month of gold-silver-copper ore. A crew of 10 men is employed.

Shipments of barium ore from the White Mountain mine, Bouse, Arizona, are averaging approximately 10,000 tons per month. Operations at the property are directed by T. H. McReynolds, superintendent, Bouse, and work is on a two-shift basis. The mine is owned by R. E. Scott, 1012 Holly Avenue, Arcadia, California.

The Yellow Jacket mine near Arivaca, Arizona, owned by Abe Johnson, Lakeside, Arizona, is being operated under lease by J. R. McCorkle of Arivaca. Three men are employed. Values are in silver and gold.

The Cordilla asbestos mine, located in the Fluorine district, near Globe, Arizona, is being operated under lease by E. C. Currier, Young Route, Globe, Arizona, who is directing the work. The property is equipped with a cleaning plant having a capacity of five tons per day. Approximately 20 tons of ore per month are being mined.

New equipment being installed at the Mountain King mine of the Jumbo Consolidated Mining Company, located near



Copperopolis, California, will increase capacity of the mill from 80 to 200 tons per day, according to Byron E. Rowe, general superintendent. The new equipment includes a ball mill, Dorr classifier, Fagergren flotation machine, new 1,000-foot Ingersoll-Rand compressor, and double-drum hoist. W. J. Shaw, 506 Bay Cities Building, Santa Monica, California, is president of the Jumbo company.

The Union-Keystone Consolidated Placer Mines, Gibsonville, via La Porte, California, has recently completed the retracking of its tunnel with 16-pound T rails and is now installing electrical equipment to replace the air equipment, which has proven very unsatisfactory. Two shifts were put on July 1 with a total crew of 12 men. The inclined tunnel is being pumped out in order to reach the face of the main drift, where gravel was encountered last November before work was suspended due to the increased flow of water. The mine is owned by Thomas Cline Brown, 30 Ceritos Avenue, San Francisco, California. Operations at the mine are directed by Parker H. Mason, superintendent.

Roy H. Elliott, 318 Hobart Building, San Francisco, who holds an option on the Rattlesnake mine near Downieville, California, plans to start operations with a crew of six men as soon as a road has been built and equipment arrives. A tunnel is to be driven and the results obtained from this project will determine future operations.

Lee I. Rowland, Mariposa, California, has secured an option on the Guadalupe and Dunn mines, located in the Guadalupe mining district, from the Mariposa Commercial and Mining Company, F. T. Maguire, resident manager, Mariposa. The property comprises approximately 2,000 acres. Two men are at present engaged in cleaning out the workings and repairing the road to the mines.

Robert Ewing is reopening the old Seth Martin tunnel on his property, the Queen of Mt. Oro and the Golden King claims, located on Mt. Oro about 15 miles east of Nevada City, California. The old timbering has been found to be in good condition and it is expected that as work progresses the tunnel will lead into the old channel.

The Carrie Mines Corporation, C. R. Murdoch, manager, Pine Grove, California, is driving a tunnel approximately 700 feet perpendicularly below the collar of the Defender shaft. The tunnel is being extended on the vein, which is said to contain many shoots and deposits of high-grade gold ore, and will be used for drainage, ventilation, and transportation.

The Continental mine, located near Mokelumne Hill, California, is being reopened by coast interests and is being prepared

for production. The mine is opened by three tunnels and is equipped with a 20-ton flotation plant. John Conda, Mokelumne Hill, is superintendent.

An inclined shaft is being sunk at the Pine Grove Mine in the Pioneer district east of Jackson, California, by Portland, Oregon, interests. A. B. Woodward, Jr., is general superintendent.

Two shifts are engaged in drifting on the 250-foot level of the Lava Cap mine, located in the Pioneer district near Jackson, California, and good values are reported. The 30-ton mill on the property was destroyed by fire recently. A. J. Raggio, Jackson, is general manager at the mine.

Moar Brothers, Jackson, California, have been engaged in driving a tunnel on their property with a view to intersecting the Modoc vein, formerly a famous producer of high-grade gold ore. A vein of commercial ore is now reported in the working.

Word has been received by the California Hydraulic Mining Association that the secretary of war has made an allocation of \$1,000,000 to start construction of the Narrows debris dam in California. This makes a total of \$2,500,000 which has been allocated for construction of the series of dams in California, which are being provided to permit the resumption of hydraulic mining.

The Rindge No. 1 mine in the Jesus Maria district near Mokelumne Hill, California, acquired from the U. S. Machinery Company of Sacramento, California, last August by Louis Gnecco of Mokelumne Hill, has been sold by him to J. V. Maynes and eastern interests. Litigation which has kept the property idle since 1929 has been cleared and the unwatering of the 750-foot three-compartment shaft is to be started within 30 days. Electric power will be restored and used for all operations. A large tonnage of ore is reported to have been blocked out prior to the shutdown. In addition to the quartz property, Maynes has acquired the placer workings, comprising 1,400 acres, and work on this portion of the property is to begin at once. The upper portion will be handled with a dragline and the remainder will be worked by breasting. Water pumped from the Rindge No. 1 shaft will be stored in a reservoir and used for the placer operations.

The milling plant of the Monarch Mining Company near Forest Hill, California, is temporarily shut down for repairs to the cyanide tanks. When work is resumed, it is planned to mill ore which will average \$10 per ton. Values up to the present time have been averaging only about \$2 or \$3 per ton. A. D. Hadsel, 10706 Beverly Avenue, Oakland, California, is president and general manager of the company.

A saw mill has been completed and placed in operation at the Omega hydraulic mine near Washington, California, and the plant is turning out timbers for use in constructing flumes. The working crew has been increased to approximately 60 men and two monitors are operating. The tailings are stored behind the newly completed

debris dam which the company has had under construction during the past year. Theodore Larsen is superintendent.

A 1½-mile ditch is being constructed and 500 feet of 8-inch pipe line are being laid at the Penny Weight mine, which is under development by C. N. Dillon of Helena, California. Development is being carried on with a crew of six men employed. Application was made recently for the diversion of three cubic feet per second of water from Brock Gulch for mining purposes. Hydraulicking methods will be used.

Walter B. Lenhart and Charles F. Johnston, both of Bishop, California, have taken over the Adamson tungsten claims adjoining the Pine Creek mine of the United

States Vanadium Corporation, and are preparing to develop the property. Shipments of crude ore made by the new operators are reported to have run as high as 32 per cent WO₃, and by closer sorting a much higher grade could be shipped. The ore consists of veinlets of scheelite which follow the various planes of rock fractures and in addition the scheelite appears in disseminated specks throughout the ground mass. Transportation conditions and high elevation have hindered development of the property but a road has been built recently which is close to the mine, making it more readily accessible. Johnston was formerly chief mine engineer and geologist for the Cardinal Gold Mining Company at Bishop, and Lenhart is mill superintendent.

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Approximately 30 flasks of quicksilver per month are shipped from the **Coso** quicksilver mine, Little Lake, California, to the Coast Chemical Company of New York City. The mine is equipped with a 20-ton Nichols-Herreshoff multiple-hearth furnace, and a regular condensing system. All equipment was purchased new and the plant is modern throughout. All processes are direct controlled and an excellent recovery is reported. A small $\frac{3}{4}$ -yard power shovel and a 40 Cletrac bulldozer are used to strip off the overburden, and the exposed ore is then mined by hand and trucked to the plant. The property is owned by A. W. Leege and his son Rey Leege, both of Santa Barbara, California, and operations at the mine are directed by Roy F. Hickman, superintendent.

Rich gravel is reported being removed in drifting operations at the old **Gaylord** gravel mine, also known as the **Haskell**, near Auburn, California. A 2,000-foot drift tunnel, which contacts the ancient channel from the south, has been reconditioned. **Al Swinburn**, Box 106, Station A, Auburn, is developing the mine on a partnership basis.

The quartz ledge on the **Gastman** ranch property north of **Clippergap**, California, is being developed. The vein has a present width of 14 feet. Assays across the ledge at a depth of four feet have given an average of \$7 per ton. Two men are employed and the shaft will be sunk to the 50-foot level.

Discoveries of exceptionally high-grade quicksilver ore are reported at the **Contact** mine, located in the **Pine Flat** district 19 miles northeast of **Healdsburg**, California. The new shaft, 75 feet deep, has disclosed seams and shoots of high-grade cinnabar coursing through a ledge of furnace product. Ground has been broken for a large rotary furnace, and other work is planned including the deepening of the shaft, opening of new levels, and development of a broad belt of unexplored territory. **Herbert G. Walker**, 233 East Plaza Street, Reno, Nevada, and associates are developing the **Contact**. **Harry Painter** is mine foreman at the property.

Arthur E. Cresse, 5860 North Figueroa Street, Los Angeles, California, and **R. E. Davis** are preparing to develop a new mine on the south slope of **Soledad Mountain** near **Mojave**, California. The property was purchased from the estate of the late **Jack Tardy** and is to be known as the **Cresse-D** mine. A road has been built to the property and the first work to be done will be the driving of a 500-foot tunnel as soon as the necessary equipment is installed.

The **Premier Gold Mines Corporation**, **J. R. Villars**, president, 418 Realty Building, Spokane, Washington, has recently been incorporated and has acquired the **Premier**, **Mac**, **Wooten**, and **Imperial** No. 2 quartz claims and the **Mack** mill site, all located near **Big Oak Flat**, California. The **Mack** claim is patented and the other properties are held by location. The **Premier** is owned outright by the company while the other claims and the mill site are held under a lease and bond purchasing con-

tract. According to a report on the property prepared by **J. W. Newell**, engineer, the **Mack** vein averages five feet in width with the average value of the milling ore, estimated from old data covering 75,000 tons of ore treated, placed at \$11.25 per ton. An extensive development campaign has been outlined to reopen the mine, prepare it for production, and supply it with complete equipment. A milling plant is provided for in the plans, the first unit of which is to be of 50 tons daily capacity. **Villars**, who is a consulting geologist and mining engineer, will have general supervision of the company's mining operations. **W. G. Boland**, Spokane attorney, is vice-president, and **K. H. Blaesser**, auditor and accountant, is secretary-treasurer.

Ben Miller, **Clipper Mills**, California, is preparing to start work at the **Poverty Hill** mine as soon as road conditions permit the hauling of supplies. Due to the washout of the **Slate Creek** bridge during the winter, the mine can only be reached by way of **La Porte**, California, at present.

Arrangements are virtually completed for installation of a 50-ton ball mill and cyanide plant at the **Stockton Hill Corporation**, **Grass Valley**, California. The new plant will include a primary jaw crusher, ball mill, jigs for recovery of coarse gold, and cyanidation equipment. Ore is being developed on the 265-foot level where a well-defined ledge has been blocked for a considerable distance. It is also planned to sink the main shaft to a depth of 600 feet and to cut two stations. The present depth of the shaft is 330 feet, where a talc ledge has been encountered. **W. R. Woodcock**, Box 126, Auburn, California, is president of the company.

Foundations are being laid for installation of a 50-ton ball mill and a small recovery plant at the **Mt. Vernon** mine, also known as the **Kirkham**, located near **Nevada City**, California. **Thomas Brown** is directing operations at the property, which is being worked on a cooperative basis with 12 men employed.

Larry Smith and **Dan B. Trauger**, both of **Marysville**, California, have secured a lease and option on the old **Race Track** placer mines located at the confluence of **Slate Creek** and the **North Fork** of the **Yuba River**. A crew of men is engaged in sinking test pits to determine the values available.

Bruce Carroll, **Randsburg**, California, has sold a half-interest in the **Lily Belle** mine in **Goler Canyon** to **Donald Meyers** of **Santa Ana**. They plan to develop the mine at depth. **Carroll** is also interested in a ledge of barite which he believes has commercial possibilities for paint and oil well supplies.

S. E. Seldenridge of **Johannesburg**, California, and **Lou E. Liles** of **Randsburg**, California, are leasing on the **Wade** group of gold claims located on the **Johannesburg-Summit** road. **A. A. Callicote** is also leasing on the **Wade** group, which is owned by **Edward Herkelrath**, Box 253, **Randsburg**.

Work has been resumed at the **Redmont** mine near **Garden Valley**, California, with a crew of six men employed. A new resi-

dence is being built for the superintendent. Otto R. Von Mont-Eton, Greenwood, California, is in charge of operations.

A 15-ton pilot mill has been placed in operation at the Hakermoller mine, which is being developed by the Morgan Gold Mines, Inc., Garden Valley, California. It is planned to sink a new 200-foot shaft during the summer. M. J. Keily and Bernard J. McVey, both of Garden Valley, and George P. Morgan of Georgetown, California, are the operators of the property.

The new plant for treatment of tailings and concentrates recently constructed at the property of the Central Eureka Mining Company, Sutter Creek, California, was placed in operation June 1, a month ahead of schedule. Originally it was estimated that the company would be able to increase its monthly net profit \$2,500 with the new plant, but it is now believed that the increase will be approximately \$4,500. James Spiers is superintendent.

Work is rapidly nearing completion on the new 100-ton all-slime, counter-current decantation plant at the El Dorado Crystal mine, Shingle Springs, California, and operations are expected to start immediately. All of the equipment is on the ground, the buildings have been completed, and the remaining work will be confined to setting and testing the equipment. E. R. Richards, who was for a number of years associated with cyanide operations in Mexico, is construction foreman for the Mines Engineering and Equipment Company of San Francisco, which has the contract for the mill. Actual work is being done by the O. J. Scherer Construction Company of Angels Camp, California, to whom the contract was sub-let. The plant was designed by William A. Crowfoot, metallurgist, and construction is under his supervision. Ben Lockwood, Jr., is superintendent at the mine.

The California Placer Mines, Ltd., Auburn, California, has applied to the division of water resources for permission to divert 150 cubic feet per second of the waters of Sailor Canyon, tributary to the North Fork of the American River. It is estimated that the project will cost \$20,000. The water is to be used to carry on hydraulic mining operations behind the North Fork dam which is now under construction.

The Shadow Mountain Tungsten Mines, Inc., Fay L. Wright, general manager, 811 West Seventh Street, Los Angeles, California, has completed sampling operations at its property near Adelanto, California, which indicated approximately 220,000 tons of ore carrying 0.75 per cent scheelite. Work is now under way on construction of a 100-ton milling plant at the mine. Operations at the property are directed by H. B. Bessac, general superintendent.

Sixteen men are employed and new ore is being developed at the Royal mine, Frank S. Tower, owner, Milton, California. Twenty stamps are dropping regularly.

Three men, under the direction of Frank Holbrooke, Nevada City, California, are working the Jackson mine in the Round

Mountain district north of Nevada City, California. The property is equipped with a small mill.

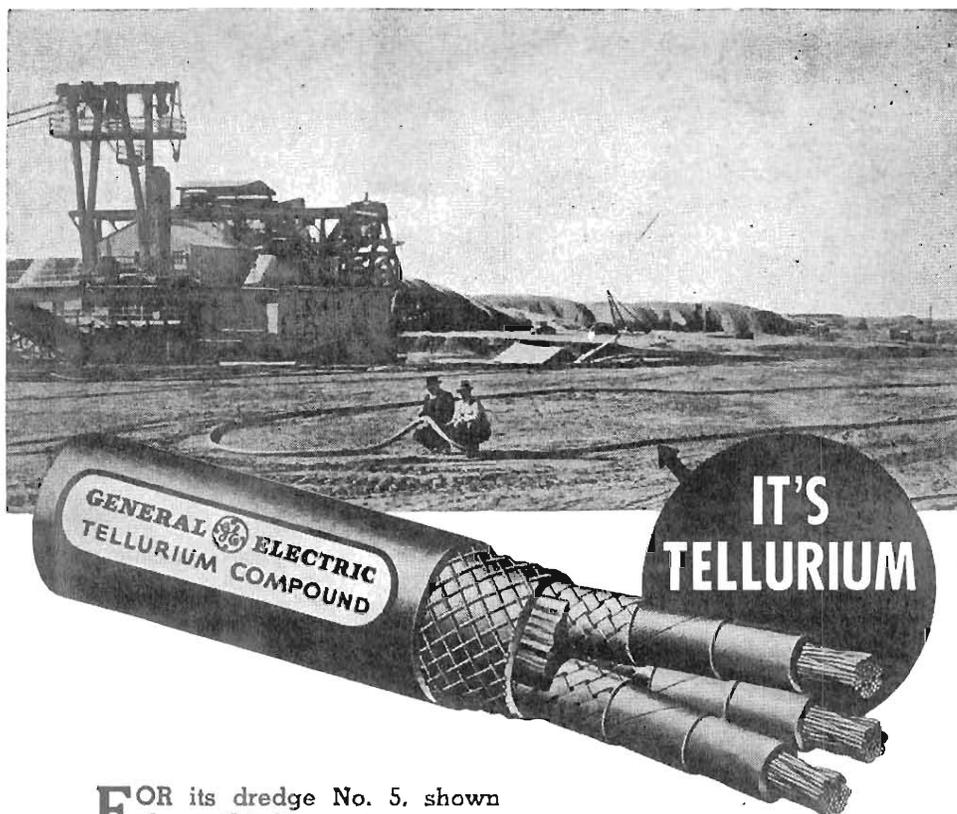
Several cottages and mine buildings have been completed at the Stewart gravel mine in the Gold Run district near Auburn, California; a large Diesel plant has been installed; roads and ditches are being built; and the tunnel is being enlarged preparatory to installing an electric haulage system. It is planned to use a stacker to return the tailings to the old diggings for storage, thus doing away with the debris problem. W. C. Rigg, 433 South Spring Street, Los Angeles, California, and associates have organized the Gold Run Consolidated Placers, Inc., to operate the prop-

erty. James D. Stewart, Auburn, is the owner of the mine.

Operations are to be resumed at the Kate Hardy property, on or before August 1. Work is to be in charge of A. Z. Beggs. The mine is located near Forest, California.

The dragline equipment of the Atlas Gold Dredging Company, H. J. Ackley, mine superintendent, 102 Brockington Court, Grass Valley, California, is being moved to the Waite, Larsen, Klein, and Kendrick gravel claims along Deer Creek. The company has completed working its property near the Anthony House.

The recently completed, 100-ton mill at the Arctic mine, Washington, California, is reported to be treating approximately 60



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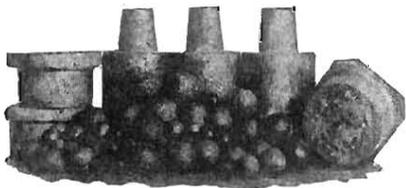
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tons of ore per day. Ten men are employed under the direction of Jack Rondoni, superintendent, Nevada City, California. L. F. Utter of Los Angeles, who is operating the property, recently completed a new home near the mine on the highway to Washington.

Randall P. Sharpe, Nevada City, California, has secured a lease on the **Moomey** property, owned by Ed Moomey of Nevada City, and his son, Jess Moomey of Cottonwood. There are between 3,000 and 4,000 feet of old tunnels in the mine which are being cleaned out. A crew of eight men had been employed until recently when that number was cut to four. The work has already progressed in the tunnel to the head of the old shaft.

In recent sinking operations at the **Banner** mine of the **Lava Cap Gold Mining Corporation**, Nevada City, California, the ledge was encountered at the 1,000-foot level. Sinking will continue to the 1,200-foot level where another contact will be made with the ledge. The company is employing a crew of 260 men and 300 tons of ore are being milled daily in the flotation plant. Work is nearing completion on the tailings dam being built on Greenhorn Creek. Otto Schiffner is general manager.

The **Oat Hill** mine near Middletown, California, is being operated on a cooperative basis and the net profit each week is divided among the employees. Bob Brookins is in charge of the work and Scott Hardester is directing operation of the furnace.

Ore shipments from the **Eureka** mine, Mojave, California, have been increased by 100 to 200 tons per month and the mine is now sending between 500 and 600 tons monthly to the **Golden Queen** mill, according to Morris Albertoli, lessee. Eight men are employed. The mine is being worked under a 10-year lease.

R. J. Nelson of Georgetown, California, and O. B. Franklin are reported to have encountered high-grade gold ore at the **Bogus** mine located near Kelsey, California. The mine has been operated with a small crew since last July and a 329-foot tunnel has been run to tap the old shaft. The crews are now blocking out ore and will continue development work to determine the extent and character of the ore body. The high-grade vein is reported to be three feet wide.

It is understood that operations may be resumed shortly at the **Shenandoah** mine, located in the **Rich Bar** district near Quincy, California. Andrew Ferguson, in charge at the property, is reported to have recently returned from Vancouver, B. C., where he conferred with financial backers on a proposed development program. Construction of a private road to connect the mine with the highway is a part of the program and will provide a means of hauling the ore to milling facilities. Twenty men may be put to work at once with an increase in that number later.

A small shovel has been placed in operation on the old **Rich Bar** property near **Rich Bar**, California, owned by Mrs. Jewel

Arnst. Present operations are confined to the reworking of tailings left by miners of the 1850's.

The property of the **Gold Relief Mining Company**, located near Westpoint, California, has been leased by Vern Noel of Lewiston, Idaho, and George Furst of San Francisco. Equipment on the property includes a 15-ton ball mill, compressor, jackhammers, steel, bunk house, three cottages, mess hall, blacksmith shop, etc. The original company opened the property by means of 700 feet of tunnel, 60 feet of stopes, and a shaft, which is at present filled with water. The property has been shut down for the past four years.

Jerome J. MacLaughlin, Mojave, California, and associates are operating under lease the No. 1 shaft of **Whitmore Mines, Inc.** Weekly shipments of ore are being made to the **Golden Queen** mill. Drifting is under way on the 286-foot level and raising is also progressing with a view to intersecting several known ore shoots.

A geophysical survey is being made to determine the extent of the ore body at the **Pine Leaf** mine, Meadow Valley, California. John Adams of Quincy, California, is superintendent. The survey is being made under the direction of M. B. Buhle of Washington, D. C., and Maryland. I. M. Christiansen and H. B. Wolfe, both of Quincy, are the owners of the **Pine Leaf**.

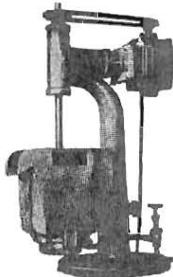
Pumping equipment is being installed at the **Altoona** quicksilver mine, located 24 miles west of Castella, California. The property is on a steady production basis, having recently been equipped with a 40-ton rotary furnace. C. W. Erickson, Loomis, California, is the owner and operator.

The exploration program at the **Ruby** mine, L. L. Huelsdonk, manager, **Goodyears Bar**, California, is reported to be developing new territory carrying consistently good values. Profitable ore has been opened in several sections of the property and the vein encountered last year has been developed further. Placer deposits are to be worked after the present underground program has been stepped up to capacity.

New interests, headed by Robert Elkan, who was elected president of **Carnation Gold Mining Company** in October, 1937, are reported to be planning the early resumption of work at the **Jamison** mine near Johnsville, California. Tests are said to have shown 150,000 tons of commercial ore reserves available above the tunnel level, and it was also indicated that the ledges continue to greater depth. The mine was surveyed and sampled recently by A. G. Kirby of San Andreas, California. R. C. Jefferson is manager at the mine.

H. B. King, Coulterville, California, president and manager of **Quail Gold Mines, Inc.**, is making arrangements for installation of new equipment at the property. The present program calls for a 50-ton ball mill and flotation system to be installed by the first of September. Power and lights are to be developed by means of a large Diesel engine. There are said to be approximately 10,000 tons of ore already mined and 100,-

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00 tons blocked out. The mine has been under development for the past three years.

The **Champion** mine near Coulterville, California, owned by the **Carda Mining Company**, has been sold to **Willard A. Bonurant** and his son, **Roma**, who plan an extensive development program. The mine is fully equipped with mining machinery, including a five-stamp mill and all necessary buildings for a complete mining unit. It is planned to carry out a six-month development program in order to open up the known ore bodies and to determine the size of mill needed to handle the ore. The **Champion** mine has been operated for the past three years by the **Carda** company, which is composed of **Frank Notterman**, president and general manager; **P. V. Steen**, vice-president and assistant general manager; and **Kenneth Cline**, secretary, all of Coulterville.

High-grade ore is reported to have been encountered at the **Gold Coin** mine near Coulterville, California, during development operations. The mill is operating one shift per day and development work is proceeding on a three-shift basis with a crew of 18 men employed. The work is in charge of **Greenmeyer Brothers**, who are directing operations for **J. K. Wadley** of Texarkana, Arkansas, who recently acquired the property.

John H. Moore of Telluride, Colorado, is reported to have come into sole possession of the **Tomboy** mine, north of Telluride, and to be planning to equip and operate the property. The **Ophir** tunnel is being cleaned out preparatory to sampling. Later a mill and tram will be constructed. **Moore** purchased the interests of his former associates, **Dr. C. H. Tidd** and **Gio Oberto**. Until 1927 the mine was worked by an English company, **Tomboy Gold Mines Company, Ltd.** The workings in the **Tomboy** and **Montana** claims of the group are developed to a depth of 2,400 feet and in the **Argentine** ground to a depth of 2,200 feet. The ore body is sulphide with values in gold, silver, copper, lead, and zinc.

The **Climax Molybdenum Company** paid a quarterly dividend of 30 cents a share on June 30, 1938, to stock of record of June 23. A similar payment was made in March and four such dividends were paid in 1937. Operations are at **Climax, Colorado**, under the general superintendency of **William J. Coulter** of **Climax**.

Development and improvement involving the expenditure of \$25,000 is being undertaken by lessees of the **Dexter** mine on **Bull Hill** at **Cripple Creek, Colorado**. The lower half of the 1,600-foot shaft will be retimbered, the upper half being in good condition. The property is owned by the **Hamlet-Dexter Corporation**. **William Marshall** and associates are the operators.

Work is being resumed at the **Tomahumb** mine in **Routt County** near **Steamboat Springs, Colorado**. The gold-silver property is being operated under lease by

Charles Leckenby of **Steamboat Springs** and associates.

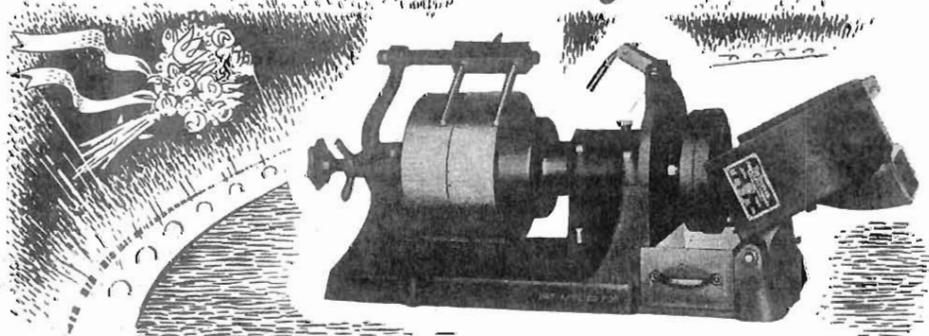
The old **Emma** mine of the **Modern Gold Mines Company**, **Dunton, Colorado**, has been completely unwatered and the **Keller** shaft has been cleaned out. This shaft will be extended 25 or 30 feet where it is expected to open commercial ore. **John L. Robinson** of **Dunton** is general manager and **Oscar A. Fisher**, **Dunton**, is superintendent.

The **Acacia Gold Mining Company** paid a dividend of \$7,500 on July 1. The disbursement amounted to ½-cent a share. **Albert K. MacKenzie** of **Colorado Springs**, is secretary-treasurer and general manager.

A small mill has been put into operation at **Ophir, Colorado**, at the **Suffolk** mill site in **San Miguel County**. The **Suffolk** mill burned last year and new equipment, including a ball mill, crusher, trommel, screen, corduroy mats, and two concentrating tables, was assembled to treat the dumps from the old plant. Work is under the direction of **Sam Richards** of **Telluride** and **William Warner**, **Telluride**, is mill superintendent. Additional and larger equipment is to be installed later. **Charles N. Fairlamb**, **San Miguel County** attorney, is also interested.

The **Big Six Tungsten Syndicate, L. J. Gould**, **Box 1451, Denver, Colorado**, president, has completed the installation of

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worth of equipment. The Koebel patents are being used in the Seufert smelter at The Dalles, Oregon, and it is understood that a similar plant is being constructed at Carthage, Missouri. The Columbia River company has offices at 414 Metals Building, Spokane. Officers are: Fred F. Barnes, president; C. E. Stead, secretary-treasurer; and H. E. Major and Carl F. Schuff, directors.

While operating expenses for May were higher at the Azurite mine in eastern Whatcom County, Washington, ore values were stated to have been 24 per cent above those handled in April, giving the operating and owning companies a larger margin of profit. Production for the 31 days was 3,165 tons of ore, valued at \$44,240, an average of 102 tons mined and milled daily. May production figures showed that 1,280.77 ounces of gold and 120.07 ounces of silver were produced. Costs of handling the ore amounted to \$25,480, leaving a profit of \$18,761, which is practically double the profit for April. Higher costs were said to be due to the necessity of snow removal in preparation for spring hauling. W. J. Coombe, Jr., Mazama, is in local charge for the American Smelting and Refining Company which operates the mine.

High-grade ore containing silver, lead, copper, and tungsten values is stated to have been opened by the Pacific Mutual Silver Lead Company in its property near Keller, Washington. Values are reported to run up to \$100 a ton. C. A. Gray, Box 432, Spokane, is manager.

J. H. Collins, a road contractor of Colville, Washington, is said to be employing eight men at his placer property on the Columbia River, handling about 1,000 yards of material. A 1 1/4-yard shovel is being used.

The Cascadian Gold Syndicate Corporation is the concern organized by A. G. Lotze and Iver Anderson, both of Twisp, Washington, to operate the Red Shirt mine near Twisp which they recently subleased from Mahlon McCain, Twisp. The revamped 40-ton flotation mill is reported to be operating successfully. About 15 men are employed, working three shifts.

The recently reorganized Eureka Mining and Milling Company has moved its office

from Seattle, Washington, to the mines at Republic. The new officers are H. N. Segerstrom, president; John Hatley of Wenatchee, vice-president; A. C. Marsh of Seattle, treasurer; and O. W. Noble of Republic, secretary. H. E. Leffler, Republic, will remain superintendent. The 100-ton Eureka mill will be enlarged to handle 150 tons of ore daily and during this work ore will be sent to the Trail smelter.

OPERATIONS RESUMED BY SAN JUAN RAMSEY COMPANY

THE MANAGEMENT of the San Juan Ramsey Company, Incline, California, reports that the company is recovering from the \$50,000 loss suffered in the December flood. In addition to extensive damage to equipment, 12 buildings were washed away and other buildings, including the mill, were damaged. The company was further handicapped by the washout of the Yosemite Valley railroad and of the Yosemite highway, both of which pass close to the property.

Recent development in the Ferguson mine, which was worked extensively in the early 60's, has proved the value of the Ramsey ore shoot at the 300-foot level, which is 200 feet below the area last stoped for milling on this shoot. Drifting on the vein for 75 feet has shown a four-foot vein of excellent values. About one and a quarter million dollars worth of gold at the old price is reported to have been taken out before work was discontinued about 1880 following the death of the owners. The San Juan Ramsey interests reopened the mine in 1935 and have reconditioned the old shaft, widening and re-timbering it to the lowest workings of the former operators.

Ore has been removed from the Ramsey ore body on the first level, which is 120 feet below the adit level, and average values run approximately \$30 per ton. A drift on D level is entering the Ramsey ore shoot and on the third level, which is 210 feet below the first level, the company has drifted 110 feet into this shoot. The average width of the vein is between two and three feet. All ore bins are being filled from this ore and crushing has started. Operation of the mill will be resumed shortly. Alexander S. Wyner is general manager at Incline.

ARIZONA MINE GROUP HAS NEW ACTIVITY IN YAVAPAI COUNTY

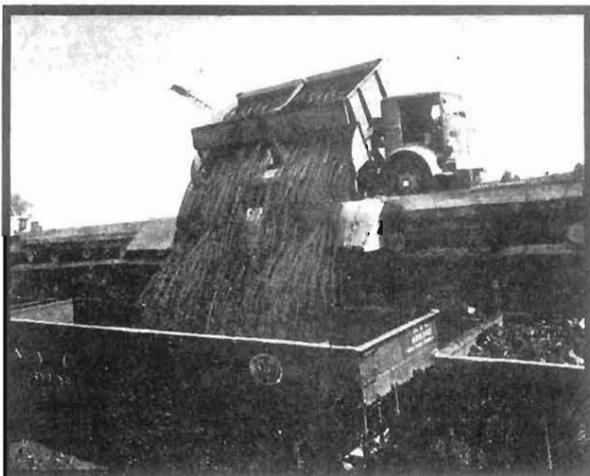
THE YAVAPAI Council of the Arizona Small Mine Operators Association has stepped up its membership to a total of 247 by the addition of seven new units at Cherry, Cleator, Congress Junction, Crown King, Jerome, Kirkland, and Mayer, besides its large organization already formed at Prescott.

At the meeting held for the organization of a unit at Cherry, Arizona, L. N. Wombacher was elected chairman; T. L. Guttery, vice-chairman; and R. H. Tucker, secretary. Seventeen members were enrolled at Cherry. At the Cleator meeting, James P. Cleator was chosen chairman, and J. C. Schroeder of Bumblebee, Arizona, was named secretary. L. L. Farnham was selected to head the Congress Junction Unit. He will be assisted by A. M. Jones of Octave, vice-chairman; George Snow of Congress, secretary, and T. A. Snedden of Octave and A. V. Moore of Congress Junction as members of the executive committee. Congress Junction also listed 17 members at its organization meeting.

The Crown King Unit was organized on June 28 with E. M. Moores, chairman; O. A. Tyler, vice-chairman; R. S. Patterson, secretary, and W. L. Simon and R. E. Drannon also on the executive committee. Bernard MacDonald and K. E. Coffin will head the Jerome Unit as chairman and secretary, respectively. Dr. Hugo Carl has been elected as chairman of the Kirkland Unit; E. A. Colburn of Hillside is vice-chairman; and A. C. Mitchell of Kirkland is secretary. The Mayer Unit will be directed by J. H. Crane, chairman; Albert Adams, vice-chairman; J. E. Harris, secretary; and Charles Neice as a member of the executive board.

During the current month units will be formed in Mohave County, Arizona, as branches of the Mohave County Council, which already has a membership of 112. Units will be organized at Kingman, Oatman, Yucca, Chloride, and Katherine.

The Arizona Small Mine Operators Association now has a total of approximately 1,700 members. It is expected that by the time of the Summer Jamboree, to be held at Prescott from August 25 to 27,

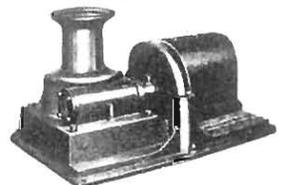


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membership will be 2,500, with 40 councils and 20 units organized and working for the benefit of the mining industry. The organization is sponsored by Charles Willis, editor and publisher of The Mining Journal.

NEW LABOR AGREEMENT FOR CALIFORNIA DISTRICT

MINE OPERATORS of the Nevada City-Grass Valley, California, district, and the Nevada County Mine Workers Protective League have signed a new contract covering the 18-month period from July 1938, to December 31, 1939.

The mines affected by the agreement are the Empire, Pennsylvania, North Star, Golden Center, Spring Hill, and Noramagua in the Grass Valley district, and the Archie, Zeibright, and Arctic in the Nevada City section.

The Idaho Maryland Mines Corporation, because of litigation pending with the National Labor Relations Board, is not a party to the contract, but the existing agreement at that company's holdings will remain in effect until the close of the litigation.

The Lava Cap Gold Mining Corporation, another important producer in the district, has a contract with the International Union of Mine, Mill and Smelter Workers, an affiliate of the C.I.O., which expires August 1.

The wages under the new protective league-mine owners agreement remain the same as those in the previous contract, but a minimum wage scale has been adopted covering the 36 classes of labor in mining. The general scale is \$5.76 per day for miners and \$5.24 for muckers.

GOLDEN GATE FAIR TO DISPLAY MINING AND METAL TOOLS

AN UNUSUAL exhibit of all the various tools used in the mining and metal working industries is planned for the 1939 Golden Gate International Exposition on San Francisco Bay.

The whole range of equipment from the hardrock miner's tools to the delicate instruments of the goldsmith will tell the complete story of metals. From the prospector's pan and hammer the display will take the visitor through various phases of mining and milling.

Another part of the exhibit will show the various tools used in metal work for the construction industry. Metal working tools for the various hobby crafts such as model train and track making and construction of miniature displays will be included. The small hand metal tools for amateur copper and silver working, which have become very popular particularly among women, will also be displayed as well as the equipment of skilled jewelers, lapidists, optical and precious metal workers.

The exhibit, which will be shown in the Palace Hall of Mines, Metals, and Machinery at the \$50,000,000 World's Fair of the West, is being planned by C. W. Marwedel Company, dealers in mining and metal working equipment in San Francisco for the past 65 years.

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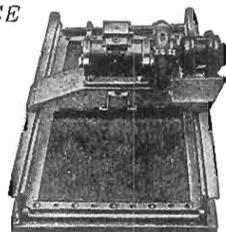
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**NICKEL-MANGANESE STEEL
WELDING IN MINING INDUSTRY**

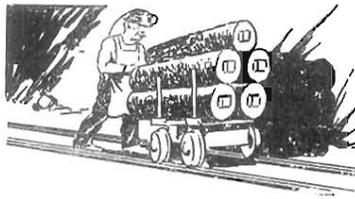
By B. H. Payne*

CASTINGS of 11 to 14 per cent Hadfield manganese steel are used extensively in the mining field. This type of steel, which was first discovered in 1882, eventually found its way into the mining field in the form of crusher jaws, gyratory crushers, dippers and dipper teeth, mill liners, roll shells, and many miscellaneous parts that were subjected to severe impact and abrasion.

Up until 1928 the general practice was to use these parts until such time as they wore down to such a point that the part became inefficient. However, in 1928 it was discovered that with a welding electrode of nickel manganese steel of about the following composition: carbon 0.60 to 0.90, manganese 11 to 13½ per cent, nickel 2.50 to 3.50, silicon in excess of 0.60, really welded 11 to 14 per cent manganese steel. As this work was done it was found that in many instances a part that had been rebuilt by welding with nickel manganese steel welding electrodes resisted impact and abrasion better than a new casting. This was accounted for by the fact that as nickel manganese steel weld deposits are made they are peened while they are hot and, instead of being a casting, the part that was repaired or built up became a forging of a much denser grain structure, free from internal imperfections and, consequently, resisted impact better than many 11 to 14 per cent manganese steel castings.

It was only a short step then to develop parts which could be added to the worn down sections, so that a part might be brought up to its normal size more quickly than by the drop by drop method of welding. Several years ago there were placed on the market nickel manganese steel applicator (filler) bars, which were welded to various surfaces with nickel manganese steel welding electrodes. Inasmuch as the applicator bar was a rolled product and of a better grain structure than the casting, very often parts that were brought up to normal by using applicator bars resisted impact and abrasion better than new parts.

*General Manager, Stulz-Sickles Co. Newark, New Jersey.



The repairing of shovel teeth is something that has effected important savings in the cost of running large power shovels. It is a recognized fact that a bucket having dull teeth will not pick up a full bucket at a time, whereas a bucket equipped with sharp teeth will get the maximum load. However, prior to the development of nickel manganese steel, a bucket often was operated at only about 50 per cent efficiency. With the development of wedge bars, which can be cut to any desired width by the oxy-acetylene torch, worn down shovel teeth can be rebuilt economically and equal resistance to impact obtained with new teeth.

When wedge bars were first developed the most popular sizes were the longest. However, as power shovel operators discovered the greater efficiency to be obtained by keeping dipper teeth sharp, a much greater demand has been developed for wedges that are only two to three inches long.

In the case of jaw, gyratory, and roll crushers these parts are not allowed to wear down nearly as much as they were prior to the development of welding in this field, for it is a recognized fact that worn parts of this kind are very inefficient and material is not crushed as fine as it should be. Many operators keep equipment of this kind up to normal by a simple welding operation, using applicator (filler) bars on parts that are worn to any great extent.

New uses are being found daily for nickel manganese steel. Inasmuch as it is the toughest of metals ever to be produced, many users are demanding it in casting form. It is air toughening and can be welded even more readily than Hadfield manganese steel, due to the fact that when welding Hadfield manganese steel it is necessary to keep the part as cool as possible, whereas when welding nickel manganese steel parts the heat has no detrimental effect on the casting.

Many users confuse the welding and building up of manganese steel parts with the hard surfacing of steel parts. In the rebuilding of manganese steel parts, metal that has been worn away by impact and abrasion is being replaced. While it is very often good practice to surface these rebuilt parts with a hard surfacing electrode adaptable to manganese steel, it should not be confused with the ordinary hard facing.

**OREGON SPORTSMEN CONTINUE
DEMANDS ON MINING MEN**

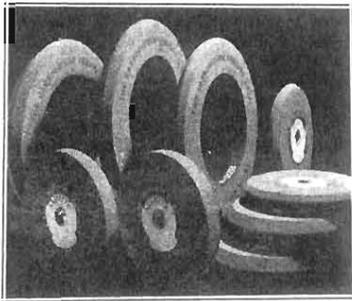
ANOTHER compromise has been suggested by the State Department of Geology and Mineral Industries of Oregon in an effort to conclude the bickering and threatened litigation between the hydraulic miners and the lower Rogue River fishing and recreation interests. The department suggests that all hydraulic miners in the drainage of the Rogue River and tributaries agree to stop mining operations from July 1 to November 1. Dredge operators in Jackson and Josephine Counties have already taken certain measures to minimize their muddy water effluent, having agreed to close down over week-ends. It is suggested that hydraulic operators sign an agreement evincing their willingness to close down during this period. In return, it is assumed that the lower river interests will recognize such concession before contemplating any further action directed against the hydraulic operators.

An agreement for hydraulic operators to sign will be circulated by a member of the staff of the state department promptly. It is understood that the department has no authority to compel compliance with this closing down agreement, but it might be pointed out that operators not in sympathy with the agreement would be most apt to be affected by retaliatory measures on the part of the lower river interests.

The closing date of this arrangement, July 1, is in agreement with the California law which affects mining in the Klamath River area. The department's decision to request this closing down is the result of tangible evidence that the lower river property owners will feel kindly toward the arrangement and will be reluctant to reopen the matter, provided the miners play ball 100 per cent.

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Underground Mine Photography

ONCE upon a time in a noted western mining camp there was a photographer—a professional portrait and landscape artist—whose work was so fine that dwellers in the Big Town wore a trail to his studio door that he might perpetuate their beauty through the medium of his lens, his lighting, and his lore.

Since that sort of thing is still going on and the said artist is yet going strong (and deservedly, for his portraiture is marvelous) I shall not, in the light of what follows, name either the artist or the mining camp.

As a portrait and landscape artist he was (and still is) all I've said of him—and more. As an underground photographer he was (when I came to know him through this episode) a corking good pinochle player.

Several years ago I was retained to make a special study of certain aspects of a mining property in that district, to correlate my report with one I had made seven years before, and with reports of several other engineers in the interim. The situation called for considerable photography—some surface, more underground.

The executive who had retained me pushed across his desk a fat envelope of 11 by 14-inch enlargements of surface and underground views by the photographer in question—20 pictures in all, mostly underground.

"I think," he said, "you'll find all the pictures here you'll need to illustrate what you'll want to get across in your report."

I looked them over. Then I selected one I thought I could use and, tentatively, another that I might use. My report, I should add, was to be printed, and illustrated with halftone photo engravings of the photographs I used to augment its text. I pushed the other dozen and one-half back across the desk, saying I could not use them. The executive promptly hit the ceiling.

"Why not?" he exploded. "Those pictures cost us a hundred dollars!"

I stood pat.

"Regardless of what they cost you," I said, "I can't use them—can't, that is, and get the sort of results you want and expect." Then I explained, going over my discards with him, that those prints lacked the sharpness of detail and the contrasts necessary to bring out the characteristics of vein, walls, ore bodies, I wished to emphasize. He saw my point.

"But," he countered, "what are you going to do about it? You have to have photos in your report. And here are all these . . ."

"Go up and take my own shots," I said. Whereupon, averring that I was a dozen

An old Chinese proverb says, in effect: "One picture is worth a thousand written words." The author, in preparing written reports, adheres to that principle. A photography enthusiast and hobbyist from boyhood, he takes his own pictorial "shots," gets effective results. Here he tells why, and how, he does it.

different kinds of a crank and a fuss-button, etc., he gave in. I left next morning at sunup; had a break on weather and shot the prettiest picture (a panoramic) they'd ever had of the new surface works and others topside, in half an hour that



A stope on the 550 level of the Empress mine at Grass Valley, California, shot to show cleancut gabbro-diorite hanging-wall of contact-fissure vein and, lower left, Calaveras slate foot-wall. Note striation of quartz-replacement vein-filling. (The rough-looking customer in foreground is none other than our old friend Ernest William ("Cap") Ellis, well-known metallurgical engineer—then mill superintendent at the Empress, now in the Philippine Islands). (Photo by Author).

afternoon. That evening a staff engineer and I went below, and in a couple of hours, in assorted stopes and workings, I shot the pictures I wanted.

On the way out the staff engineer (blithely ignoring my demand that he keep mum as to reasons for my visit) spilled the frijoles to that photographer. He promptly hopped into my hair and kicked louder than the executive had—adding assorted scornful observations anent amateur photographers in general and me in particular, all perfectly friendly oburgation, since we're both World War vets with Legion vocabularies. After I got my pictures the engineer drove me over to the main line, I caught the owl mail train, and had my films developed before noon next day. Late that afternoon I laid enlargements from them on the desk of the mine executive. He looked them over. Then—

"Well, I'll be damned! You did, didn't you!" And later that week the photographer made a special trip to San Francisco to see those pictures. He came over to my office, sparred 'round a bit, then said: "By golly, Clark, you darned amateurs CAN teach us professionals a lot . . . PW admit it now!"

I HAVE told the yarn, exactly as it happened, without a whit of intent towards trombone-tooting . . . but merely to give a background for a few simple technical points in underground flashlight photography.

That expert professional had used no end of costly, wide-angle-lens tripod-camera equipment, and multi-flash lighting accessories—and had got muddy, gray, uncontrasted results; prints which no photo-engraver could have converted to good snappy halftones.

This amateur had gone over the self-same underground workings with nothing more than a folding pocket Brownie of ancient vintage, plus a single-bulb diffusing-reflector (get that word *diffusing*—i.e., dull-surface aluminum, NOT polished chromium) flash-bulb "gun" . . . and come away, speaking in all modesty, with a 100 per cent score of sharp, snappy pictures that made the characteristics of the vein loom like a lighthouse.

And you could have done exactly the same thing. Can do it, any time you want to start.

There's no mystery about it at all. And—when you take your own geological pictures underground, you know exactly what you want to get; you get it with a minimum of lost motion or disturbance of miners at work; you've spared the risk of errors in interpreting instructions given to a commercial photographer who, in unfamiliar atmosphere, is as like as not to slip somewhere and "gum-up" a vital picture . . . necessari-

*Consulting Mining Engineer, San Francisco

ting a retake, with added direct cost plus
st of delay. I'm aware that if this should
read by a commercial photographer he'll
het his snickersnee and be on my trail
ith it for the rest of Time . . . However,
his is written for the brethren of the en-
neering fraternity who may, perhaps,
ave depended upon commercial photog-
raphy of underground workings, and who
ight like to emancipate themselves. The
hoto-wise wing of the craft may turn the
age—for they may know far more of this
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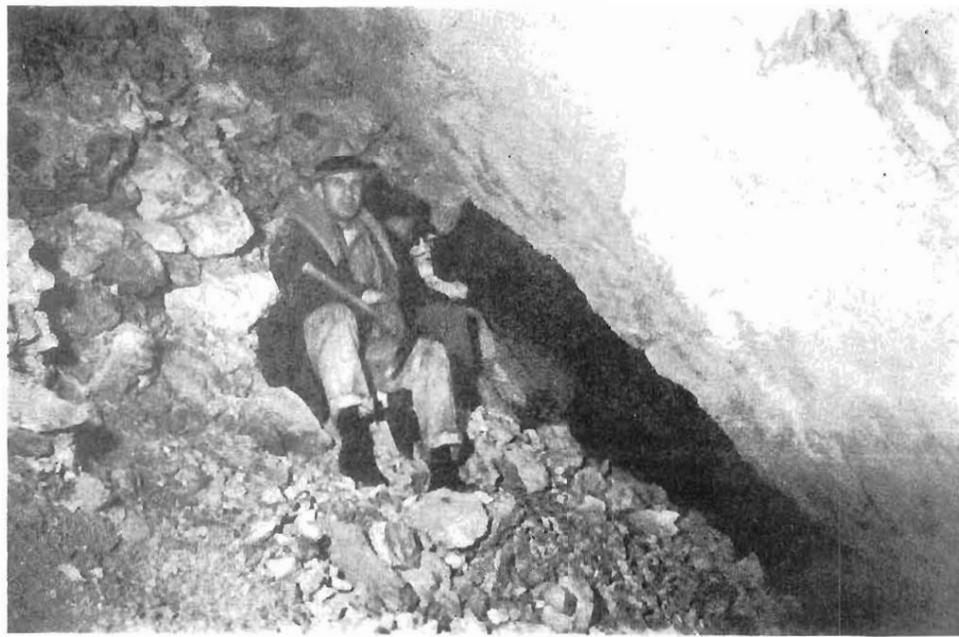
It's the film you use and the way you
se it, not the kind nor cost of the camera
ou use, that does the trick . . . granting,
f course, that you use the right lighting
quipment.

It's not so many years ago that I had
to take underground pictures with ordinary-
speed Eastman or Agfa film, and use high-
explosive Victor magnesium flash-
powder (in a gun which, no matter how
ing my gauntlet-cuffs, always managed to
inge my left arm). It was a case of hit-
nd-run, too, since the billowy cloud of
hite smoke (magnesium oxide) was
icker than a California "tule" fog and,
espite mine-ventilation facilities, seemed to
ang in and dim the scene in that stope for
ours after a shot.

Then came the General Electric Photo-
flash lamps. Along with them, at about the
ame time, came faster emulsions for roll
and cut films, and plates. First came the
erichrome film of Eastman and the
lenachrome of Agfa-Ansco—a boon to
photographers on cloudy days or late after-
oons. On their heels came Eastman "SS"
Super-Sensitive film and its Ansco
equivalent—both good fast panchromatic-
emulsion films that widened the operator's
latitude, as to lighting restrictions, in sur-
face landscape work or plant interiors, and
also brought out true color-values in the
scene. Better yet, they enabled the man be-
hind the camera to stop the lens down to
a smaller aperture and get the sharpness
and depth of focus needed for clear, sharp-
ly-defined underground shots of ore faces,
etc.

The combination of the General Electric
Photoflash lamps and that speed film re-
placed my own underground shooting to
such simple minima that, given my subject-
spot (always with a human figure in it if
possible—as a "yardstick"—and perhaps an
air-drill besides) I could, and do, get my
shot in the time it takes to count "one—
two—three" in one-second tempo. Then on
to the next spot desired. No muddling up
the miners—more than to ask the boys to
stand or sit a moment with their backs to
the camera, to avoid halation-spots from
their cap lamps, or to extinguish their lamps
for a few seconds. And, glory be, no more
flashlight-powder thunder or white smoke
aftermath.

A CAMERA for underground flash-shots
should be one that you can hold firmly
in one hand, in such fashion that your right
thumb is poised lightly on the shutter-re-
lease lever. Antenna-type shutter-releases
are not recommended for they are awkward
and unhandy. Either a good 45-degree-mir-
rored "brilliant" finder or a direct over-the-



An old stope above No. 7 level of the Little Giant mine near Battle Mountain, Nevada, showing 45-degree hanging-wall standing untimbered after many idle years. President Stanley F. O'Leary, as "human yardstick," sitting on good milling ore left by previous operators, who "skimmed cream." Property, fully re-equipped, is now active under O'Leary's management.—(Photo by Author).

top "squint" finder will do. I prefer (and use) the former.

Holding my camera thus in my right hand, and the Photoflash in my left (high over my head usually—though that depends on spot-conditions) my *modus operandi* is this: The shutter is set for a bulb exposure, so that the lens-diaphragm opens on down-

pressure of my thumb and closes on lifting the thumb. With mine-lamps to determine the lateral limits of my picture (also top and bottom limits which are important, as my bobtailed shot of the Ragesdale vein—reproduced here for that very purpose—shows) I "compose" my picture, making sure that no lamp flame will show when I shoot, and that no human "yardstick" figure shuts out some important vein feature. Then I call: "Ready—hold it!" I count "One—two—three" aloud. On "one" I press my left thumb down, opening the lens. On "two" I fire the Photoflash, operating the lamp-switch with my left thumb. On "three" I release my right thumb, the lens closes, and—I have my picture. It takes three seconds, plus the time of arrange-ment, posing, and composition. Experience brings that part of your job down to a mat-ter of a minute or so. Thus you can take many good underground shots in a mini-mum of time, and without disturbing rou-tine underground work.



A shot in the old 1,800-foot working tunnel of San Francisco Drift mine at Forest Hill, California, to show sound condition of "Cape Horn Formation" (slate) standing untimbered for a quarter-century—also ample height ("Slim" Ericksen of staff of Isham & Isham, geophysical engineers, 6 feet 4 inches tall, stands on an old track-tie).—(Photo by Author).

As for film, in recent months the Agfa people have brought out Agfa Superpan in both roll and cut film. It carries an emul-sion so much faster than that of the Super-Sensitive film that I have promptly adopted it—not only for underground work, but also for use whenever I am handicapped by weather conditions that otherwise would block photography. Super-Sensitive is roundly about twice as fast as Verichrome and Plenachrome. Agfa Superpan is about twice as fast as Super-Sensitive—which means that pictures can be taken at hours so late, or under cloudy conditions so gloomy, as to preclude photography with-out it. Also it means that a still-smaller lens opening can be used for underground flash-bulb work—with attendant sharpen-ing-up of detail, the thing most desirable in such work, and more depth of focus.



Gold rushes are becoming a thing of the past because of the foresightedness of the present-day prospector and of the development companies.

The strike at Weepah, Nevada, in 1927, was perhaps the most colorful example our generation has seen of what actually happened at the more famous finds during the old days of the west. The influx into Weepah brought tenderfoot and miner, both with the same idea in mind. Many were successful, but the element that soon followed broke up the spirit that enhances a new camp.

Unlucky is the prospector who shouts "Eureka"—even in the middle of the desert. Old-timers insist that even though there is not a person within a hundred miles, the voice will carry that distance on the cool night wind; hence the silence of the cautious one. Although his eyes may feast on a new discovery, he will not utter a sound, not for fear that anyone will hear him, but just because he doesn't believe in taking any chances.

Many unusual strikes have been made since 1927, and it is a good bet that much higher grade of ore has been found than that uncovered at Weepah, yet a casual news item, that might be found close to the "Want Ads," is the only clue that the reader will find pertaining to the strike.

This suppression of facts is also the result of the efforts of big business. It is much easier to complete a careful survey of all property within the vicinity of the strike if it can be done peacefully and without questions from every Tom, Dick, and Harry as to what it is all about, or which would be the best place to stake a claim.

The prospector who has located a good thing need not worry about money. If his discovery has merit it is just as good as money in the bank. Proper protection is given by federal and state laws when the claim is recorded in any legitimate manner. While claim-jumping is not entirely a thing of the past it is speedily dealt with according to law.

The old adage that "Silence is golden," truly fits into the mining picture and has brought success to many. The other fellow, who shouts to the world about his gold discovery, has the world for a visitor—to knock down his monuments and generally wreck all plans that he might have had in mind for the future.

When the prospector knows that he has something worthwhile, it is well to remember his family and his friends. Aunt Jennie, or Brother Joe, could use a little tract alongside his claim. Maybe, in later years, a move of that kind will save him a lot of money. When a good mining town springs up, there are usually some humdinger mining suits that take time and money. Sometimes a costly process of law, such as an injunction, prevents one from operating his own claim—still because a vein dips into a stranger's property adjoining.

Arizona Small Mine Operators Association. All those interested in mining, large or small, in Arizona are invited to attend and participate in what is considered the most important movement ever started for Arizona mining.

ROTARY SUCTION DREDGE OPERATES IN Z-CANYON

WILLIAM J. SCHIERDING of Metaline Falls, Washington, is reported to have applied for patents covering the new type of rotary suction dredge which he has designed and is using on his Z-Canyon placers in Pend Oreille County, Washington, near the Canadian boundary. The new dredge was first put into operation last March and is said to have produced excellent results.

Operation of the unit is through the bottom of the dredge. A suction line consisting of two tubes, an outer rotating tube which is perforated to admit water and fine gold-bearing gravel and an inner tube for the purpose of suction, penetrates the center of the hull. The inner tube delivers gravel into two sluice boxes which are located on either side of the dredge and operate in the usual manner. Both the inner and outer tubes are made in short lengths to make operation at any desired depth possible. The present machine has an operating capacity of 150 yards of gravel daily and the entire operation, including lights and auxiliary equipment, is said to require only 35-horsepower. Large boulders are left on the river bottom and are stated to cause no trouble at all. One man operates the dredge. Other units which will be built will probably be larger and will be driven by Diesel power.

BIDS TO BE CALLED SOON ON TWO ADDITIONAL DEBRIS DAMS

BIDS FOR construction of the Upper Narrows debris dam on the Yuba River, 15 miles east of Marysville, California, are expected to be advertised before the end of August, according to Col. Warren T. Hannum, chairman of the California Debris Commission and head of the United States Army engineers in charge of the project. Estimated cost of the structure is \$4,500,000 and it will not be completed before 1940.

Construction of a diversion tunnel to carry the Yuba River during construction is expected to get under way this fall. The diversion dam which must be built is expected to afford sufficient storage to permit the start of hydraulic mining in Nevada County next spring.

The first of the four proposed debris dams is now under construction on the North Fork of the American River near Auburn, California. A. Teichert and Son, Sacramento, have the contract.

Allocation of additional funds has made possible the beginning of preliminary engineering work on the Ruck-a-Chucky dam, to be located on the Middle Fork of the American River. The drafting of plans for this dam is being done by George E. Goodall in the Sacramento office, and as soon as they have been completed bids will be called for. Funds for the project are

available and the plans may be ready for bids in August also, it is understood. I. E. Burks, Auburn, California, is resident engineer for the U. S. Army engineers and will direct work on all the projects.

Congressman Harry L. Englebright of Nevada City, California, introduced a bill into the last session of Congress authorizing the secretary of war to enter into contracts for sale of water stored by the dams for irrigation and other purposes. The bill also permits the debris commission to add electric power generating plants to the dams, and these added features are expected to produce revenues which will assist in repaying the cost of the structures, thus reducing the rates the miners will be required to pay for the storage of tailings.

KENNECOTT REOPENS UTAH MINE; CHINO MINES TO REMAIN CLOSED

THE Kennecott Copper Corporation has announced that the Utah Copper Company will reopen its mine and mills at Bingham Canyon, Utah, immediately. The company suspended production during the latter part of June because of the accumulation of copper stocks, but the improved situation in copper markets has resulted in the order to resume operations. Over 3,000 men are being returned to work.

The reopening of the Utah Copper properties will assure the continued operation of the Garfield smelter of American Smelting and Refining Company which has been treating stored ore during the recent shutdown of the copper properties. The stored ore available will last until about the middle of August at which time Utah Copper production will be well under way.

Resumption of production by the copper company will be at 50 per cent of capacity, the rate maintained before the shutdown in June. D. D. Moffat, Box 1650, Salt Lake City, Utah, is general manager of Utah Copper.

The Nevada Consolidated Copper Corporation, another Kennecott subsidiary, has posted notices at its Chino division, Santa Rita and Hurley, New Mexico, stating that "it now appears necessary to continue the period of suspension, announced on June 1, until September 1 or possibly later." Horace Moses is general manager of the New Mexico branch.

ALMA SYNDICATE PREPARES TO RESUME OPERATIONS

ALMA SYNDICATE, INC., at Alma, Colorado, is preparing to resume operations and the mine has been equipped with a Gardner-Denver power loader and additional 20-cubic-foot mine cars. A power shovel is now engaged in stripping overburden from the surface ore bodies, the broken ore being handled by the same shovel, and a dump truck delivers the ore to large ore pockets from which it is trammed to the crushing plant.

The capacity of the aerial tram has been increased 25 per cent and the mill was started July 19 and is to operate at capacity. C. H. Spicer is mill superintendent and J. Lansing White of Alma is general superintendent.

Nuggets from the Western States

Brief items covering the mining industry in the Western United States and Mexico.

The Arizona Molybdenum Corporation, Copper Creek, Arizona, is reported to be preparing to sink the main shaft to further depth. A winze, already down some 30 feet below the 500-foot level, is in good ore and it is expected that with further depth the winze will develop a sizable ore shoot. At present the mine is in normal production, keeping the mill running smoothly. However, a large tailings dump is available for treatment in the milling plant in case the mine cannot supply sufficient ore during the development work. B. H. Martin is mine superintendent; Loyd Wright, mill foreman; A. M. Polley, surface foreman; Truman H. Kuhn, geologist for the development program; and R. S. Camp, mine engineer.



Fifteen men are employed in development work at the Jensen claims near Patagonia, Arizona, under the direction of R. E. Sharp. Charles Chaplin, film star, is reported to be interested in the property.

L. M. Kay, Box 803, Kingman, Arizona, is engaged in development work at his Atlas mine, located in the Mineral Park district near Kingman, and a carload of ore was shipped recently to the American Smelting and Refining Company at El Paso. Present work is being carried on in a 40-foot shaft and a drift is to be run 75 feet to connect with the old shaft sunk years ago. Ore along the drift has been proven to be of commercial grade. Upon completion of the connecting drift on the 40-foot level, the present water table, it is planned to sink the shaft deeper and open up additional stopping ground.

A group of mining claims in northeast Tombstone, Arizona, located last year by the Eagle-Picher Lead Company, have been taken up by J. H. Macia and A. P. Giacomina, both of Tombstone. The wells located by the Eagle Picher interests are on the claims taken up by Macia and Giacomina.

The Magma Copper Company, William Koerner, general manager, Superior, Arizona, reports a net profit of \$283,605, before deductions for mine depletion charges, for the first six months of 1938, which is equal to 69 cents a share. This compares with a net profit of \$648,603 or \$1.58 a share in the first six months of 1937.

The Nichols Copper Company, 40 Wall Street, New York City, has announced a change in its name to Phelps Dodge Refining Corporation, effective July 1. No changes were made in the management, personnel, or business relations.

C. Benjamin "Jack" Hayes is developing placer claims on the Hassayampa River near Constellation, Arizona. Six hundred feet of ditch have been completed, together

with a trestle, chute, and sluice boxes. Hayes was formerly associated with the Idaho Phosphates Company at Paris, Idaho.

Directors of the Phelps Dodge Corporation, 40 Wall Street, New York City, have declared a dividend of 20 cents per share, payable September 9 to stock of record August 19.

Gideon Snyder and H. Edwin Ball, 1940 Cordova Street, Los Angeles, California, president and secretary-treasurer, respectively, of the Pan American Mining Company of Pioche, Nevada, have acquired by purchase, and lease and option, the Hidden Gold lode claims and mill site in the Bitter Creek district of southern Yavapai County, Arizona. The property has been developed by open cuts, trenches, and shallow shafts, the deepest being 25 feet. A crew of men has been employed for some time in development work and assays are reported to have shown values ranging from \$1.50 to \$24 in gold with some small silver values. Snyder and Ball, during a recent visit to the property, outlined a development program which includes the driving of a 300-foot tunnel on the vein to tap the ore shoot shown in the bottom of the 26-foot shaft, and to develop other ore shoots exposed on the surface. A shaft is also contemplated. A camp will be established, machinery and supplies purchased, and active work will get under way in the near future. W. E. Fenwick and J. W. Harris, both mining engineers, recently visited the property with the operators.

The Gold Standard Mines Corporation, Richard DeSmet, general manager, Box 151, Kingman, Arizona, is reported to have encountered a tonnage reserve in the Katherine mine heretofore unknown. The new block of ore was found on the upper levels and is being located at depth with the aid of diamond drills. The mill is treating approximately 235 tons of ore per day, which is coming from the company's Portland, Arabian, and Katherine properties. It is planned to build a new road this fall to facilitate the development of the Thumb Butte property, recently acquired.

Graef and Burkard, operating the Big Horn and Eagle's Nest properties about 15 miles south of Aguila, Arizona, are breaking ground for the erection of a 50-ton Huntington mill. A well is also being drilled to furnish a water supply. The mill site is located about one mile from El Tigre mill and about three miles from the mine.

All news appearing in The Mining Journal is obtained from sources believed to be reliable, but the accuracy cannot be guaranteed. However, every item has been sent to the person or company mentioned for verification before publication.

D. H. Fairchild, mining engineer, 1031 North Third Avenue, Tucson, Arizona, is examining the Bland mine near Bumblebee, Arizona, for Chicago interests, with a view to installing a small milling plant. James G. Phelps, Box 1747, Tucson, Arizona, is one of the owners of the property.

A 50-ton milling plant and a 300-foot compressor are being installed at the Extension tungsten claims, located in the Dragoon Mountains, seven miles northwest of Dragoon, Arizona. A building program under way at the property is expected to last 60 to 90 days. Don Douglas is in charge of operations. The mine was acquired recently by Marion G. Stanley, R. R. Wilkinson, Hamilton C. Dowell, Walter J. Six, and Alvie Adams.

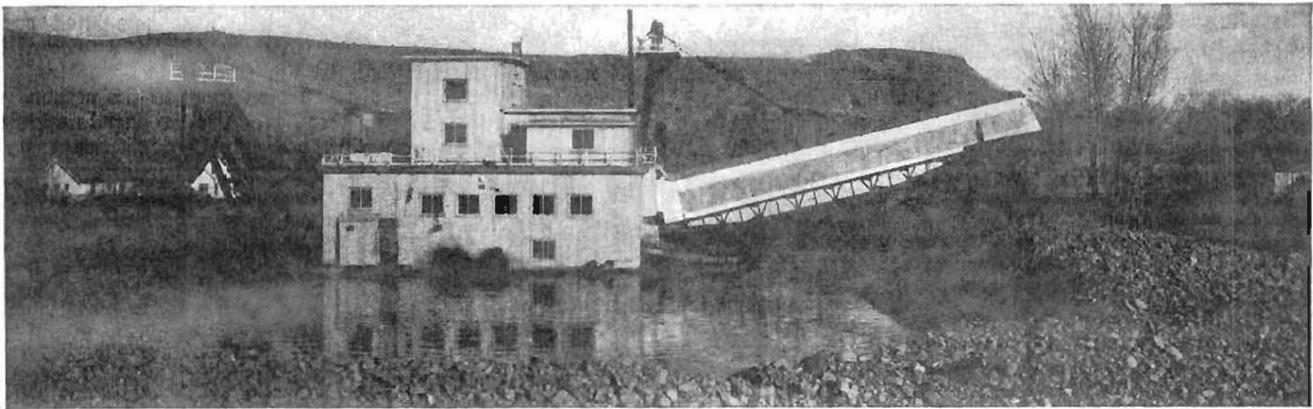
Dr. Roy Martin, Beckley Building, Las Vegas, Nevada, and associates have secured a lease on the Tintic mine and the Extension properties near Chloride, Arizona, owned by Harold Hawks, Chloride, and C. F. Shaffer, Inglewood, California. The property was operated in 1935 by Johnston and Witcher, Inc., who opened a new shaft, and this shaft will be continued to the 125-foot level by the new operators. It is also planned to raise from the old 125-foot shaft to the surface for air, and two winzes will also be sunk from that level into the ore zones. A considerable tonnage of commercial ore is said to be in sight and ore will be shipped to the Tennessee-Schuykill mill for treatment. The mine furnishes an abundant supply of water and constant pumping has been necessary to keep it open during the past several years.

A full force of 54 men is employed at the Eagle-Shawmut mine, Chinese Camp, California, with two shifts working underground and three in the mill. About 180 tons of ore are being reduced daily. The ore body being developed at present is in the footwall vein. Frank H. Mitchell, general superintendent, is in charge. Capacity of the milling plant is to be increased, within the next three months, to from 350 to 400 tons daily, by the addition of a coarse crushing unit, ball mill, and additional flotation equipment. The mill is a straight flotation plant. Horace G. Miller, 4800 Santa Fe Avenue, Los Angeles, and George W. Clemson, 311 South Spring Street, Los Angeles, are operating the property.



Extensive deposits of milling ore are said to have been encountered at depth in the old Black Bear mining property, located near Rough and Ready, California. A water wheel generates power for the mine.

The Forbestown, California, property of the Idaho Maryland Mines Corporation is reported to be producing approximately 375 tons of ore per day, and plans are said to be under way to expand the Forbestown milling facilities another 300 tons this year. H. F. Lynn is manager of the Forbestown branch.



Western Dredging Co., Selects— Atlas Diesels for Economical Power

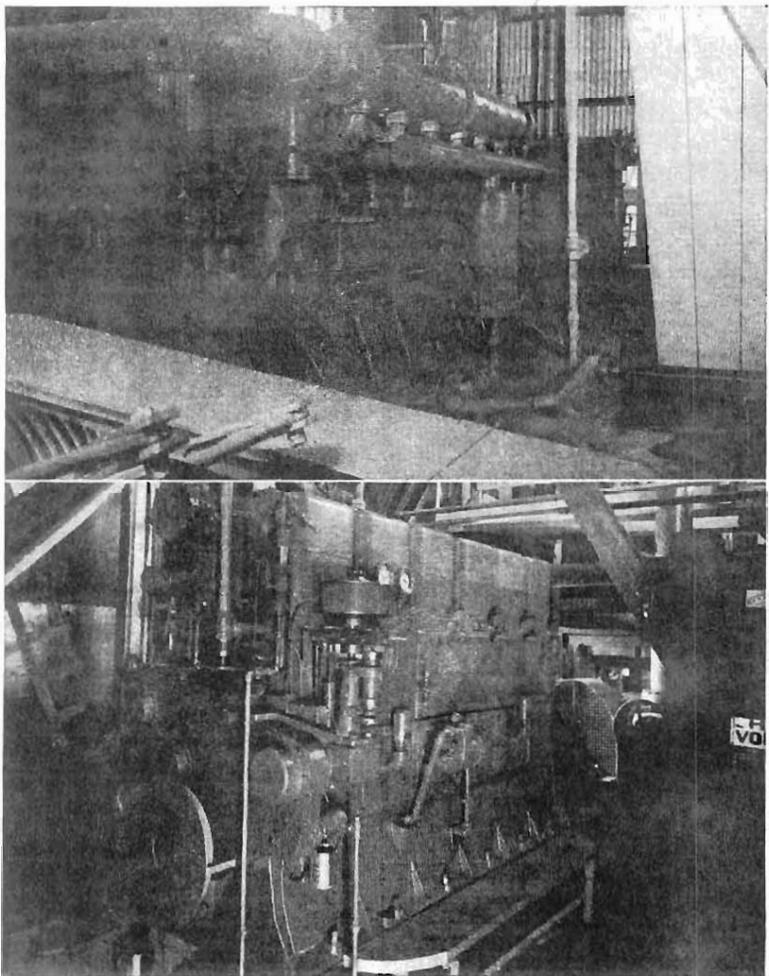
The 6 cu. ft. bucket type gold dredge of the Western Dredging Co., operating on its property at John Day, Grant County, Oregon, is equipped with two 6-cylinder, 9"x10½" Atlas Imperial Stationary Diesel engines, each developing 200 h.p. at 514 r.p.m.

Designed and constructed by the Walter W. Johnson Co., of San Francisco, the dredge was placed in service on November 14, 1937. Up to May 1st it had handled a total of 890,149 cu. yards of gravel.

All equipment of the dredge is operated by power provided by the two Atlas Diesel engines. One engine drives the main water pumps and a 75 KW generator which supplies power for the stacker, screen, lights and small motors about the dredge. The other Atlas engine furnishes power direct for the bucket line and winch.

Atlas Diesel engines have proved they are profitable equipment in dredging operations all over the world. Wrestling gold from alluvial deposits, making tortuous channels safe for water traffic, building dikes and re-vetments to harness rampaging streams—they're all alike when Atlas Diesels power the job. Sturdily built Atlas Diesel engines go on day after day delivering continuous, dependable, economical power in a wide range of speeds to answer every need that may arise while the job is in progress.

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Frank O. Woodson, C. R. McKibbin, Sonora, California, and A. J. Stout have secured a lease and option on the Back Play placer claim. The lease is for a period of five years and the purchase price is set at \$7,000.

The Spring Valley Mining Company, Inc., 820 Kansas Avenue, Topeka, Kansas, is engaged in development work at the D. W. McCarty property, located 2½ miles east of Valley Springs, California. Mrs. H. M. Alden, secretary, is directing the work with headquarters at Valley Springs. R. R. Moore, 549 Thirty-seventh Street, Oakland, California, is consulting engineer, and D. W. McCarty is superintendent at the mine. A geophysical survey of the property has been completed by Isham and Isham, 230 Redwood Avenue, Sacramento, California, and a shaft has been spotted at a point where it is expected to contact the center of the blue lead channel at a depth of 205 feet.

At a special meeting of stockholders of the California Standard Gold Mines Corporation held June 20, 1938, it was decided to accept the offer of Delgold Corporation to acquire the assets of California Standard, and the transfer was completed June 28, 1938. As part of the consideration for the assets of the company, Delgold Corporation assumed certain obligations, including those aggregating \$22,987.90, represented by promissory notes held by G. W. Brainard. Of this amount, \$19,938.61 is secured by a chattel mortgage on the plant and equipment of the company. Delgold has reduced this obligation to the extent of \$10,000 and has arranged to pay the balance of approximately \$13,000 as follows: \$2,000 on or before September 20, 1938, and \$2,000 each month thereafter until the entire amount has been liquidated. Delgold is preparing to develop its newly acquired property immediately.

Fletcher Hamilton, former California state mineralogist, and associates are prospecting the old You Bet mine at Red Dog, near Nevada City, California. Work is being carried on through a 100-foot incline to bedrock. Eight men are employed and future plans hinge upon the results of the tests now being run. Hamilton is directing the work.

Development work is under way at the property of the Bradley-Turner Mines, Inc., located about 6½ miles from Camp-tonville, California, according to Henry Clay, secretary-treasurer and general manager of the company. Approximately 9,000,000 cubic yards of gravel, averaging 49 cents a yard, have been blocked out by drifts and raises. Two channels, the Mount Alta and the Pleasant View, meet on the company's property.

The Mountain Mercury Company, Charles Westgard, general manager, has leased mining claims owned by C. C. Thompson, 7X Ranch, Paso Robles, California, and is launching an extensive development program. The property is located southwest of the Klau Mines in the Adelaide district but offices will be maintained at Paso Robles. The company will use the Tappie recovery system for extraction of the quick-silver. Installation of a \$5,000 plant at the

7X ranch has been completed and eight men are employed there at present. It is planned to increase the working force to 20 or 30 men later in the season. Living quarters have been prepared and additional bunk houses will be constructed during the summer. The plant will operate on a 24-hour schedule. Butane gas will be used for burner and power fuel. The company will generate its own electricity for both household and plant use.

Sinking of the Central shaft of the Lava Cap Gold Mining Corporation, Otto E. Schiffner, general manager, Nevada City, California, an additional 300 feet is under way, and will carry the shaft to a total depth of 2,200 feet. Production at the property has been increased to 320 tons per day, which is 20 tons over the capacity of the ball mill. By making improvements in the mill and crushing the ore to a finer mesh before sending it to the ball mill, the plant is able to handle the increased load. Due to the increase in output, the crew at the Lava Cap has been boosted to 280 men. Construction of the tailings dam on Greenhorn Creek was completed about the middle of the month.

Two monitors in operation at the Junction City hydraulic mine near Junction City, California, are producing 500 cubic yards of gravel per day, carrying values averaging 25 cents per yard. Production is now being centered in areas previously unworked. Sufficient water is available for an extended season.

J. N. Byers, Sonora, California, and associates are working the Page pocket mine, located in the Browns Flat district. A compressor and 550 feet of three-inch airline have been installed and three men are now engaged in raising on a 10-inch vein. A sinking and drifting program will be carried out later. Associated with Byers are Don Coppi and George Herndon. The mine is under lease from William Pedro of Browns Flat.

George Quinge and William Gruber have made application to the California Debris Commission at Sacramento for a permit to operate the Hazel E. placer mine near Downieville, California, by hydraulic methods. Debris from the operations will be stored behind the Bullards Bar dam.

The Alaska Juneau Gold Mining Company, P. R. Bradley, president, 1022 Crocker Building, San Francisco, California, reports for the month of June operating income before provision for depreciation, depletion, and income taxes, of \$189,300, against \$206,300 in May, and \$204,800 in June, 1937. The company during June recovered ore with a value of \$471,000, an average of \$1.25 per ton of ore milled.

Enos Strang and his son have leased the Mount de Oro mine, located near Woodleaf, Yuba County, California. A crew is engaged in development work and extensive operations are planned.

Van der Karr and McKenzie are preparing to develop a 250,000 cubic yard gravel deposit located on the Hageman and Huberty property, two miles north of San Andreas, California. They will use a drag-line and stationary washing plant in working the deposit.

Testing operations are under way at the **Cherokee** mine near Greenville, California, with a crew of six men employed under the direction of Frank Humphrey. If the tests prove satisfactory, it is planned to pump out the old 300-foot Kettle shaft which has not been unwatered since 1886. It is said to contain several thousand tons of sulphide ore of a good milling grade.

Walter M. Phelps, 8928 Gibson Street, Los Angeles, California, and associates are developing the **Golden River** mine in the Sageland district of Kern County. The property has been opened to shallow depths at several points and the vein in the main shaft is averaging from three to 12 inches in width. At 35 feet a pocket was encountered which is said to have assayed \$280 per ton. Some equipment has been installed.

Additional development is planned for three claims located near Coulterville, California, controlled by Franklin E. Allison, 922 Civic Center Building, Los Angeles. Marshall Allison, his son, will have charge of the work.

Julian E. Itter, Route 2, Box 157, Fairfield, Connecticut, owner of the **Reward** mine located about 35 miles north of Barstow, California, has sold the mill and wells located in Superior Valley to L. V. Storrs. It is planned to build a mill closer to the mine. It is understood that Storrs may do custom milling.

A road is being built to the Hellroaring tunnel at the Plumbago mine of **O'Brien Mines, Inc.**, Alleghany, California, and a



diamond drill is being placed in operation to work out the gravel. Ralph Youtz, Alleghany, is superintendent.

The **Lode Development Company**, operating the old Rosencranz mine near Garden Valley, California, is reported to be milling 100 tons daily in three shifts. The plant is on a six-day-per-week basis. Ore is being taken from the 130 and the 250-foot levels by a crew of 40 men and development work is being carried on also. The main shaft is down to the 350-foot level. The company has allowed its lease and bond on the Rich Gulch property to lapse. During the past year a prospecting and development program was carried on at the Rich Gulch. Charles Hopper Brown, Garden Valley, is superintendent for the company.

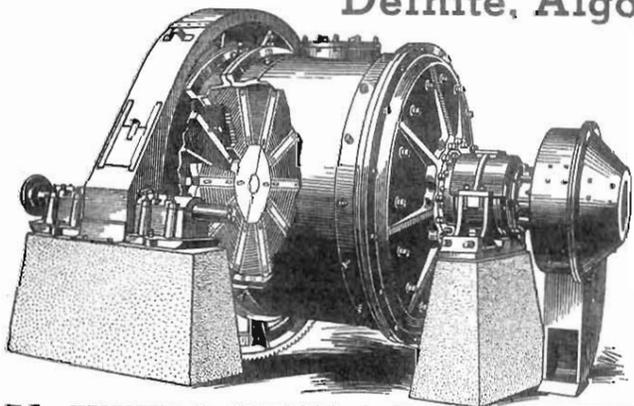
The **Gold Diggers Syndicate**, Sidney B. Wood, Jr., president, has been carrying on negotiations for the past 18 months with a view to consolidating the Dutch, App, Sweeney, and Heslop group of mines near Jamestown, California, controlled by Charles H. Segerstrom of Sonora, California. Recent newspaper reports to the effect that the negotiations had been completed have been denied by Eric Seger-

strom, who is associated with his brother in the deal. The lease and bond under consideration calls for payment of \$350,000 and construction of a 400-ton flotation plant prior to January 1, 1940. The syndicate has been conducting exhaustive tests on a portion of the Heslop claim for the past two years, using a 50-ton pilot mill, and these operations have yielded some \$175,000 in gold. The tests have also disclosed that a 95 per cent recovery of the \$6.60 average mill heads can be effected through flotation treatment. It has also been established that the flotation concentrates are amenable to cyanidation and that a 94 per cent recovery can be made from this treatment. Some 500,000 tons of "positive" and 850,000 tons of "probable" ore remain in the mines above the 2,300-foot bottom station of the Dutch shaft, which is the deepest shaft of the group. The syndicate will immediately begin the dewatering of the three-compartment Dutch shaft, through which all future mining will be carried on. Drifts will connect this shaft with the App, Heslop, and Sweeney workings, and the App shaft will be employed as an escape way. The necessary heavy pumping and hoisting equipment has been ordered and it is expected that the underground workings will be ready for stoping and production on at least 15 faces within nine months.

Harry Bartle, John Biles, and Earl Snapp, all of Oroville, California, have leased from Fred Carpenter, Scales, California, 260 acres of placer ground located in the lake bed of the old Brandy City

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preparation for early resumption of production. The unwatering was completed June 20 and since that time manways, underground tracks, and other equipment have been repaired. Alex Ross is general superintendent of the Argonaut Mining Company, Jackson, California.

The **Roseclip Mines Company**, Henry S. Sweet, general superintendent, Bodie, California, is treating approximately 250 tons daily, averaging about \$4 per ton in gold and silver. The company is milling ore from old dumps at the Standard Consolidated mine.

At the **May Lundy mine** near Mono Lake, California, a 40-ton flotation plant is treating tailings from early operations. There are said to be available 60,000 tons of ore sampling more than \$4 per ton. The mine is operated by Thomas R. Hanna, Martinez, Contra Costa County, California.

An extensive development program at lower levels is to follow the deepening of the shaft at the **Murchie mine** of the **Empire Star Mines Company, Ltd.**, Grass Valley, California. The Murchie was the scene of much labor trouble early in the year but with working conditions again normal, activities are being increased. Robert Hendricks, Nevada City, California, is manager.

A third monitor has been added to the equipment at the **Omega hydraulic mine** near Washington, California, and all are now operating on a 24-hour basis. Debris is being stored behind a temporary dam built by the company on Scotchman's Creek. Theodore Larsen is superintendent.

A new contract for 600 feet of drifting on the Santiago vein has been let by the **Treasure Mountain Gold Mining Company**,

COLORADO

Frank Nelson recently completed a similar contract, started late in 1937. This additional extension of the Santiago tunnel will open the Golden Fleece and Scotia veins at new depths. D. M. Haynes, Silverton, is general manager.

Having completed the work of cleaning out the workings of the **Forest King mine**, owners will start an extensive sampling program. The property is located in the Platoro district of Conejos County, Colorado, and has been under the supervision of George W. Hook of Monte Vista. It is owned by F. R. Wolfe, 3622 Lafayette Street, Denver, and associates.

The **Lost Canyon Placer Company** is employing 10 men and using a 75 Monarch caterpillar and half-yard Northwest shovel in its operations in Lost Canyon, about 7½ miles from Granite, Colorado, in the Twin Lakes area in northern Chaffee County. Charles Hertzog is general manager at Granite and Charles Hallenbeck and J. F. Williams are also associated with the enterprise. A road has been built to the canyon.

A new compressor and drills have been installed at the **Fredonia mine** by D. F.

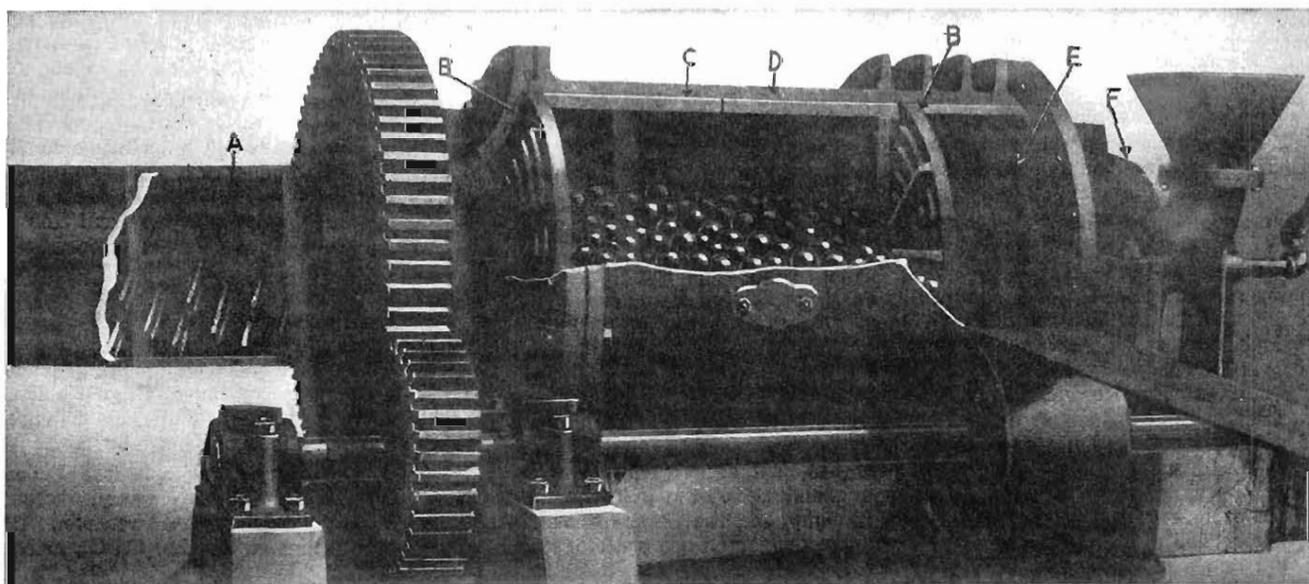
Miner of Breckenridge, Colorado, and Melvin Brugger, 1102 East Platte Street, Colorado Springs, lessees. Two shifts are at work in the No. 3 drift. The mine is located about three miles south of Breckenridge.

Underground work in the **Treasury Tunnel** of the **San Juan Metals Corporation** at Ouray, Colorado, is reported to be contracted to Roy Chadwell. Operations are to be resumed at the property, work having been suspended while damage caused by a recent fire was repaired. Robert Martin, Ouray, Colorado, is said to be in charge. Frank Eichelberger, Box 229, Wallace, Idaho, is president.

The first 600 feet of the **Johnson tunnel** in the **Argo-Argonaut** group of claims has been cleaned out and retimbered, preparatory to making it the main adit for present operations. Another 300 feet will completely open this level after which the fourth level, 90 feet below, will be unwatered and opened for production. The property, located near the Dixie mine on Lamartine Mountain in the Ute Creek section near Idaho Springs, Colorado, is being operated under lease by Theodore Fisher and associates. The same group also controls the adjoining Wallace and Cecil groups of silver-gold-lead claims. F. F. Griffin, Idaho Springs, is supervising the work.

The **Gold Ridge Mining Company**, headed by Frank Howbert of Central City, Colorado, has completed the work of dismantling the 50-ton Anchor mill and setting it

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UNDERGROUND MINE PHOTOGRAPHY

(Continued from Page 7)

1 Baby Size, 20 cents list, rated as 50 per cent faster than the small Photoflash (aluminum-foil), gave me fine pictures in all close-up vein shots at distances up to 12 feet; and the No. 2 Medium, 25 cents list, gave ample illumination for two long shots at top and bottom of a deep winze. You can carry three or four of the little No. 1 size in a side coat pocket—a luxury compared with toting an equivalent supply of the big Photoflash bulbs, the size of a 150-watt light globe. The big No. 3 Superflash, 60 cents list, is available for distance, and large spaces such as stations or chamber stopes.

General Electric, however, always in the van of progress, in April brought out two brand-new Mazda Photoflash lamps, catering to press cameramen using synchronizers. Both, of course, are usable in the gun I employ—and synchronization lighting is a needless luxury underground. The new No. 7 Photoflash, 18 cents list, a little longer than a pack of cigarettes, with a longer flash, is announced as giving "as much total light as the No. 10 lamp." This means that it will produce results equal to those I got in April using the Baby Superflash. And as a competitor for the No. 2 Superflash, G. E. just brought out the No. 15 Photoflash, looking like the No. 10 but with lengthened flash and more wallop. The No. 15 is an aluminum foil lamp, whereas the No. 7 uses combined aluminum wire (like the Superflash) and foil. It also lists at 18 cents.

At the same time with these new arrivals in the field came the brand-new Argus Model C miniature "candid." I saw my first one in mid-April; and, to be candid myself, it's a beauty. Unlike the earlier \$12.50 and \$15 Argus models, the new member of International Research Corporation's family is housed in a rugged metal case that will stand the rough going of mine work above and below ground. It has a faster lens (f 3.5) and a shutter operating automatically from 1/5 to 1/300 second, with bulb and time. Best of all, it is priced where an Ordinary Mortal like the writer can indulge in one—\$25; and also where, if an engineer should slip and let one fall down a shaft into a couple of hundred feet of water, he wouldn't have to declare a moratorium to replace it. Until the Argus people stepped out with this model I had, frankly, shied at all the miniature "candid" on the market, and stuck to my 2½ by 4¼ size for mine work—a good size for contact prints, eliminating need for enlarging all shots. Having played a bit with the new Argus I confess I'm registering a marked lean towards the "minnies" . . . with it as the magnet. In my underground work, however, I'm sticking to a camera I can drop down a shaft without feeling like jumping down after it—and continuing to blow myself, to the extent needful, for the best and fastest in films and lighting equipment.

NEW MILL COMPLETED AT EL DORADO CRYSTAL MINE

THE NEW 100 to 125-ton all-slime, counter-current decantation, cyanide plant of the El Dorado Crystal mine, Shingle Springs, California, has been completed and placed in operation.

The mill was completed in 70 days by the O. J. Scherer Construction Company, Angels Camp, California, to whom the contract was sub-let by the Mines Engineering and Equipment Company of San Francisco, western representative for the Mine and Smelter Supply Company of Denver. E. R. Richards, who has had many years of experience with outstanding cyanide operations in Mexico, was the construction foreman for the Mines Engineering and Equipment Company.

The plant was designed by William A. Crowfoot, consulting metallurgical engineer, and the construction was under his supervision.

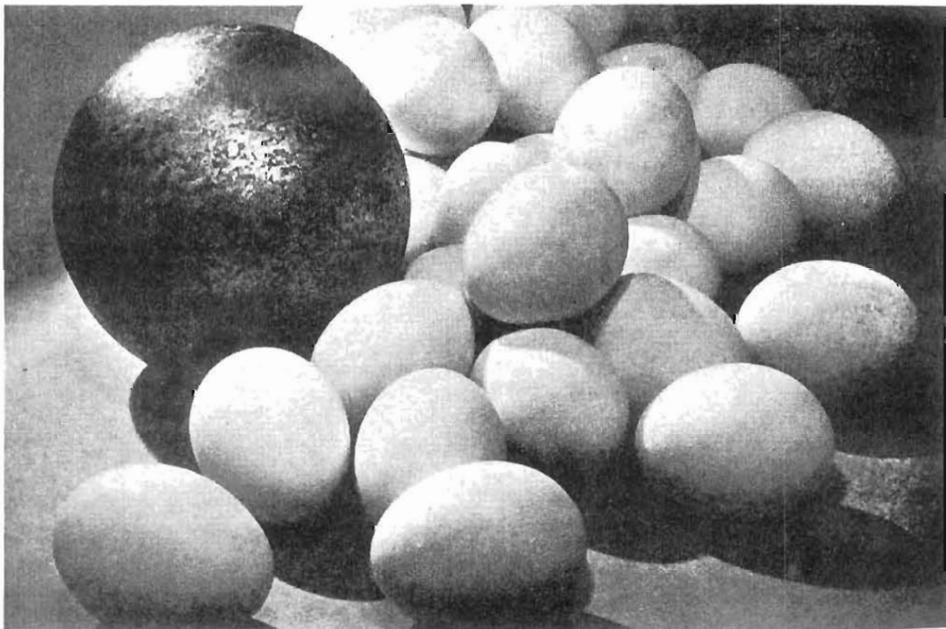
The mine, after 40 years of idleness, was reopened in 1934 by L. T. Pockman of San Francisco and D. W. Johnston of Glendale. In 1936 Oakleigh Thorne of Millbrook, New York, became interested, and development was continued under the direction of Roy H. Elliott, consulting engineer, and James R. Elmendorf, superintendent. Several thousand feet of drifting, crosscutting, and shaft sinking were completed, providing approximately three years of ore reserves for the present mill.

A concrete dam and storage reservoir were completed on French Creek last winter to provide an adequate water supply for the property. Early in 1938 William A. Crowfoot joined the mine staff as consulting metallurgical engineer, and in March, 1938, Benoni Lockwood, Jr., was named superintendent to succeed Elmendorf, resigned. The property is at present owned and controlled by Thorne, Pockman, and Johnston.

U. S. SMELTING COMPANY WILL MARKET OWN ZINC HEREAFTER

THE UNITED States Smelting Refining and Mining Company has announced its entry into the field of high-grade zinc. Heretofore, the zinc concentrates from ore mined at the company's properties near Bingham, Utah, were sold to the Anaconda Copper Mining Company. Under the new arrangement, the concentrates will be refined by Anaconda for account of the U. S. Smelting company, which will sell the resultant zinc directly to the trade.

The following grades of electrolytic zinc will be offered: special high grade, analyzing 99.99 per cent plus in zinc purity; intermediate; brass special; and prime western. The company will sell its zinc, as well as the other metals it produces, through its New York office at 57 William Street. F. F. Colcord is company vice-president in charge of metal sales.



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PLAN APPROVED TO CLARIFY SILVER PURCHASE PROCEDURE

PRESIDENT ROOSEVELT has approved a plan under which United States mints will be authorized to purchase all newly mined domestic silver at 64.64 cents an ounce after the proclamation which set the present price expires at midnight December 31, 1938, provided that the metal was mined prior to that date. The announcement was made by the treasury department for the purpose of clarifying procedure inasmuch as a considerable interval of time elapses between the date the silver is mined and the date when it is refined and offered for sale at the mint.

The last time the price was changed, there was some misunderstanding as to what silver could be sold to the mints at the old price and what was to be paid for at the new figure. However, this arose mainly due to confusion as to what the word "mined" meant and the word has not yet been satisfactorily defined.

NEVADA MINE IS EXPECTED TO RESUME PRODUCTION

THE CHAMPION Sillimanite Company, a subsidiary of the Champion Spark Plug Company, Detroit, Michigan, is planning the installation of a gasoline Diesel shovel at its property near Oreana, Nevada. The company recently completed arrangements for open-cut operations with dragline equipment. The mine is idle at present, but it is expected that work will be resumed when the new shovel has been acquired.

The deposit is worked for its dumortierite content, dumortierite being an aluminum silicate used in the manufacture of spark plugs and chemical porcelains and refractories. Andalusite, another aluminum-bearing mineral that is used in spark-plug manufacture, is mined at the company's property at Laws, California, where George W. Clarkson, Box 117, Laws, is mine superintendent and Joseph A. Meyer is mine foreman.

A. B. Peck of the University of Michigan, Ann Arbor, is chief geologist and E. A. Durbin is assistant geologist. Durbin and A. Rautenburg, chief chemist, are both employed by the Champion Spark Plug Company at Detroit. J. A. Jeffery of the Champion Spark Plug Company is president of Champion Sillimanite.

TREASURY OFFICIALS TO STUDY GOLD REGULATIONS ACT

ACTION of the Nogales Council, Arizona Small Mine Operators Association, has attracted the attention of the United States Treasury Department and an investigation is being made to determine what can be done regarding the "Gold Regulations Act" which is claimed to be so restrictive that many small mine operators are getting but \$16 per ounce for gold, whereas the government price is \$35.

The attention of the treasury department was obtained because of a news item in the New York Times, June 21, 1938, as follows:

"Nogales, Arizona, (AP)—The Arizona Small Mine Operators Association has demanded changes in practices under the gold regulation act, charging that it has destroyed the market for their gold.

"Assayers and other who formerly purchased small quantities of the metal declare the new statute is so confusing they are afraid to risk prosecution by handling gold. Small miners and prospectors say that to profit on their bullion they now have to take it into Mexico and sell it for \$16 an ounce, as against the American price of \$35."

The Times' statement brought a letter from Herman Oliphant, general counsel of the treasury department, asking details. The Nogales Council, Hugo Miller, chairman, called a special meeting to formulate a report which has been sent to Oliphant for his consideration and further investigation.

The reply showed how the gold act, which called for licensing of gold buyers, had so many pitfalls that those who once were gold purchasers could no longer assume the risks of violation and the Mexican bankers, who are the principal gold buyers in that country, proceeded to take advantage of the situation and, by the regulations, have been given a virtual monopoly. Having received protection from the treasury department, they have driven down the price to a point that makes gold operations impracticable for small mine operators.

The Nogales Council is urging "that all state licensed assayers be authorized to buy, melt, transport, and sell to the United States Mints, small lots of gold, with the understanding that, when this bullion contains silver of sufficient value to justify payment, the silver shall be paid for at the world price unless the assayer submits proof as to its American origin."

The desire of the Nogales group, according to its leaders, is to open up an American market for American gold and get, for the small miner and prospector, a price more nearly in line with what the United States Mint is paying. While the situation is of acute interest in the border cities, it likewise affects many small communities where there is no place now to sell lots of gold of less value than the minimum taken by the United States Mint.

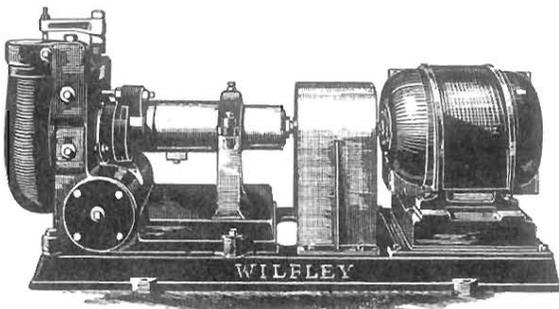
It is believed that the investigation by the treasury department will relieve the situation and remove the profiteering of the Mexican bankers who have been buying \$35 gold for \$16, virtually under protection from the U. S. government, although it was not intended to work in that manner.

DECISION HANDED DOWN IN IDAHO MARYLAND CASE

GOLD MINING in California was held not to be interstate commerce in a decision handed down recently by the Ninth Circuit Court of Appeals, which refused to enforce an order of the National Labor Relations Board against the Idaho Maryland Mines Corporation of Grass Valley, California. Because of the importance of the decision, it was held likely the labor board would appeal the case to the United States Supreme Court.

Judge Clifton Mathews, who wrote the decision, ruled out the board's assumption of jurisdiction, which was based upon the company's yearly purchase of about \$125,000 in supplies and equipment originating outside the state, and upon the importance of gold to all commerce. Judges Curtis D. Wilbur and Francis A. Garrecht concurred.

The court held that the evidence did not support the board's finding that the supplies and equipment purchases gave it jurisdiction, nor could the company be held accountable for shipment of gold into an-



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her state by the federal government. The decision stated: "It buys nothing, sells nothing, and nothing is shipped to it in interstate or foreign commerce."

The board held that gold and silver produced at the company's mine were shipped to the San Francisco mint, held for 30 days, then mixed with other gold and silver, and shipped to the Denver mint. In answering this contention, the court held: "We regard such shipment as purely governmental administration acts." The company did not make nor cause such shipments to be made. The gold and silver is brought to the San Francisco mint and there turned over to the federal government.

The board's request for enforcement of its order for reinstatement of 61 miners, and reimbursement of 73 for loss of pay, was refused. Also involved was a board order requiring the company to cease coercion of employes in their right to organize, cease domination and interference with, and financial support of a union which the board found to be company-inspired. Request for enforcement of all orders was denied by the court.

PHILIPPINE MANGANESE MINE MAKING REGULAR SHIPMENTS

APPROXIMATELY 700 men are employed by Mine Factors, Inc., at its manganese property near Larena, on the island of Siquijor, Oriental Negros, about 100 miles southeast of Manila, Philippine Islands. The holdings consist of 19 claims and a daily production of 200 tons of direct-shipping ore with predominating values in pyrolusite is reported. Operations have been steadily increasing since the formation of the company early in 1937, and the installation of additional machinery is planned in the near future to permit a still greater output.

The machinery which the company is contemplating purchasing includes an electric power unit, hoist, tramway, and washing, drying, and weighing equipment. Directors of the company are awaiting definite recommendations from General Superintendent H. B. Parfet before proceeding to acquire this machinery.

The mine has been developed by shaft and tunnel workings to a depth of 80 feet, but extraction is largely confined to the open pit. Native labor is employed in mining and selecting the ore by hand and then carrying it in baskets, 125 pounds to a trip, to stockpiles beside loading ramps or trucks. The trucks, each having a capacity of about three long tons, transport the ore to Larena where it is transferred to steamers. Mine Factors has two principal contracts, one for shipments to Japan and the other to the United States.

Parfet is assisted at the mine by D. C. McKay, mine superintendent; G. Bacchi, assistant mine superintendent; and George Andrews, chief clerk. Angel Padilla is resident and general manager at the Manila office and W. H. Lombard is vice-resident and assistant general manager. P. Harper is secretary.

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The Mining Journal
PHOENIX - - - ARIZONA

HALTS GRANTING OF MINING LEASES ON PHOSPHATE LANDS

SECRETARY of the Interior Harold F. Ickes has issued an order suspending, until further notice, all activities in connection with the granting of phosphate mining leases. While the order will not affect those already in existence, no further leases of this nature will be granted on public lands until Congress decides on a policy to be pursued in bringing about protection of phosphate lands and the development of the product. The move has been characterized as paving the way toward formulation of a "progressive program" for prudent development of phosphate fertilizer resources which are so valuable to American agriculture.

ATOLIA EMPLOYEES SELECT A. F. OF L. AS BARGAINING AGENT

EMPLOYEES of the Atolia Mining Company, Atolia, California, recently decided by a unanimous vote to affiliate with the American Federation of Labor. Every employe of the company is reported to have cast a ballot. The question before the employes was to decide whether to affiliate with the federation or to maintain their union as an independent organization.

Following approval of the A. F. of L. as bargaining agent for the group, the union will proceed with formulation of its agreement with the company.

DREDGE OPERATORS LOSE IN YUBA COUNTY DECISION

A DECISION has been handed down in the Yuba County superior court at Marysville, California, by Judge R. N. Rankin granting an injunction which specifies that dragline dredge operators on and near Honcut Creek in the vicinity of Oroville, California, may not operate their dredges in such manner as to damage lands of other owners along the creek.

Nearly a score of land owners in District 10 and vicinity brought the action more than a year ago, naming approximately 30 as defendants. In addition to an injunction, they asked damages of \$53,000, but the court denied the damages on the ground that it would be difficult to assess them to the various defendants in the proper amounts.

The action was based on allegations that the silt from the dredging operations was deposited on lands along the stream, filling the stream channel, and polluting the water, spoiling it for irrigation purposes and for the use of livestock.

The dredge operators proposed recently that their cause be taken up by the California Hydraulic Mining Association and offered a large sign-up of members, but the association directors, who are working to rehabilitate hydraulic mining on a basis that will be legal and unoffending to other interests, hesitated to involve the organization in the troubles of a different branch of the industry. It had been proposed that a debris dam be projected to solve the problem.

Companies affected by the decision include the Honcut Dredging Company, the Cinco Mineros Dredging Company, Pan Dredging Company, Consuelo Mines, Inc., Ritcher and Sons, and the Wyandott Dredging Company.

1,500 MEN WORKING FOR NEVADA CON. IN NEVADA

THE NEVADA Consolidated Copper Corporation is employing 1,490 men in its Nevada mines with headquarters at McGill, Nevada, and is producing about 6,000 tons of copper ore daily. This production plus the 6,000 tons of Consolidated Copper mines ore which the company accepts daily for milling, keeps the 18,000-ton flotation concentrating plant operating at two-thirds of its capacity.

The operating personnel of the company is headed by J. C. Kinnear, general manager, McGill, Nevada, and W. S. Larsh, assistant general manager, Ruth. Other staff members include: L. Larson, general superintendent, McGill; F. E. Patton, mine superintendent, Ruth; C. F. Steinbach, assistant mine superintendent, Ruth; F. M. Jardine, mill superintendent, McGill; C. Farr, assistant mill superintendent, McGill; L. Larson, smelter superintendent, McGill; E. A. Slover, assistant smelter superintendent, McGill; L. A. Meyer, chief mine engineer, Ruth; H. T. Marshall, geologist, Ruth; C. F. Rose, mechanical superintendent, Ruth; F. H. Buchella, mechanical superintendent, McGill; W. Inwood, mechanical engineer, McGill; W. F. Remington, construction engineer, McGill; W. K. Sanders, power plant engineer, McGill; F. A. Lawrence, chief chemist, McGill; and F. E. Huffer, chief clerk, McGill.

RECORD GOLD RECEIPTS ARE REPORTED BY DENVER MINT

THE DENVER mint has become the second gold repository of the United States, having in its vaults \$3,756,760,177 at the end of the fiscal year June 30, 1938. About \$2,500,000,000 was transferred to Denver from the San Francisco mint three years ago during the erection of a new and larger mint building in the latter city.

Mark A. Skinner, superintendent of the Denver mint, reported that gold receipts for the first half of 1938 had a total value of \$30,896,860, the largest amount for any like period since the opening of the new mint building in September, 1905. The increase for the first six months of this year over first half of last year was 31 per cent. South Dakota maintains its position at the top of states sending gold bullion to the Denver mint, with contributions averaging \$1,500,000 monthly, mostly from the famous Homestake mine.

Total value of silver receipts for first half of 1938 was \$277,286.12. Both gold and silver deliveries at the mint, whether in the form of bullion or jewelry, are paid for by mint checks. At present 160 employes are on the mint payroll, the job of refining a considerable tonnage of impure bullion, employing 18 men, having been completed July 10. The mint is now coining half and quarter silver dollars, 10-cent pieces, nickels, and pennies.

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Increasing to 750 Ton Cyanide Plant
- Rosekip Mines Co., Bodie, California
Additions to 250 Ton Cyanide Plant
- The Getchell Mine, Golconda, Nevada
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One of the most romantic and legendary tales of lost mines in the west is the mystery of the Breyfogle mine which is supposedly in the vast, unknown reaches of the Nevada desert country.

John Breyfogle, a blacksmith and part-time prospector who made his headquarters in Austin, Nevada, about 1864, is the man responsible for the story. Unintentionally, he sent many prospectors on the wild-goose chase which in some cases led to untimely deaths from desert heat and thirst.

Blacksmithing was dull, so John decided to take another fling at the desert. After obtaining a grubstake in Austin, he traveled southward, accompanied only by a burro and the mount he was riding. During his wanderings he lost all sense of direction and what was more important, the location of a water supply. He was picked up some days later by Indians who found him lying upon a sand hill, entirely out of his mind and craving only for water. John was nursed back to life by these Indians and started on the road to Austin with the few samples he had picked up during his wanderings.

Upon his arrival in Austin, John was greeted by his grubstaker who instantly showed intense interest in two of the specimens that John had carried throughout his unfortunate trip. Assays showed that both specimens were fabulously rich, and news of the discovery soon spread through the camp.

A large party, with Breyfogle at the head, was soon made up and headed out into the desert. There then followed days of travelling, with John sure that he was right one minute, only to change his mind the next. Weary of searching, the party finally returned to Austin, although John insisted he would find the lost mine if it was the last thing he ever did.

The old record does not show what happened to John, but more modern records show what happened to many who sought in vain the desert mine, gaining only death as their reward.

Lost mines are not new to western history. Many interesting stories have been woven about a rich ledge what is just a few miles south of a certain valley; or maybe it was a mile north of a juniper tree, as one old prospector informs me frequently. (He, by the way, has reached the stage where he knows where there is a whole hill plumb full of the yellow stuff, just awaiting a feller like me to loan him a few dollars to grubstake the outfit.)

All lost mines are not strictly imaginary, but many of the tales have grown to such amazing proportions that an investor hesitates to commit himself or to invest money in something where the sky is the limit for actual facts, especially when the garrulous is being done by one who has never seen color in the sands.

men, industrial leaders, or government authorities.

A general committee on arrangements, headed by Robert Linton, consulting engineer of Los Angeles, is sparing no effort to assure convention delegates a pleasant stay in Los Angeles. Committee chairmen serving under Linton's direction are: Harvey S. Mudd, widely known mining man of Los Angeles—Welcome-to-Delegates; P. G. Spilsbury, Anaconda Copper Mining Company—Entertainment; Y. D. Hills, Timken Roller Bearing Company—Exhibits; Garnett A. Joslin, mining engineer, Los Angeles—Hotels; M. J. Holmes, Braun Corporation—Annual Dinner; Major Julian Boyd, Pacific Coast Borax Company—Reception; E. O. Slater, Smith Emery Company—Excursions; and W. C. Browning, Golden Queen Mining Company—Finance.

Present plans for entertainment include a welcoming luncheon to delegates Monday, with an informal get-together party that night, a revival of early California days on Tuesday night, and the annual banquet on Thursday night at the Coconut Grove.

Interesting field trips are being planned for Friday and Saturday, prominent among which will be an inspection of the world-famous Golden Queen mine and mill.

Up-to-the-minute displays of metal mining equipment and supplies are being planned by prominent national and local manufacturers who will participate in the large exposition to be held in the Ambassador Hotel in conjunction with the convention sessions. Even at this early date three months prior to the meeting, nearly two-thirds of the available exhibit space has been reserved. Equipment used in almost every phase of metal mine and mill operation will be on display and representatives of manufacturers will be on hand to offer expert advice on methods of meeting perplexing operating problems and attaining lower production costs.

YUBA CONSOLIDATED WILL CONSTRUCT NEW DREDGE

WORK is expected to begin in November on construction of another giant gold dredge for the Yuba Consolidated Gold Fields, Inc., 351 California Street, San Francisco, which will operate in the Hammonton, California, field on the Yuba River. The new dredge may dig as deep as 150 to 180 feet, according to George Aaronson, manager for the company at Hammonton.

It will be the twentieth dredge in the Yuba field, although but five are now working. The present deepest digging dredge is the Yuba No. 17, which operates to a depth of 112 feet below the surface of the water on which it floats.

The new boat will be constructed at the Yuba Manufacturing Company's plant at Benicia, California, and will be hauled to the pond at Hammonton for assembly. It is planned to have the dredge completed and in operation by August of next year.

Yuba Consolidated estimates that it has 20 years of work ahead of it before the Hammonton gravel beds are worked out. Operations have been carried on in the district for the past 30 years.

SAN FRANCISCO GROUP TO OPERATE OLD MONTANA MINE

WILLIAM ROGERS WADE, 315 California Street, San Francisco, California, formerly associated with the late Hon. John Hays Hammond of New York City, has taken a lease and option on the Branagan mine, located in Lincoln County, near Libby, Montana. Wade has also leased a modern Diesel-driven 75-ton mill, eight miles from the Branagan mine, which he expects to keep running at capacity as soon as operations are well under way. A Diesel-driven compressor, rock drills, mine cars, rails, etc., are also being purchased by Wade and his San Francisco associates, and roads are being built, ore bins constructed, and a boarding house erected.

According to the management, past records of the mine show that when it was worked 35 years ago, the ore produced averaged about \$12.65 in gold bullion per ton. There are several development faces that run from \$40 to \$60 from which Wade expects to start producing ore by the end of this month. The vein is wide, running from 7 to 12 feet in thickness, and the ore is free milling. Metallurgical tests indicate that 90 per cent of the gold can be recovered by amalgamation.

It is expected that contracts for trucking the ore from the mine to the mill will be let shortly. For the present, Wade is maintaining his offices in Libby in order to personally supervise operations.

SLIDING WAGE SCALE ACCEPTED BY OPERATORS AND EMPLOYEES

UTAH mine operators and their employees have reached an agreement, the contract to extend to June 30, 1940. The conditions are similar to the expired agreement with the exception that the minimum wage levels are higher and certain working conditions not included in the old contract are covered. The new provisions will apply to about 6,000 employees of the major operating companies in the state, excluding the Utah Copper Company.

Minimum wages under the new agreement are reported to be \$4 for smelter workers, \$4.25 for muckers, and \$4.50 for miners. These figures compare with \$3.50, \$3.75, and \$4.25 under the expired agreement, and are based on 9-cent copper and a comparable price for lead with provision for a sliding scale.

STRIPPING IS RESUMED BY CHINO MINES AT SANTA RITA

THE CHINO Mines Division, Nevada Consolidated Copper Corporation, Horace Moses, general manager, Hurley, New Mexico, resumed stripping operations in the pits at Santa Rita about the first of August. A company notice stated that operations were being resumed temporarily and on a limited scale for the removal of overcapping on the south side of the shovel pits.

Other mining operations at Santa Rita and milling operations at Hurley, suspended in June, will remain inactive for the present. Construction of the huge smelter at Hurley is progressing steadily with completion planned sometime late this year.

The Molybdenum Gold Mining Company is producing approximately 3,000 tons of ore per month from its New Year and Mohawk mines at Mammoth, Arizona. Values are in molybdenum, vanadium, gold, and lead. K. V. Geib is mine superintendent.

Officials of the Argonaut Mining Company, Jackson, California, announced that milling of ore, the first since the property was closed by fire last February, began July 16. Portions of the mine were fire-locked from February 15 until April 15 by a stubborn blaze on the 4,350-foot level in the ventilating system of the Muldoon shaft. According to Alex F. Ross, general superintendent, 1,500 tons of ore were in the bin ready for treatment when milling was resumed July 16. Two shifts are working and approximately 250 men are now employed.

The Gold Point mine, five miles above Downieville, California, is being placed on a production basis. The mill is now operating two shifts daily and is expected to be running full time in a few days. The property has been inactive since completion of a 1,200-foot tunnel about a year ago. The Tombstone Development Company, Tombstone, Arizona, which is operating the mine, has taken over the Bigelow mill at Sierra City, California, for a period of six months and will mill its already developed ore, together with ore produced from new development work. William Porri, Sierra City, is directing operations.

Operations at the property of the Burm-Ball Mining Company, Auburn, California, are under the direction of E. W. Cowperthwaite, general superintendent, Auburn. The property is equipped with a 100-ton milling plant. John Burmeister, Box 306, Auburn, is president of the company.

A crew of five men is engaged in rebuilding the cook house, bunk houses, mine buildings, etc., at the Jim Consolidated mine near Graniteville, California, which were practically all crushed by the heavy snow of last winter. W. Krilamocitch is directing work at the property. A long tunnel has been driven and paying ore has been encountered, it is reported.

Three men are employed at the old Alameda quartz mine, 2½ miles northwest of Jamestown, California. A 16-ton ball mill and a six-stamp mill have been operating intermittently for several months and the old shaft is now being cleaned out preparatory to a larger schedule of new exploratory work. Hemming Brothers are developing the property, which is owned by Mrs. J. N. Lyons, Mrs. W. F. Lyons, and W. G. Fitzgerald, all of Jamestown.

The Gold Hill Dredging Company, R. D. Gardner, general superintendent, 2740 Tenth Avenue, Sacramento, California, has been named defendant in a \$27,000 damage action brought by property owners residing along Secret Ravine in the Roseville district. The plaintiffs contend that

real and personal property were damaged through dredging operations of the defendant company.

The Wainscott shaft on the John Rolfe property near Garden Valley, California, has been sunk to the 50-foot level and a westerly drift has cut through an ore body. Further prospecting is planned to determine the length and strength of the shoot. It is understood that a 15-horsepower engine has been installed on the Gouch property near Kelsey, California, by Carl and George Wainscott, 5509 Folsom Boulevard, Sacramento, California, and preparations are being made to sink to lower levels.

Robert D. Mueller is carrying on negotiations with the Mariposa Commercial and Mining Company, Frank T. Maguire, manager, Mariposa, California, for the installation of dragline units along the Mariposa, Agua Fria, and other creeks within the Fremont Grant, held by the company. Mueller is also said to be negotiating for property along the creeks located below the grant. All leases on land within the boundaries of the Fremont Grant would be subject to a 10-per cent royalty. Actual dredging operations are expected to be under way by the first of September. Mueller was formerly manager of Cia. Minera de Maguarichic in Mexico.

Jack Lawson, who recently returned from a two-year visit to Denmark, has taken a three-year lease on the Tanzy mine near Sonora, California, in association with Ed Erickson. An extensive development program is planned and a new

shaft will be sunk in an effort to intersect the Little Bonanza vein. Lawson and Erickson formerly worked in the Little Bonanza, which is west of the Tanzy. The lease just completed provides for payment of 20-per cent royalty.

The Central Eureka Mining Company, James Spiers, superintendent, Sutter Creek, California, has declared a dividend of 6 cents per share on both preferred and common stocks, payable August 15 to stockholders of record August 1. C. C. Prior, 2012 Hunter-Dulin Building, San Francisco, California, is president of the company.

Ray Montgomery and his brother are developing the American Flag mining claims above Camptonville, California.

The Golden Star Mining Company, A. S. Highstone, general partner, Box 27, Needles, California, has resumed operation of its 50-ton Gibson mill following an extended shutdown for major repairs to the plant. Milling operations are to be on a 24-hour basis shortly. Several thousand tons of ore on the dump will be milled while underground workings are being put in shape for quantity production. The company is operating the Prosperity and the Golden Star groups, located north of Vidal, California.

The plant of the Amador Metals Reduction Company, V. R. Fitzsimmons, superintendent, Jackson, California, suspended operations July 31. The plant, which is located on the property of the Argonaut Mining Company, will be dismantled and most of the equipment will be moved to allow the mining firm to use the site for storage of mill tailings. All of the equipment except the engineering, assay, and metallurgical offices, and two residences, will be moved and stored at the Delta Tailings Plant in Jackson Valley. No definite plans for future activities of the company have been announced. The cyanide plant was erected 22 years ago by the late W. E. Darrow and associates of Jackson, and was sold in 1923 to Hamilton, Beauchamp and Woodworth, 564 Market Street, San Francisco.

Two shifts are handling 700 yards of gravel in 24 hours at the property of the R. and M. Mining Company, two miles north of Plymouth, California. The company is headed by E. Robertson of Oroville, California, and A. T. Merian, Plymouth. The latter is superintendent at the property.

The Franklyn Baldwin property near Mountain Ranch, California, is reported to have been sold to an Oakland, California, group, which has started work under the management of E. E. Cunch. The property is reputed to be one of the largest open cut projects in Calaveras County, and a 1½-yard gas shovel is used in working it. A 140-foot shaft is sunk on what is believed to be a continuation of the famous Sheep Ranch vein and it is planned to continue sinking to the 1,200 or 1,600-foot level.

Construction of the new 150-ton ball mill at the Standart mine of the Indian Valley Mining Company, Greenville, Cali-

AVERAGE PRICES OF METALS
(Figures by American Metal Market)

	Copper Per Lb. Conn. Valley	Lead Per Lb. New York	Zinc Per Lb. St. Louis	Silver Per Oz. New York
1924	13.024	8.097	6.244	66.781
1925	14.042	9.020	7.822	69.066
1926	13.795	8.417	7.387	62.107
1927	12.920	6.755	6.242	56.370
1928	14.570	6.305	6.027	58.176
1929	18.107	6.833	6.512	52.993
1930	12.982	5.517	4.566	38.154
1931	8.369	4.244	3.638	23.701
1932	5.792	3.181	2.881	27.892
1933	7.276	3.370	4.031	34.728
1934	8.658	3.8595	4.162	47.978
1935	8.880	4.0643	4.331	64.273
1936	9.710	4.7091	4.903	45.038
1937	13.391	6.0085	6.517	44.805
1936				
Jan.	9.250	4.500	4.850	47.250
Feb.	9.250	4.5152	4.861	44.750
Mar.	9.250	4.600	4.900	44.750
Apr.	9.400	4.600	4.900	44.900
May	9.500	4.600	4.900	44.869
June	9.500	4.600	4.883	44.750
July	9.596	4.600	4.787	44.750
Aug.	9.750	4.600	4.801	44.750
Sept.	9.750	4.600	4.850	44.750
Oct.	9.846	4.6308	4.850	44.750
Nov.	10.432	5.1136	4.933	45.431
Dec.	10.995	5.55	5.277	45.352
Ave. 1936	9.710	4.7091	4.903	45.038
1937				
Jan.	12.660	6.00	5.86	44.912
Feb.	13.60	6.2356	6.435	44.75
Mar.	15.990	7.1889	7.377	45.130
Apr.	15.346	6.175	6.989	45.450
May	14.00	6.00	6.75	45.025
June	14.00	6.00	6.75	44.818
July	14.00	6.00	6.920	44.750
Aug.	14.00	6.4519	7.205	44.75
Sept.	13.780	6.400	7.179	44.75
Oct.	12.060	5.740	6.087	44.75
Nov.	11.022	5.0326	5.832	44.75
Dec.	10.236	4.875	5.011	43.810
Ave. 1937	13.391	6.0085	6.517	44.805
1938				
Jan.	10.425	4.870	5.00	44.714
Feb.	10.00	4.6318	4.816	44.75
Mar.	10.00	4.50	4.418	44.446
Apr.	10.00	4.50	4.155	42.75
May	9.60	4.40	4.043	42.75
June	9.00	4.1481	4.143	42.75
July	9.810	4.882	4.75	42.75

ifornia, is progressing and the plant is expected to go into operation before the end of August. According to C. L. Hibbard, president, 1210 Western Avenue, Seattle, Washington, the company has developed a large tonnage of commercial low-grade ore in addition to a considerable tonnage of mill-grade ore. G. L. Johnson is superintendent at the property.

The shaft at the Spring Hill mine, Grass Valley, California, has been sunk 400 feet during the past year, under the direction of C. C. Cushwa, manager. During that time a considerable amount of development work was also accomplished, which centered principally in drifting operations to the eastward. Operation of the 100-ton mill is expected to be resumed shortly.

The Jacobsen mine, located in Quartz Valley near Yreka, Siskiyou County, California, has resumed operations following a brief shutdown for mill repairs.

A new road is being built from the Keystone mine of the Keystone Mine Syndicate, Amador City, California, to the Medean tunnel, and as soon as the road is completed, it is planned to start the work of reopening the Medean shaft to the 600-foot level. T. S. O'Brien is superintendent.

The report of the Carson Hill Gold Mining Corporation, 206 Sansome Street, San Francisco, California, for the quarter ended June 30, 1938, shows an operating income of \$50,532 before provision for depreciation, depletion, etc. This compares with operating income of \$36,969 in the March quarter of this year and \$31,997 in the fourth quarter of 1937. The company operates properties at Melones, California, and John A. Burgess is general superintendent.

P. J. McLaughlin is directing reopening of the Porphyry mine, located northwest of Gold Run, California. Development is being carried on by open pit methods. Seven men are employed.

A. Zugnoni, P. Moscatelli, and P. Falconi have taken a lease on the Queen Lil mine, Nevada City, California, and are preparing to reopen the property, which has been inactive for some time. The mine is owned by the Buffington interests and was last worked by the West Mines Corporation.

Drifting is under way on the 220-foot level of the Mt. Vernon mine, Nevada City, California, to contact the Sweet ledge. The old shaft, which is in the Kirkham ledge, is down more than 400 feet. Thomas Brown is directing operations, which are on a co-operative basis. Twelve men are employed.

The Reliance group of claims, located near Graniteville, California, has been leased to Joe and Will Bell and Robert Smith by the Reliance Placer and Quartz Mining Company, Mrs. Kitty B. Kimball, president, Nevada City, California. The essees are engaged in drifting and timbering in the ancient channel and are reported to have encountered another promising ledge.

Ashford Brothers, Shoshone, California, operating the Golden Treasure mine on the outeast side of Death Valley, recently

made a 38-ton shipment which is said to have given very satisfactory returns.

The Peckham Hill Gold Mines, Inc., C. L. Rowe, mine superintendent, Box 997, Auburn, California, is completing a 40-foot raise from the main tunnel to gravel on bedrock at its property located near Foresthill, California. The drainage and main haulage tunnel, seven by seven feet, extends through bedrock for a distance of 2,650 feet. The raise is at the 2,600-foot station. It is planned to extend the tunnel another 800 feet to a gravel area penetrated by a shaft 214 feet deep. Raises for exploration purposes will be driven every 200 feet. The property is being op-

erated under lease from the Mayflower Gravel and Mining Company.

The St. Lawrence Mining Company, operating the Minnie Reeves placer property near Happy Camp, California, is handling 3,000 cubic yards of gravel per day, using tractors, scrapers, and carryalls. The material is washed in a 14-yard steel hopper, followed by a 60-foot steel flume with riffles and a trap for recovery of the gold. Tailings are stacked by a hydraulic monitor and waste water is sent through four settling tanks. The plant is mounted on skids to facilitate moving. Average depth of the deposit ranges from 10 to 16 feet with about six feet of overburden. The

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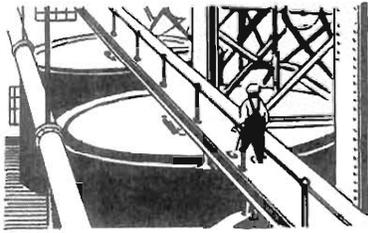
gravel is reported to be carrying fairly high gold values and a close extraction is obtained. George I. Fenton is general manager and H. E. Coleman is mine foreman.

Proposed large-scale operation of gold mining claims of the **Hayden Hill Gold Corporation**, Adin, California, will depend on the development of a satisfactory water supply by W. J. Stratton, Symons Building, Spokane, Washington, and associates, owners of the property. Projects under consideration include the pumping of water from Eagle lake and piping it 25 miles to Hayden Hill, where a large dam would be built to impound water in Slater Creek Canyon. F. H. Brown is superintendent at Adin.

The new dredge of the **Tuolumne Gold Dredging Corporation**, A. D. Hughes, manager, La Grange, California, has been completed and placed in operation about two miles south of La Grange. The company owns and controls approximately 2,500 acres of dredging ground along the ancient Tuolumne River channel. The new boat is electrically operated and air controlled, and is said to be the first dredge in the United States using 11,000 volts on the shore cable to the boat. It was designed and built by Walter W. Johnson of San Francisco and is the fifty-seventh turned out by the Johnson organization.

The **Desert Gold and Aluminum Corporation**, S. C. Hedrick, president, Arcade Building, Seattle, Washington, has recently completed the installation of a pump and a power unit at its property in the Chocolate Mountains of Imperial County, California. A test run of the pump for a 24-hour period is said to have been highly satisfactory. New equipment delivered approximately 200 gallons per minute for the entire period with no perceptible lowering of the water level in the well. Bunk and mess houses have been completed, as well as storage tanks for surplus water and a reservoir in an adjacent canyon, which was made by construction of a concrete dam in the lower end. A test washing machine has been installed and will be placed in operation at once. Operations are directed by Paul B. Lowe, Box 510, Yuma, Arizona.

Fifteen men have returned to work for the **Atolia Mining Company**, Atolia, Cali-



fornia, to fill an order for another carload of tungsten concentrates which is due to go out in August. The men will work the company's mines, especially shaft No. 1, from which the bulk of the shipment will be taken. The company has extended the power line to the No. 3 mine, which is on the lease recently purchased from Williams and Casu. It is planned to install a hoist preparatory to further sinking of the shaft. Ed Smoot, manager of the L. C. Main lease, is now working two shifts. Ralston Brothers have a short lease on the near surface workings of the Amity lease. A company crew is engaged in installing pumps at the Amity for the purpose of dewatering the lower levels in order that a connection can be made with the Union lease. The Atolia mill has been shut down for some time but the mill crew has been engaged in making repairs and it is planned to resume operations soon in order to prepare the August shipment of concentrate. David D. Baker is superintendent of the company.

The **Goldfields Consolidated Mines Exploration Company**, E. A. Julian, president, 421 Crocker First National Bank Building, San Francisco, is engaged in testing work on property located in the North San Juan district on which the company secured an option two years ago. The property is owned by the San Juan Gold Mining Company and the Esperance Mining Company. No development program has as yet been worked out. The property lies behind the Upper Narrows debris dam, construction of which is scheduled to start this summer. Ross F. Taylor, Downieville, California, is directing the testing work.

The **E. L. Lilly Company**, Ernest L. Lilly, operator, 1844 Carmel Avenue, Stockton, California, is washing approximately 1,300 yards of gravel in eight hours at its property located in the Jenny Lind district near Wallace, California. A Bodin-

son dragline dredge is being used and a crew of 12 men is employed.

H. Victor Burgard, consulting engineer, Box 223, Sonora, California, is engaged in directing extensive property examinations for the **Micro-Metals, Inc.**, which owns patents for recovery of precious metal values from talcose and other refractory ores. Four large tonnage deposits are under consideration for plant operations in Arizona, California, Nevada, and Oregon.

Development work has been under way for the past year at the Greystone mine, near Washington, California, which is being operated by the **Greystone Gold Mines Company**, E. W. Cardinal, president, 214 Railway Exchange Building, Portland, Oregon. One and one-quarter miles of road have been completed which will make the mine accessible the year round by truck and automobile. Up to the present the property has been accessible only by trail. It is planned to start work this month on a drift to contact ores exposed by a shaft sunk in earlier operations. Additional equipment is to be installed early this fall. Work at the property is directed by F. W. Twiford, general manager, Washington, California. E. C. Uren, Nevada City, California, is consulting engineer.

Two shifts are employed at the property of the **Bear River Mining Company**, Wheatland, California, and approximately 450 yards of gravel per day are being handled. Operations are directed by Ed R. Winn, 2612 Q Street, Sacramento, California, who has recently returned from a trip to Chicago. The company, which was formerly known as the Camp Far West, is using a power shovel to handle the gravel.

The **Tungsten Corporation of California**, R. P. Johnson, president and general manager, 811 West Seventh Street, Los Angeles, is treating approximately 100 tons of tungsten ore per day in its 150-ton gravity concentration plant at the Black Rock mine, Bishop, California. New equipment was recently installed to bring the plant's capacity up to 150 tons per day. Approximately 50,000 tons of ore have been blocked out and development work in the mine is continuing. Miscellaneous construction and continued mill improvement are included in the company's plans. A crew of 30 men is employed under the direction of C. S. McCausland, general superintendent,

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Bishop. Other operating officials include H. Loeffel, mine superintendent; E. Wilson, assistant mine superintendent; C. D. Carnett, chief electrician, all of Bishop. W. R. Hees, Jr., with headquarters at the Los Angeles office, is assistant general manager and purchasing agent.

The Morning Star Keeler Milling Company, Lawson Linde, general manager, Keeler, California, is treating approximately 25 tons of gold-silver ore daily in its 50-ton, all-slime cyanide plant. A drift is to be run approximately 380 feet to the east to cut a vein which outcrops on the surface. W. D'Arcy Irvine is mill superintendent, and Ollie Goodwin is purchasing agent. A crew of 20 men is employed. Dr. William L. Denton, Trona, California, is president of the company.

Isham and Isham, geophysical engineers, 230 Redwood Avenue, North Sacramento, California, have been engaged to make a complete geophysical survey of the San Francisco mine, located on the Forest Hill Divide near Foresthill, California. Robert F. "Pat" Oliphant, 4300 Anza Street, San Francisco, California, and associates have leased the property, which has lain idle since the 60's when it was first operated by Oliphant's grandfather. A small crew of men has been working at the mine under the direction of Alfred Erickson, superintendent, Foresthill, and the old tunnel has been opened up. Preparations are being made to install a washing plant, buildings, and equipment.

C. P. Croft of Placerville, California, and Leal Garner, Robbins, California, are engaged in developing their Brown Hill mine in Plumas County. Machinery is on the ground and the hoist is being prepared for further shaft sinking. The shaft is down more than 20 feet with excellent values reported. Croft is making his headquarters at the mine and is addressed in care of the Cascade Ranger Station, Feather Falls, California.

Hal Draper, Cole Nawman, and Ted Janiss, all of Nevada City, are associated in a project for the installation of a gravel plant on property 12 miles south of Grass Valley on Wolf Creek. The first unit, consisting of a three-quarter-yard dragline, has been installed. It is estimated that the plant will handle 900 yards of gravel per day. The company plans to treat the old tailings from Grass Valley quartz mines which have poured into Wolf Creek for many years, in addition to handling the gravel on its one and one-half mile long property on the creek.

The Empire Zinc Company has transferred its holdings in Colorado to the Empire Zinc Division, New Jersey Zinc Company. The Empire Zinc Company will continue to operate the properties in New Mexico. Raymond L. Jones, Canyon City, Colorado, is superintendent at the property and head offices of New Jersey Zinc are at 160 Front Street, New York City. J. E. Hayes is president.

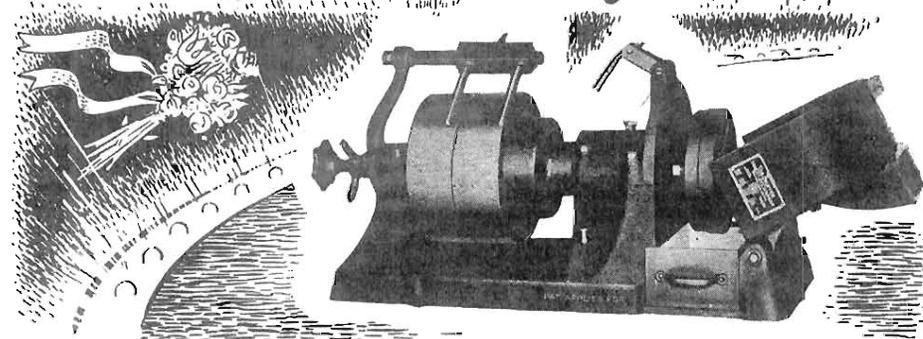
Development work is being pushed at the Jessie K. Folsom mine, 11 miles north of

Del Norte, Rio Grande County, Colorado, and plans are being made for the installation of a 50-ton mill as soon as the necessary tonnage of ore can be provided. Pumping has been resumed to drain the 275-foot shaft, and, as soon as this is completed, sinking will be started to gain an additional 200 feet of depth. It is believed that promising mill ore can be stoped from the lower levels of the property. Workings are now in the oxide zone and it is estimated that the sulphide zone will not be reached until a depth of 500 feet has been attained. Power is provided by a narrow-gauge locomotive boiler which operates a compressor, Cameron pump, and steam hoist. Joe O'Brien, Box 434, Del Norte, is superintendent.

The Triple T Mining Company is reported to have leased the Hoffman and Jefferson mines on Crooked Gulch near Crestone, Colorado. Development work is getting under way on a large body of copper bearing ore. The company has been considering the erection of a 100-ton milling plant, using hydroelectric power with supplementary Diesel equipment. E. L. Knickerbocker of Crestone is superintendent.

D. W. Schmitt, Box 470, Boulder, Colorado and F. A. Plummer of Boulder are progressing rapidly in the reconstruction of the Tungsten Sampling and Refining Company plant. The plant reduces low-grade concentrates and crude tungsten ores to the market product, tungsten powder, and also yields a considerable amount of tung-

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EXTENSIVE DEVELOPMENT OF FORBESTOWN MINES PLANNED

A LARGE program of exploration and development at the Gold Bank and Shakespeare properties of the Idaho Mary- and Mines Corporation in the Forbestown, California, district is to start immediately. Albert Crase, general manager of the corporation, Grass Valley, will directly supervise the operation. The position of manager of Forbestown operations, formerly held by H. F. Lynn, has been abolished.

Fred W. Denton, Jr., of the Grass Valley staff has been transferred to Forbestown as general superintendent, replacing M. Ehrhorn, and Joseph R. Paxton, mill operator at the Forbestown plant since its construction in the fall of 1936, has been appointed mill superintendent, a position formerly held by John Palecek.

The Forbestown 300-ton flotation mill treated 8,000 tons of ore during July. An average crew of 123 men was employed during the month.

MAGMA COPPER COMPANY ISSUES SIX-MONTH REPORT

THE MAGMA COPPER COMPANY, William Koerner, general manager, Superior, Arizona, reports a total net income, after deducting estimated federal normal income tax, of \$283,605 for the six months ended June 30, 1938.

During that period the company produced 19,143,396 pounds of copper at an average net production cost of 8.03 cents per pound. The average cost is taken after deducting gold and silver values and includes all operating costs, Arizona taxes, federal social security taxes, depreciation, and administrative expenses, but does not include any allowance for mine depletion, capital stock tax, or federal income tax.

The average net selling price per pound was 9.352 cents. The usual summer shut-down began July 2, 1938, and continued for approximately one month.

CONTRACTS TO BE LET SOON FOR TREASURE MOUNTAIN

PLANS ARE rapidly materializing for the erection of Treasure Mountain in the Hall of the Mineral Empire in an undertaking to give the mineral industry "the greatest exhibit ever planned." Mining Exhibits, Inc., the non-profit corporation chartered to undertake the mineral industry exhibit at the Golden Gate International Exposition in San Francisco, has recently entered into a contract with the California Commission for the exposition that will result in the acquisition of \$100,000 worth of space in the Hall of the Mineral Empire. The state of California will make an expenditure of \$170,000 to build Treasure Mountain.

The most important features of the contract include: the provision of a fund of \$100,000 by Mining Exhibits, Inc., to be spent in conjunction with the state commission, for the creation and administration of an adequate exhibit; the authority to proceed with architectural work and to let contracts for the building of the mountain and installation of the exhibit; and

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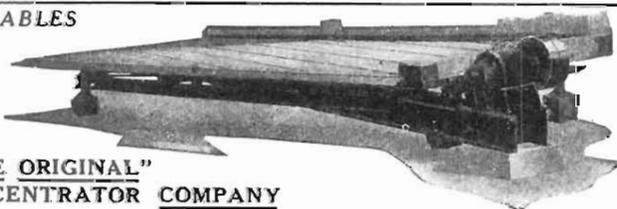
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an analysis of taxation. Slated for discussion at this session are "Federal Fiscal Policies," by Ellsworth C. Alvord, counsel, American Mining Congress, Washington, D. C.; "The Revenue Act of 1938," by Granville S. Borden, tax counsel, San Francisco; and "The Canadian System of Mine Taxation" and "Prospective Revenue Legislation" by speakers to be announced.

On Thursday afternoon, at the last session, probably the most important of all problems will be taken up, that of labor. "The Labor Views of this Country and Europe" will be criticized and compared by Senator Edward R. Burke of Nebraska, and he is to be followed by C. H. Ching, director of personnel relations for the United States Rubber Company, whose subject will be "Industrial Relations Today." An explanation of the federal wages-and-hours law and its application to mining will be presented by a representative of the Wage-Hour Division of the United States Department of Labor. After this address, the resolutions committee will report and the session will be brought to a close.

BESIDES the comprehensive list of papers that are to be presented, there will be plenty of entertainment at the convention and exposition in Los Angeles. The entertainment features are being worked up by the committee on arrangements, headed by Robert Linton, consulting engineer of Los Angeles.

At Monday's luncheon, with Harvey S. Mudd presiding, the delegates will be welcomed to California and presented with the key to Los Angeles in true California style by Frank F. Merriam, governor of the state, and Frank Shaw, mayor of the city. Responses will be made by Howard L. Young, president of the American Mining Congress; Stanly Easton, chairman of the western division; Thomas H. O'Brien, chairman of the program committee; and Roy A. Cox, chairman of the manufacturers' division.

A big get-together will be held Monday night at the Palomar with dinner, dancing, and special entertainment. On Tuesday night, there will be featured entertainment at Olvera Street, famous for its old Spanish atmosphere, typical of the early days of California.

The annual banquet is to be held on Thursday evening at the Coconut Grove of the Ambassador Hotel. The address will be delivered by Cornelius F. Kelsey, president of the Anaconda Copper Mining Company, and plenty of food and a big time are promised for all.

On Friday and Saturday excursions will be made to points of interest in southern California and a trip to the famous Golden Horn mine at Mojave, California, is planned.

Adding interest to the talks by noted industrialists, public leaders, and operating men, will be a machinery exposition displaying the latest and most efficient means of mining the nation's metallic and non-metallic wealth. A large number of nationally known manufacturers will participate with exhibits of new and improved machinery, equipment, and supplies for use in modern metal mining.

These expositions have been growing in size and importance and have become one of the major drawing cards for mining men at the conventions. The various mining states will also present special exhibits demonstrating the economic importance of the minerals produced within their respective boundaries. The exposition will be held in the Ambassador Hotel in conjunction with the convention sessions.

TROPICO MINE HAS RECORD OF FORTY YEARS' OPERATION

BURTON BROTHERS, operators of the Tropic mine at Rosamond, California, paid a bonus to their employes in July. The mine has been in constant operation for the past 40 years and the mine and mill have been owned by Clifford and Cecil Burton since 1910.

The property is now opened by approximately four miles of tunnels, which tap three veins on the north and one on the south side of Tropic Hill. The claims included in the property are the Tropic, Kid, Fairview, and Lila. In 1906 a roll mill was installed, which was operated for many years. Eventually, however, the ore became too hard and a stamp mill was built.

At present the plant consists of three ball mills, a cyanide plant, compressors, machine shop, and other necessary equipment, all of which is strictly modern. The plant handles custom ore from a wide area, the longest haul being one of 250 miles.

Mining operations are directed by A. H. Johnson, mine foreman, who has held that position for the past seven years, while the mill is operated under the direction of L. Loomis, mill foreman.

HOWE SOUND ISSUES QUARTERLY REPORT

HOWE SOUND COMPANY, William J. Quigly, president, 730 Fifth Avenue, New York City, reports for the six-month period ended June 30, 1938, a net profit of \$918,170 after federal income taxes and depreciation but before depletion. Net profit for the quarter ended June 30 was \$422,297.

During the June quarter the company sold the following metals: 9,948 ounces gold; 1,151,006 ounces silver; 9,264,516 pounds copper; and 30,953,051 pounds lead. Due to unfavorable metal prices the entire production of zinc concentrates and a part of copper production for the quarter are held in storage and are not included in income.

A sharp rise in the company's gold production, coming from its Chelan property in Washington, was an aid in maintaining the earnings for the second period. The gold output of 9,948 ounces during the second quarter compares with 3,120 ounces in the first three months, the increase coming from the Chelan mine. Early in 1937 the company began an extensive development program at its Washington property which cost in the neighborhood of \$2,000,000.

Silver production in the second quarter rose to 1,151,006 ounces, as compared with an output of 1,009,551 ounces in the first quarter.



An example of the ingenuity employed in the old days following the gold strike at Gilpin, Colorado, has been brought to light through a perusal of the old records of Gilpin County.

One of the large wagon trains that went to Colorado following the strike hauled from Georgia. Now Georgia miners have always had a reputation for efficiency, particularly so when it came to the construction of their wagons which could always be depended upon for transportation over mountain and desert country. These Georgians were also shrewd in their dealings with the smelters and buyers of ore, but in Gilpin County they ran into something new.

The smelters were on the cash-and-carry system, but the one piece of equipment that was lacking was a suitable set of scales for weighing ore by the ton. It was a case of sheer guess-work or, if the miner was mighty particular, he could dump his ore into 50-pound sacks and let it go at that. If the smelter's guess was right the miner received full value; if he chose to argue about the prices, he was soon informed that the nearest smelter was located at Dodge City, Kansas, a trek that would be poor business for any mine in Colorado. As a result it was usually agreed that the prices were right.

This agreement roused the ire of the men from Georgia. They realized only too well that the ore buyers really had a "racket." One bright night a meeting was called to determine ways and means of overcoming these high-handed methods. Far into the night they argued, until the suggestion was made by one of the Georgia grey-beards that they use the freight wagons that brought them to the mines. He compared the Georgia wagons to others in the camp, but the particular feature which stood out above the rest was the standard capacity of the bed. Exactly one cord could be placed in it, be it a cord of wood or a cord of apples. It was all the same to these pioneers!

The news of this decision soon spread through the camp, and the operators of the smelter, rather than run into difficulties with the entire camp, agreed to the proposition. So for many years thereafter ore was bought and sold by the CORD throughout the district that surrounds Gilpin. Even today the expression is frequently heard, "How much a cord is it worth?"

When present-day methods are compared with those of the old days, one realizes the vast difference in the handling of ore. It is commonplace to see whole carloads handled with comparative ease and speed at some of the larger smelters. When distance prevents shipping profitably by railroad, huge trucks carry the ore to civilization. Some mines, particularly gold mines, even employ airplanes to transport their concentrates and bullion.

Central Eureka's New Tailings Plant

THE results of the first month's operation of the new 150-ton flotation and cyanide plant of the Central Eureka Mining Company at Sutter Creek, California, indicate that the installation has been most successful. The unit has been reported by company officials to have made a recovery several per cent higher than that indicated by tests and to have shown costs per ton less than originally calculated.

The new plant was erected to treat the tailings of the 40-stamp mill, which has been in operation for more than 40 years, and the sulphide concentrates from the Frue vanners, which were formerly cyanided under contract. About 85 per cent of the gold recovered by the stamp mill is amalgamated in the batteries and on plates, the remaining 15 per cent being contained in the pyrite concentrates. About 150 tons of ore are normally run through this mill daily.

When the values in the ore mined showed a substantial increase, it was decided to investigate the possibility of salvaging some of the gold lost in the tailings and thus increase the recovery. James Spiers, superintendent of the Central Eureka property at Sutter Creek, California, submitted tailings samples to several metallurgical plants for investigation and the results of these tests were so successful that immediate construction of the new plant was undertaken.

That an important percentage of the gold in the ore was not recovered by the stamp mill was indicated by the company's report of 1937 operations. The 36,264 tons of ore milled that year had an average assay value of \$19.84 per ton while recovery amounted to only \$17.99 per ton, the remaining \$1.85 having constituted a tailings loss.

THE Central Eureka Mining Company comprises a group of adjoining mines in Amador County, California, near Sutter Creek. The Central Eureka mine, formerly known as the Summit, and the Old Eureka mine, which is also known as the Hayward Quartz mine, are the principal mines of the consolidated group. The group is situated in the main Mother Lode belt and is one of the three largest producing properties in the entire belt at the present time. The other two are the

*Elk Grove, California

Note: The author wishes to give credit to United States Bureau of Mines Information Circular 6512 by James Spiers, superintendent of the Central Eureka Mining Company, for valuable information on the history and description of the property. The circular, published in October, 1931, is entitled "Mining Methods and Costs at the Central Eureka Mine, Amador County, California."

Construction of the new 150-ton tailings and concentrate treatment plant at the Central Eureka mine was completed in less than schedule time and the results obtained have exceeded expectations. Ground was broken March 25, 1938, the initial test run made May 28, and official operation began June 1. Operations have continued since then without interruption.

Argonaut and the Kennedy. All three mines lie within a radius of less than 1½ miles.

The total production of the Central Eureka Mining Company from 1896 to the present time has been better than \$10,000,000. The Summit mine was located in 1855, but work there was erratic until it was acquired by the Central Eureka Mining Company in 1893. Since then operations have been continuous with the exception of minor shutdowns. Central Eureka purchased the Hayward Quartz mine in 1924 and by doing so avoided possible expensive litigation. This mine was first opened in 1852 and during the next 34 years it produced about \$16,000,000. The property was shut down in 1886 and, al-

though a considerable amount of development was done about the time of the World War, it remained idle until it was taken over by Central Eureka. The ore body being mined at present was discovered about three years ago.

RICHARD KREBS, company metallurgist, designed and supervised construction of Central Eureka's new concentrate and tailings treatment plant and all work was done by company employes, with the exception of building the steel tanks which were supplied and erected by the Miners Foundry and Supply Company of Nevada City. The plant is exceptionally clean in appearance, is well lighted and ventilated, and is rated among the finest of its kind in the country.

Stamp mill tailings flow by gravity to the mill where they go into six Fagergren flotation machines. The flotation tailings flow to a Wemco classifier for separation of the sand and slimes, the slimes being pumped to the waste dump while the sand goes to five cyanide leaching tanks.

The net leaching cycle is approximately three days, one day being required for filling, 16 hours for draining, and eight hours for emptying. The latter is accomplished by means of a Butters-type distributor through side discharge doors. Sand tails are pumped to the old stamp mill flume for disposal.

After thickening, the flotation concentrates join the discharge of the pebble mill which is pumped to four Deveraux-type



The new tailings cyanide plant of the Central Eureka Mining Company

agitators in series. The overflow of the first agitator goes to a Dorr bowl classifier from which the oversize is returned to the pebble mill for regrind. The overflow of the classifier, at approximately 2 per cent plus 325 mesh, is pumped to number one thickener.

The overflow of the number one thickener goes to a Merrill-Crowe precipitation plant while the underflow is washed with stock solution and flows to number two thickener. The overflow of the second thickener supplies the entire solution for density control of the bowl classifier; the underflow goes to an Oliver filter which saves the final concentrate residue.

Approximately 2½ tons of vanner concentrates per day are wheeled into the plant and fed automatically to the pebble mill, at which point they combine with the flotation concentrate (one ton per day) and follow the same circuit described above.

THE salient points of interest where there are deviations from standard practice, or where recent developments in metallurgical research have been incorporated in the installation, include the following:

1. The use of a new flotation reagent, developed by American Cyanamid Company, for cyanidation of flotation concentrates.
2. The flotation of a 24-mesh sand product in a dilute pulp of approximately 11 per cent solids.
3. The leaching of a sand product after flotation has removed the coarse sulphides that are not readily amenable to cyanidation. This greatly reduces tailings loss.
4. The removal of the finished concentrate from all six cells, which reduces the flotation tailings more than 50 per cent, and also the removal of the coarse mid-range grains which would raise the leaching

tailings. This method is reported as having no detrimental effect on concentrate cyanidation.

5. The use of a system of alarm lights and bells which makes it possible for the plant to be operated by one person.

The Central Eureka Mining Company is headed by C. C. Prior, president, 2012 Hunter-Dulin Building, San Francisco; James Spiers, superintendent at Sutter Creek; and Ira B. Joralemon, consulting geologist of San Francisco.

NLRB TO HEAR LAVA CAP REQUEST FOR NEW ELECTION

MRS. ALICE ROSSETER, regional director of the National Labor Relations Board at San Francisco, has advised Otto Schiffner, general manager of the Lava Cap Gold Mining Company, Nevada City, California, that a hearing will be held very shortly to determine whether a majority of the Lava Cap miners desire to vote on the question of whether or not the C. I. O. affiliate will continue as bargaining agency, or be superseded by the Mine Workers Protective League, or an independent group.

A petition, signed by 96 men, was presented to Mrs. Rosseter recently requesting that a vote be held at the mine, but the local affiliate of the C. I. O. opposed the calling of the election, maintaining that the majority of the employees were still C. I. O. members and did not desire it.

At present the C. I. O. affiliate is the bargaining agency for the mine and recently submitted a new contract for approval, the old one expiring August 1. Action on the new contract has been delayed, however, pending a decision on the election, and, according to Schiffner, the old contract will continue in effect until the matter is settled.

It is understood that Mrs. Rosseter is willing to submit the question to a vote but holds that there should be a reasonable assurance that the majority of the employees desire a vote before calling an election. Approximately 280 men are employed.

SEVERANCE TAX WILL BE OPPOSED BY GOV. MERRIAM

THE statement of Governor Merriam of California that there would be no new taxes in the next legislature and that he would continue to oppose a severance tax is reassuring to the entire mining industry, according to Philip R. Bradley, president of Alaska Juneau Gold Mining Company.

"Governor Merriam has always opposed a severance tax," said Bradley. "His pledge that he will continue his opposition to this ill-considered proposal, fraught with such danger to the industry, will be reassuring to mining men everywhere and will encourage new capital to invest in mines. That, in turn, means more men at work and increased prosperity for the state.

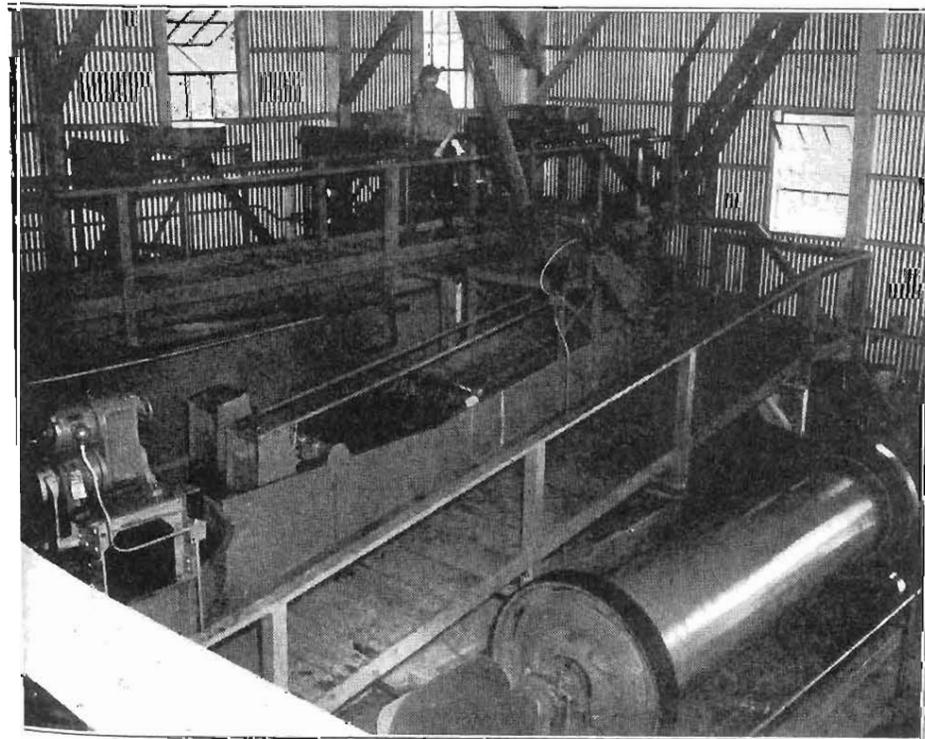
"A severance tax, collected on products of the soil after they have been recovered from the ground, would be ruinous to mining and injurious to agriculture," Bradley continued. "The farmer has a chance to recover the tax by increasing the price of his product to the consumer, provided, always that the price remains within the range that the consumer can afford to pay. The man mining for gold or silver, on the other hand, has only one customer, Uncle Sam, and the price is fixed by the government, so that the tax would have to come out of his pocket.

"While the present price of gold has increased the value of gold production by 75 per cent, it should be understood that this does not represent a 75 per cent profit to mining. It has prolonged the life of non-marginal properties which can now work on low-grade ore. Many marginal properties, which formerly remained closed, are now able to work on low-grade ores and show a small profit where such operation was impossible under the old conditions. A severance tax would wipe out this narrow margin and force a shutdown of hundreds of properties which now give work to thousands of miners."

STRIKE THREAT FACES CANAÑA CONSOLIDATED

OPERATIONS of the Cananea Consolidated Copper Company at Cananea, Sonora, Mexico, are being threatened by labor troubles. Following a visit to the property by Roman Yucopicio, governor of Sonora, recently, the unions representing the 1,200 workers have notified the governor that the contemplated strike has been deferred pending an effort at arbitration.

The difficulties have arisen over the negotiation of a new labor contract. The company's offer of additional benefits over the contract in effect at the present time, and a considerable wage increase, has not been accepted by the workers, whose demands reportedly are exorbitant and if granted would allow ruinous interference in the management. Albert Mendelsohn is manager.



Interior view of Central Eureka's new tailings plant

A sheriff's sale of Bradshaw Mines, Inc., set for August 3, was held up by a restraining order issued by Federal Judge Albert M. Sames of the United States District Court. A petition was filed by the company in federal court last year seeking reorganization under section 77b of the federal bankruptcy act. M. R. Smith, 901 Pioneer Trust Building, Kansas City, Missouri, is president of the company.

Mining operations are expected to get under way in the near future at Sulphide del Rey in the Pinal Mountains by the Kromo Sol Mining Company, Lester L. Boggs, general manager, Box 247, Globe, Arizona. The company has acquired a number of claims in the Pinal Mountains where it plans to mine tungsten ores. A milling plant is proposed. Kromo Sol also has mining properties at Crown Point in Yavapai County. Howard H. Hall, 648 North Crescent Heights Boulevard, Los Angeles, California, is president and Arthur K. Anderson, 1259 West Seventy-first Street, Los Angeles, is secretary and treasurer.

The apex suit in which L. B. White and M. T. Haywood, Yavapai County mine property owners, sought damages totaling \$405,000 from the American Smelting and Refining Company and the Arizona Eastern Gold Mines Company is reported to have been settled out of court for the sum of \$6,500. White and Haywood charged that tunnels had been driven into their Dad No. 1 and Last Chance claims by the defendants in conducting operations at the Octave group of the Arizona Eastern company, and that ore had been illegally removed. B. R. Hatcher, Box 2028, Tucson, Arizona, is manager of the southwest mining department of the American Smelting and Refining Company.

The M. A. Hanna Company reported a net profit of \$163,038 for the quarter ended June 30, 1938, after interest, depreciation, and federal income taxes. This compares with a net of \$896,419 in the June quarter of a year ago. For the first six months of this year, M. A. Hanna reported a net profit of \$220,600 against \$1,390,433 in the first half of 1937. The main office of the company is at 1300 Leader Building, Cleveland, Ohio. G. M. Humphrey is president.

Metallic Mines, operating the Longfellow mine at Big Oak Flat, California, expects to start treating a little better than 100



tons of ore daily in the near future. The mill is now being conditioned for operation and cyaniding equipment is being added for treating the concentrates. It is equipped with 10 stamps, a ball mill and classifier, a jig and six flotation cells, and the equipment is being synchronized under the supervision of A. E. Vandercook of Sacramento, California. A. L. Blair, 8 West Weber Avenue, Stockton, is president of Metallic Mines.

Operations have been discontinued at the Mountain Boy mine, La Porte, California, and the equipment is being dismantled. W. R. Coleridge Beadon of London, England, who, with associates, has been developing the property for the past several months, is reported to be examining other properties in the district. It is said that development at the Mountain Boy did not meet with expectations and it has been decided to transfer activities to some other property.

Paul McNutt of San Andreas, California, is engaged in cleaning out the 50-foot shaft at the Rockefeller mine, located near Shingle Springs, California, and it is reported that various groups have indicated an interest in the property. The mine is north of the Fort Yuma and south of the Crystal mine, and has been owned by the John T. McNutt family of San Andreas for half a century.

Jeremiah Platz of Marysville, California, reports that he is developing a large body of molybdenum at the Fern Leaf mine in the Slate Range district near Camptonville, California. The ledge has been opened for a width of 65 feet so far with four feet of high-grade ore exposed. The property is located about three-quarters of a mile from a paved highway.

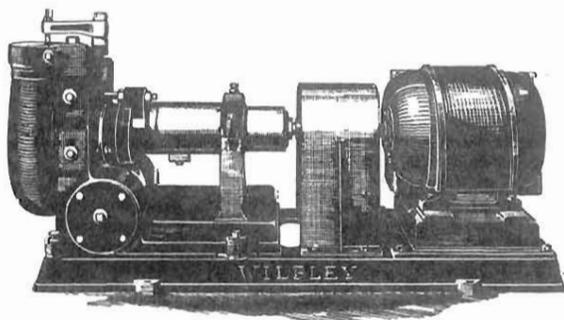
A substantial interest in the "Believe It or Not" mine, five miles south of Susanville, California, is reported to have been acquired by C. C. Snell of Tacoma, Washington, and R. L. Chester of Sacramento,

California. The mine is being developed by John Holmes, 117 McDow Street, Susanville, and J. W. Bates. Ground is being cleared for a reservoir to impound tailings of a proposed mill. Other immediate activities include the placing of a headframe, hoist, ore bins, and timbering of the present workings, to be followed by the mining of ore. A 40-ton mill of the arrastra type is to be in operation in September. The plant will have flotation equipment and will be enlarged as developments require. The arrastra equipment will be supplemented eventually with a stamp mill. The property is owned entirely by the four men actively interested and operations at the property are being directed by Bates, who has had many years of experience in Nevada and in the Mother Lode country. The bulldozer will be used to strip the entire surface of the property and indications are that the area will justify the installation of modern milling equipment.

The old Lincoln mine, located three miles east of Nevada City, California, is being opened up by the St. Anthony Mines, Inc., M. H. Lunt, manager, Nevada City. Four men are employed and the 300-foot shaft is being pumped out preparatory to active development. Directors of the company include Russell Scott, 345 Soledad Street, Salinas, California; Howard F. Cozens, 316 Capitol Street, Salinas; Tom Jeffery, P. Cozens, and Lunt.

A cloudburst the latter part of July completely washed out the camp at the Sterling mine in Revenue Canyon, 30 miles north of Trona, California. The water carried away all camp buildings, kitchen equipment, 1½ miles of pipe line, rails, and other equipment. The 30-ton flotation mill was left intact, however. The mine is operated by the Sterling Mining Company, James Stevenson, president, Trona.

The Associated Mining Company, B. O. Clark, superintendent, Sutter Creek, California, is preparing to carry on deep mining operations at the old Pioneer gold mine, located one mile east of Plymouth, California. Clark is directing construction of a new 60-foot headframe, 10-stamp mill, hoist house, and other necessary buildings. The hoist house will contain a double-drum hoist and a 67½-foot compressor. The



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property is opened by a 550-foot, double-compartment shaft which has been unwatered to the 350-foot level. A 5,000-foot, five-inch pipe line is being run from the Plymouth ditch to furnish water for the mill. The mine was opened 50 years ago by a Dr. Boyson who operated a small mill and stoped the vein on the surface. W. R. Griswold of Oakland is president of the company.

Jess Knight, Mojave, California, and associates have acquired the **Four Jacks** mine from J. V. Creath. Terms of the sale were not made public. The property was opened up by Creath about two years ago and has been a steady producer since that time. It is understood that Knight plans to continue operations and he may extend development of the property.

The **American Potash and Chemical Corporation**, Trona, California, reports an estimated net income of \$940,746 for the first half of 1938, equal to \$1.78 a share on the capital stock, as compared with \$1,213,788 or \$2.29 a share in the first half of 1937.

St. Joseph Lead Company, 250 Park Avenue, New York City, and subsidiaries report for the six months ended June 30, 1938, a net profit of \$46,185 after depreciation, depletion, interest, federal income and excess profits taxes, etc., equivalent to 2.4 cents a share on 1,955,680 \$10-par shares of capital stock outstanding. This compares with \$4,507,361 or \$2.30 a share in the first half of 1937. The company has declared a dividend of 25 cents on common stock, payable September 20 to stock of record September 9. A similar dividend was paid in June.

At a hearing on the application for a receivership for the **International Mining and Milling Company** and the **Mount Gaines Mining Company**, before the superior court of Mariposa County, California, a compromise was agreed upon by counsel for plaintiff and defendant. The stipulation and order provide for a committee of three trustees to take over, administer, and conserve all the assets of the two companies. The trustees are to act under the direction of and are answerable to the court. They are bonded to the state of California in the sum of \$5,000 each for faithful discharge of their duties.

The **Pacific Gold Mining Company**, John T. Collins, president and general manager, Montrose, California, has secured a lease

CORRECTION

In the news item on Page 21 of *The Mining Journal* for July 30, 1938, regarding the **Gold Diggers Syndicate's** consolidation of the Dutch, App, Sweeney, and Heslop mines near Jamestown, California, it was said "Recent newspaper reports to the effect that the negotiations have been completed have been denied by Eric Segerstrom, who is associated with his brother in the deal." A letter from W. P. Johnson of the **Gold Diggers Syndicate** states that "we have a letter from Mr. Eric Segerstrom advising that the reporter took far too much upon himself in captioning his article." It would appear that the reporter misinterpreted the statement of Mr. Segerstrom.

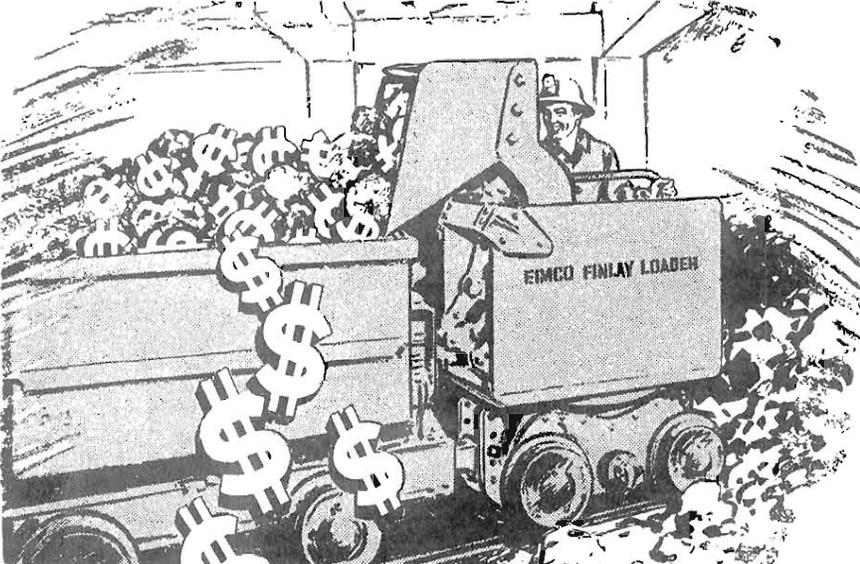
and option on the **Golden Key** group of mines, located in the Whitlock district near Mariposa, California. Unwatering and repair work are under way at the property and if conditions are found to be satisfactory, two shifts of six men each will be employed in development work, according to Collins. The company also holds properties in Arizona and in San Bernardino County, California.

Earl M. "Bing" Clark, Plymouth, California, has taken over and is operating the property formerly operated by the **Oakwood Placers** organization. Clark is also developing a property near Michigan Bar, California.

The three-compartment Patten shaft of the **Keystone Mine Syndicate**, T. S. O'Brien,

superintendent, Amador City, California, has been opened and retimbered to the 900-foot level and the two compartment South Spring Hill shaft has been opened to a depth of 824 feet. A tunnel connecting the two shafts is nearing completion. Installations include a 300-ton double drum hoist, 600-cubic foot Ingersoll-Rand compressor, 400-gallon Byron-Jackson electric pump, and a steel headframe. A total of 35 men is employed. The first unit of a new 200-ton capacity mill is planned to handle ore taken from the development areas.

The Italian mine of the **Black Hills Mining Company**, Drytown, California, is being equipped with a new milling plant, which will cost approximately \$22,500. The



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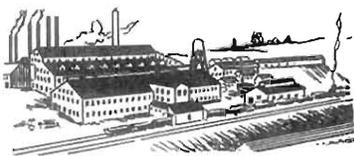
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new plant, designed by Richard Krebs, consists of a 5 by 5 ball mill; 3 by 16 Wemco classifier, and four Fagergren flotation units. It supplants a five-stamp mill which has been used in the development of the property for the past seven years, and will step up production from 15 tons per day to 65 tons per day. Ten men are employed under the direction of Peter Jovich, superintendent. William Tam, Jackson, California, is president of the Black Hills company.

A truckload of machinery was delivered recently at the property of the Almanor Gold Mining Company near Greenville, California, by the Miners' Foundry of Nevada City, California.

Fred Sperry and M. B. Ferguson are operating the Log Town Mines, located 2½ miles south of El Dorado, California. The group includes the Ophir, Minnehaha, and the Staples. Present work is centered on the Ophir, which is opened by a 65-foot shaft, followed by 165 feet of inclined shaft. Equipment consists of a three-stamp mill and a concentrator. Several millings of ore have averaged \$30 per ton in free gold, concentrates running from \$56 to \$450 per ton. The Ophir is owned by W. I. Bidstrup of El Dorado, who is associated with the present operators.

The Foote and Thompson property, located six miles east of Mokelumne Hill on the West Point road, has been optioned to W. M. C. O'Conner and D. C. Hayes of Hollywood, California. The property is owned by Percy Peek, and has been opened



by two tunnels and several crosscuts. Values are said to range from \$5 to \$20 per ton.

Three shifts are working at the Quaker City mine, 2½ miles west of Mokelumne Hill, California, under the direction of Dan J. Frost, superintendent for the Ophir Nevada Mining and Milling Company. The company has taken over the property from E. King and it is reported to be an extensive low-grade deposit. Frost is making his headquarters at Hotel Treat, San Andreas, California.

A small crew is engaged in cleaning out the workings at the property of the Mar John Mines Company, Sheepranch, California, according to John Martin, president of the company.

Sixty men are employed at the Lucky Joe mine of the Le Roi Mines, Inc., Jackson, California, under the direction of G. C. Dickerman, mine superintendent, and Richard W. Unger, mill superintendent. The shaft is down 500 feet and a 300-foot drift on the bottom has exposed a 20-foot vein. The main vein has been widening with depth.

The Long Canyon Mining Company, Georgetown, California, is engaged in drifting on the old Cochrane gravel mine, 35

miles from Georgetown on Long Canyon Creek. Oren Holmes and Merrill Zuver are in charge of the work. The property, which comprises 700 acres, is said to have produced \$150,000 in a single year during the 60's. It is owned by the Zuver brothers and Heber and Milo Woods.

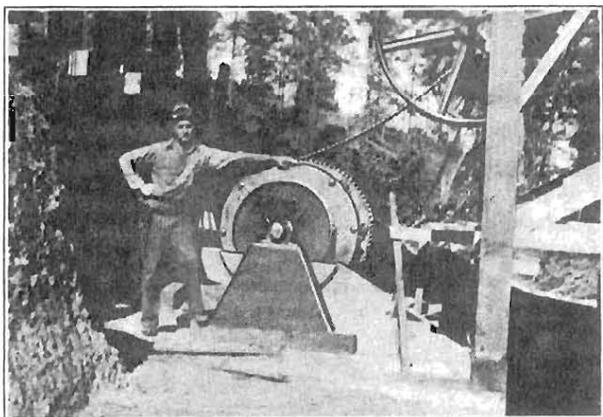
The Minnehaha group of claims, located near Randsburg, California, has been taken under option by Frederick Runkel, who has started work on the property. The claims are held by E. B. Maginnis of Randsburg, and are said to carry a large low-grade ore body. They were first opened in 1895 and have been worked chiefly by lessees.

George J. Anderson and associates operating under lease the Big Gold property near Randsburg, California, recently made a 10-ton shipment of ore which indicated values of \$46.86 per ton. They recently cut a streak of gold ore which is said to assay \$120 per ton. The property is being leased from Holloway and Spillane.

Construction of a new combination amalgamation and cyanide plant is planned at the property of the Mutual Gold Corporation, Leevining, California, to treat 125,000 tons of material said to average \$11.20 per ton. J. E. Stiegler, Naches, Washington, is president of the corporation, which maintains offices at 401 Fernwell Building, Spokane, Washington.

John T. Bateman and William T. Landin have been engaged in developing their Box Elder group of five claims, located on Elk Creek nine miles from Happy Camp, California. One vein, an iron dike 1,000 feet

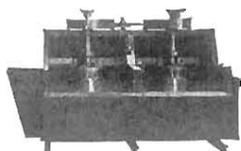
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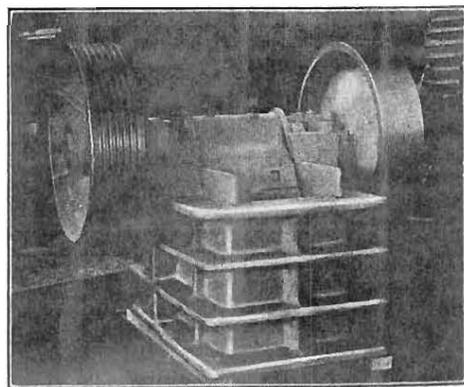


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wide, assays more than \$7 in gold, while another, 300 feet wide, gave assay returns of more than \$11 per ton. A third vein striking north and south is 12 feet thick and assays \$12 per ton.

The **Moro Bay Copper Company**, Ogden C. Chase, president, 420 Kearns Building, Salt Lake City, Utah, has leased to Carsten and Dewey S. Truelsen, Julian, California, its **Redman** mine, located in the Julian district. Under terms of the lease, the Redman shaft is to be unwatered and retimbered and a development program is to be undertaken on the lower levels of the mine. It was reported that former operators were in \$80 ore at the bottom of the shaft when they were forced out for lack of proper equipment to handle the water.

McDonald and McSpadden of Los Angeles have acquired the **Story Hill** gold mine, located on the Trabucco 1000 ranch near Mariposa, California. Development work is being continued and a new cook house and assay office are under construction. Ed Seigel is in charge of work at the mine. The inclined tunnel has opened a 32-inch vein of gold-bearing quartz. The Story Hill is located on the old Fremont Grant, which is managed by the Mariposa Commercial and Mining Company, Frank T. Maguire, Mariposa, California.

Mike DeGrave and Jack Holt are operating the **Coleman** mine near Mojave, California, and are sinking a shaft which is down more than 130 feet.

The **Silverado** mine of the **Sierra Consolidated Mines, Inc.**, Wellington, Nevada, has been shut down. All men have been laid off with the exception of six or eight who will be retained to clean up around the mill and get the small machinery and equipment under cover. The company had maintained a crew of 80 men up until a few months ago when the number was reduced to approximately 50. Shortage of ore is reported as the reason for the shut-down. The property, which is controlled by the Raskob interests, has been in constant operation for the past two years. T. S. Davey is manager.

A crew of five men is engaged in driving a new tunnel at the **Pine Leaf** mine in the Spanish Ranch district near Quincy, California. A geophysical survey recently made is said to have indicated that previous operations had been running parallel with the main gravel body. A compressor has been installed and it is hoped that the main gravel body will be tapped and extraction of ore well under way in the near future. John Adams, Quincy, is superintendent. The property is owned by I. M. Christainson and H. B. Wolfe, both of Quincy.

The **Narrows** group of seven claims located in the You Bet district near Nevada City, California, is being developed by R. and C. Dougherty and R. Buckman. The work in the gravel pit is said to have shown satisfactory returns and a quartz ledge has been encountered which is said to assay as high as \$75. It is reported that tests for the possible installation of a dredge will be made soon.

Ore assaying \$105 per ton has been encountered at the **Sure Shot** mine located 5 miles west of Greenville, California, in

the Dutch Hill district. Development work is proceeding in a 150-foot drift, the last 30 feet of which are in the vein. A 21-foot vein at the bottom of a 45-foot shaft on the same property, showing good values, will be developed further. The **Sure Shot** is owned and is being developed by J. P. Brantley, Box 96, Greenville, who has organized the **J. P. Gold Products, Ltd.**, to work both the **Sure Shot** and the **Grizzly** placer mine, also located near Greenville.

Buildings and equipment destroyed by fire at the **Droege** mine of the **North Canyon Mines, Inc.**, Greenville, California, are rapidly being replaced under the direction of Walter H. Parsons, president and general manager. Development is proceeding and good values are reported. About 20 men are employed at the Droege and an additional 20 at the **New York** mine, also under development by the North Canyon organization.

A new two-compartment shaft at the **Ranchito** mine, Julian, California, is now down nearly 300 feet and will be continued another 100 feet, where a crosscut will be

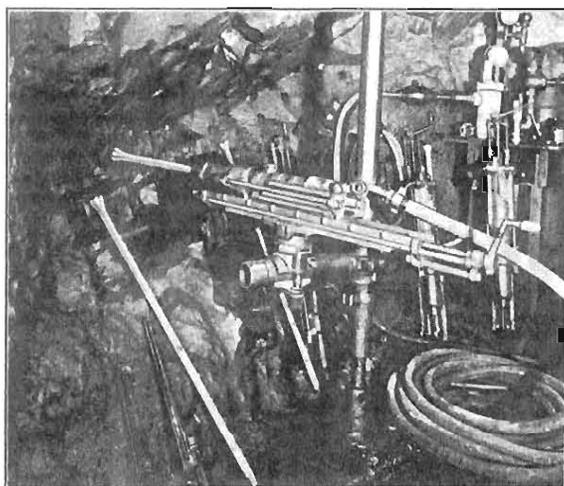
driven under the old workings to reach what is reported as being a large body of high-grade mill ore. **Martin Brothers** of Hemet, California, are developing the property, which was acquired from Cave Couts, Vista, California. The mine is equipped with a stamp mill.

Misses Lela and Alma Marks are opening up the **Van Wert** mine, located near Julian, California. The property, which was the first gold mine discovered in the Julian district, has been inactive for some time.

The five-stamp mill and flotation plant at the **Eagle** mine, Julian, California, is treating ore from the **Harper Ranch** mine. Sidney Dodge and George Short are operating the Eagle property.

The **Abbott** quicksilver mine near Wilbur Springs, California, is reported to have been taken over by new interests. Operations are said to be under way with Fred Step in charge.

According to Richard H. Travers, vice-president, the **Cardinal Gold Mining Company**, 747 Title Insurance Building, Los



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Angeles, California, is looking for a new property, having exhausted the ore body at its property near Bishop, California. Extensive diamond drilling is said to have failed to disclose additional ore at Bishop, the values having diffused as depth was attained. Operations at Bishop are directed by Victor Bongard, general manager. The mine is equipped with a 300-ton flotation mill.

Frank Reilly and Ralph Duggins, who are operating on dump ore at the Bunker Hill mine near La Porte, California, report the finding of a 42-ounce nugget recently. The recovery of gold values from the dump is reported as satisfactory. The mine, which has not been in operation for the past two years, is owned by Edward Metcalfe of Oroville, California, and associates.

Stockholders of the California Engels Mining Company, at a meeting held August 1, approved the plan to reduce the par value of the company's capital stock from \$1 to 25 cents a share. The company's stated capital was thereby lowered from \$306,681 to \$86,670. John O. Larson, president of the company, 351 California Street, San Francisco, California, said that the purpose of the move was to reduce the company's capitalization so that new financing could be undertaken. California Engels is planning to raise additional capital with which to develop and operate two large placer properties.

With six dredges in operation throughout the first half of 1938, Natomas Company reported a net profit substantially

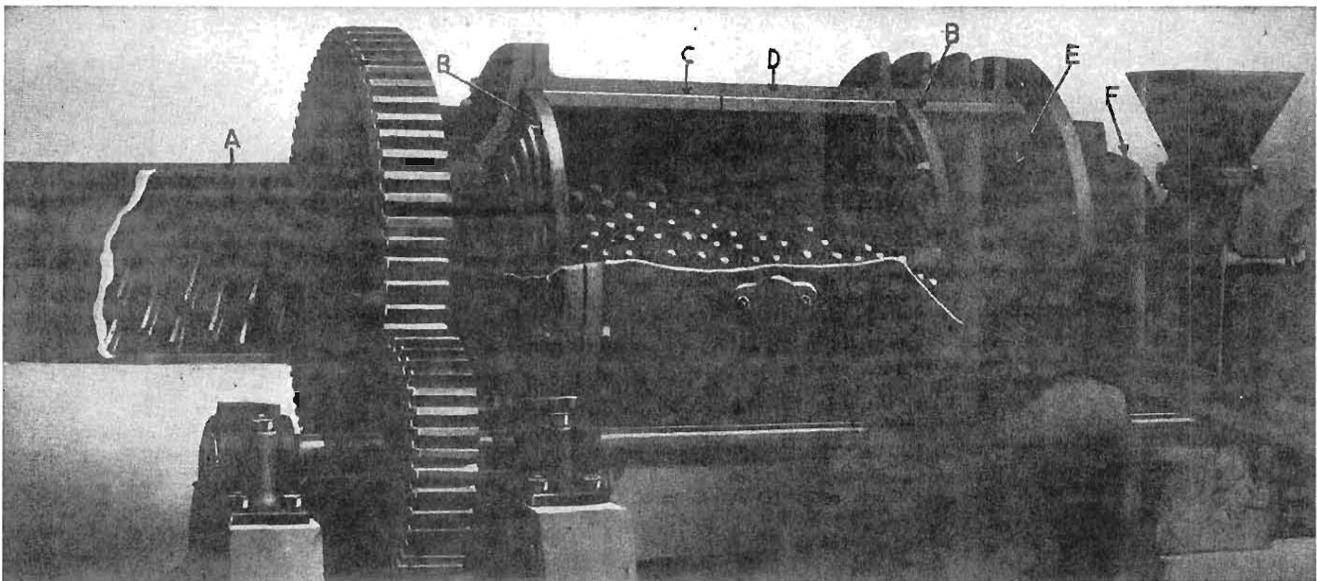
higher than in the first half of last year when only four boats were in use until April 11 and five thereafter. Net profit of the company for the first six months of 1938, after depreciation, depletion, and normal income taxes, was reported at \$701,932 which compares with \$449,652 in the like 1937 period. Natomas recently placed its seventh dredge in operation in the Blue Ravine district near Folsom, California. The latter is as large as any dredge built by Natomas and is said to be capable of handling 500,000 cubic yards of gravel a month. It is of all steel construction, is electrically operated, and has a hull measuring 60 by 180 feet. Besides its own dredges, Natomas has an interest in the plants operated by the Merced Dredging Company and the San Joaquin Mining Company. Thomas McCormack, Forum Building, Sacramento, is president of the company.

The Genesee Consolidated Mines Company has been incorporated under the laws of Utah for the announced purpose of developing 651 acres of copper bearing properties lying along the copper belt of Plumas County, California, between the Walker and Engels mines. Heading the new company is George L. Bemis, Sr., 509 Felt Building, Salt Lake City, Utah. Bemis is a pioneer Utah mining man who is said to have been the discoverer of the Walker mine. After control of the Walker Mining Company was acquired by the Anaconda Copper Mining Company Bemis began acquiring other properties, just north of the Walker mine. Plans for the development

of these properties by the Genesee Consolidated Mines Company are now being worked out, the ground having already been opened by tunnel work indicating the presence of a large tonnage of ore running 2.43 per cent copper with higher grade running 15 per cent reported in places. The Genesee company is capitalized at \$30,000, consisting of 3,000,000 shares having a par value of 1 cent each. Other officers of the company are George Baglin, Salt Lake City broker, vice-president; George Baglin, Jr., secretary-treasurer; and G. L. Bemis and Harry L. Thomas, additional directors.

The new 100-ton flotation mill at the Malvina mine of the Boston California Mining Company near Coulterville, California, was recently completed and placed into operation. The mill equipment includes a nine by 24-inch Cedar Rapids crusher, a five by six-foot ball mill, Bendelari jig, Wilfley table, six Agitair flotation machines, amalgamating plates, etc. The management plans to install cyanide equipment in the near future. The mine is opened by a three-compartment shaft, extending vertically to a depth of 1,000 feet, which is equipped with a double-drum electric hoist. Other equipment includes a 150-horsepower Ingersoll-Rand compressor. The property, which covers 1,000 acres including the Louise and Mary Harrison claims, was formerly worked by the Merced Mining Company. Present operations have been confined, however, to the Malvina claim. Charles H. Segerstrom of Sonora is president of the company, and Ed McMahon, also of Sonora, is superin-

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tendent. E. A. Kring supervised the construction of the mill.

About 45 men are employed at the **Denamore** mine, Thomas M. Bains, superintendent, Columbia, California. Fifty tons of ore, averaging \$11 per ton, are being milled daily and the face of the tunnel has been advanced 1,500 feet from the portal. There are a number of other adits on the property and plans are being made to open and conduct mining operations through them. B. A. Ogden is manager.

It has been reported that operations will be resumed in the near future at the **Buchanan** mine southeast of Tuolumne, California, on the north fork of the Tuolumne River above the Riverside Ranger Station. Milling equipment includes a 10-ton Hadsel dry crushing mill, a 25-ton ball mill, and an amalgamation and flotation plant with a capacity of 40 tons. J. Andrew Cook of Tuolumne is the operator.

The **Gold Hill Dredging Company** is now said to be handling about 10,000 cubic yards of material daily in its dredge on the Alvin Kister Ranch, near Oroville, California. The boat is 128 feet long and 52 feet wide and is equipped with nine-cubic-foot buckets. R. D. Gardner, 2740 Tenth Avenue, Sacramento, California, is general superintendent.

Anglo American Mining Corporation, Ltd., reported an operating income of \$31,398 before depletion, depreciation, and income taxes for the quarter ended June 30, 1938. This compares with a net profit of \$19,431 reported for the first quarter of this year and operating income approximating \$43,000 in the June quarter of last year. The company reported revenue from its mining operations during the second quarter of this year totaled \$160,777 which compares with \$134,820 in the first quarter and \$144,357 in the June quarter of 1937. Increased operating expenses have been largely responsible for the fact that the company only earned \$50,829 the first half of this year against \$77,445 in the first six months of 1937. Greater operating costs were largely incurred in connection with the starting up of the new mill at the Yellow Aster mine and the change over in operations. A. W. Frolli, Box A, Randsburg, is general manager of Anglo American and Walter Lyman Brown, 206 Sansome Street, San Francisco, is president.

Construction of the first mill unit is scheduled to start immediately by **Columbus Gold Mines Company** which was

formed last year to take over the Gold Hill United Mines Syndicate property at Gold Hill in Boulder County,

Colorado. New equipment has been installed by the present operating concern and 12 men are now employed. Ore is being developed in the south drift from the Donald R shaft and a second shift is to start work in the tunnel which is being extended to further open the Columbus vein. A. E. Reardon, Box 3131, Seattle,

Washington, is manager and Arthur J. Manser, Gold Hill, is superintendent.

A hoist and compressor plant have been installed at the **Williams** gold mine near Idaho Springs, Colorado, and electric power has been supplied. The property was taken over recently by George Light of Idaho Springs and associates, including F. W. Westwood. The 585-foot shaft will be cleaned out its entire depth and sunk an additional 250 feet. When this is completed a 400-foot drift will be run from the shaft on the seventh level.

The newly constructed 10-stamp milling unit at the **Dixie** mine in Clear Creek County, Colorado, is to be put into regular operation in the near future. Willard James, Idaho Springs, and associates, operators of the Dixie mine on Ute Creek, built the mill. The ore will be trucked to the mill, situated on Cascade Creek a mile away where tailings disposal presents less of a problem.

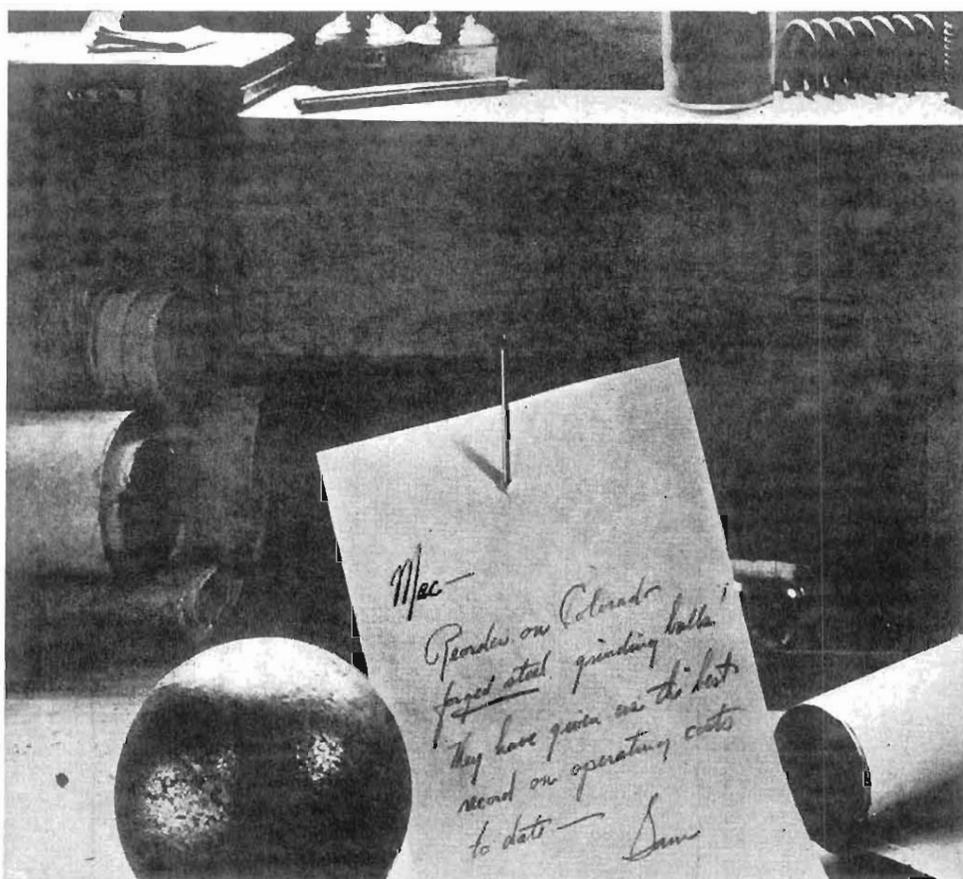
The old Continental electric dredge is being installed in Park County near Fairplay, Colorado, where it has been moved from Breckenridge. The **Placers Realty Company**, represented by E. J. Cunningham of Chicago, has been organized to operate the property and expects to start mining within 60 days. Stearns-Roger Manufacturing Company, 1718 California Street, Denver, is reported to be handling the installation, with L. J. Cole in local charge. The dredge was operated by the

Continental Dredging Company on its Blue River placers from 1929 till 1938.

About 20 men are employed by **Gopher Gold Ltd.**, in the Alice district of Clear Creek County, near Idaho Springs, Colorado. Charles W. Eden of Alice is president of the company which has been operating the John Kaminsky property, known as the Attawa claims, for the past two years. Joe McAuliffe, Alice, is superintendent of the mill which is treating 50 tons of ore daily.

It is reported that 25 men are employed at the **Rawley** mine in Saguache County near Bonanza, Colorado, by S. E. Burleson, Box 387, Salida, who has been leasing the property since 1935. About 750 tons of silver-lead ore are shipped monthly to the Midvale and Garfield smelters in Utah and the Arkansas Valley plant at Leadville, Colorado.

Plans are being made for the reopening of the **Canterbury** tunnel of the Leadville Mines Development Company which has been driven for several thousand feet. Preparatory to reopening the adit, the 800-foot shaft of the **New Elkhorn** property will be opened to the 400-foot level. Electric pumps and surface equipment are being installed to unwater the shaft, idle for 30 years, which is believed to be in good condition. The water level is 130 feet below the surface. Work on the Canterbury tunnel and surrounding area will depend upon findings after the shaft is reopened.



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Albuquerque, New Mexico. The Empire interests are moving the plant to the Bald Eagle mine, located in the Black Range district west of Kingston, New Mexico.

A check for \$8,997 is stated to have been paid to the Azurite Gold Company, Mrs. Anna C. Ballard of Mazama, Washington, president, by the American Smelting and Refining Company. American Smelting and Refining is operating property of the Azurite Gold Company in the Slate Creek district of Whatcom County, Washington, under lease agreement. Previous payments have been used by the owning company to pay off indebtedness and all obligations are now said to have been taken care of. A cash reserve of \$145,000 has been established jointly by the two companies, owning and operating, for working capital. W. J. Coombe is general superintendent at Mazama.

A long-term lease is reported to have been taken by the West King Mining Company on property in the Germania district near Fruitland in Stevens County, Washington. Otto K. Quast, West 409 Second Street, Spokane, is managing engineer.

The Cleveland mine in the Metaline district of Pend Oreille County, Washington, has been acquired by Charles Fond, Roy Lance, and Harry Scott of Kellogg, Idaho, and Clarence and Joe Carr of Clayton, Washington. Operating under a partnership, the group expects to have the mine in production in the near future. Ore will be trucked to the Bunker Hill smelter at Kellogg.

A 20-ton ball mill and 60-ton concentrator are being installed at the Seven Devils mine which is held under 20-year lease from the Mineral Hill Mines, Inc., of New York, by Ed Forbes, Charles H. McLean, both of Okanogan, Washington, and associates. Forbes is in charge of operations at the mine which comprises 13 patented claims in Okanogan County two miles west of Conconully. Values are chiefly in silver and lead.

Production of high-grade molybdenum during July is reported by the Consolidated Mines and Smelting Company, Ltd., O. B. Brown, 210 Orondo Avenue, Wenatchee, Washington, president and general manager. The company has five properties in Ferry County near Keller, Washington and principal values are in gold, silver, and copper. One vein, however, is stated to show predominant molybdenite values. The company recently applied for an RFC development loan and is contemplating mill construction. J. D. Glasal of Keller is mine superintendent.

Stockholders of the Gold Hill Operating Company are reported to have organized the Northern Cascade Mines, Inc., to acquire the property and obligations of the Gold Hill company. The new company is incorporated with an authorized capital stock of \$500,000 divided into 2,000,000 shares of common stock of 25-cent par value. Plans call for completion of the new road to the property within the cur-

rent season and construction of a mill after additional development work has been done. Holdings consist of 40 mining claims and two mill sites on the west side of Azurite Mountain near Mazama, Washington, in Whatcom County. August Peterson, 704 James Street, Seattle, is president.

Bernard Holtum of Centennial, Wyoming, reports that he and associates are endeavoring to further develop a large body of low-grade gold ore in the Utopia mine near Centennial through a deep tunnel. Tunnels in the upper area of the mine are stated to be in ore, but the ore is not of sufficient quantity to be commercial. The vein is said to widen materially with depth. The same interests are working on the Commercial property in the Centennial district in an attempt to find the continuation of a vein of free milling gold ore which is faulted. Holtum is manager and secretary of the Utopia Mining and Milling Company and the Commercial Gold Mining Company, which have operated these properties intermittently since 1909.

DEVELOPMENT PROGRAM UNDER WAY AT EMPIRE STAR MINES

SHAFT sinking is in progress or is planned at several properties of the Empire Star Mines Company, Ltd., Grass Valley, California. The installation of a new hoist on the 8,600-foot level of the North Star mine at Grass Valley is under way and work below that level has been halted temporarily. As soon as the installation is completed it is expected that sinking to the 10,000-foot level will get under way. The shaft now reaches a depth of 9,800 feet, which is the greatest depth that could be reached with the old hoist. The North Star is under the management of F. W. Nobs.

At the Pennsylvania mine in Browns Valley preparations are under way for sinking the shaft an additional 200 feet with a limited amount of drifting planned to ascertain what resources depth will add to the property. The Pennsylvania has a maximum depth of about 1,200 feet at the present time, 800 feet in the original operating shaft and 400 feet in the Bulldog winze. Development of low-grade ore has been proceeding at the property for several months with a crew of approximately 50 men employed.

The shaft at the Zeibrigh mine, Emigrant Gap, California, has been lowered an additional 200 feet and most of the ore is being taken from shaft operations. The mine is employing a crew of approximately 140 men, the largest number ever to work there.

An extensive development program at lower levels is under way in the Murchie mine, Grass Valley, following the deepening of the shaft. The Murchie was the scene of much labor trouble early in the year but with working conditions again normal, activities are being increased. Robert J. Hendricks is manager of the Pennsylvania, Zeibrigh, and Murchie mines.

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A California Tungsten Mine and Mill

ONE HUNDRED tons of ore a day are being produced from the Black Rock group of mining claims, located in Mono County, approximately 32 miles north and slightly west of Bishop, California. These claims have been the scene of an extensive campaign of underground exploration and development during the past several months, and large ore reserves of milling grade are said to have been opened. The work has been done by the Tungsten Corporation of California and company officials believe that the property will soon take its place in the foremost ranks of tungsten producers in the United States.

The Black Rock was originally discovered by A. E. Beauregard and brothers in 1927 and was prospected and tested by a preliminary milling of 2,500 tons of ore in a small pilot mill on the property. The claims were then idle for several years—until taken over by the Tungsten Corporation of California in the early part of 1937. Development carried on up to the present consists of 2,800 feet of tunnels and crosscuts, two glory holes, numerous winzes, and several stopes. The tonnage actually blocked out at this time is claimed to be in excess of 200,000 tons, with ore broken approximately three months ahead of the mill capacity.

The scheelite occurs in a series of dynamically formed beds of considerable thickness in typical garnet-epidote rocks. The deposit ranges from five feet to as high as 70 feet or more in width. It is difficult to give definitely the length of shoots inasmuch as the ore consists of wide impregnations associated with a triple system of faulting and consequent breaking up of the ground into a series of triangular prisms, each of which has its own impregnations and concentrations. One of these has been driven on in ore for a length of 60 feet. It has a consistent width of 25 feet, proved by crosscuts.

As far as sinking has gone, the concentrations appear to be continuous in depth and consistent in grade. An elevation difference of 600 feet is covered between the lowest point of development and the highest point of outcrop. Surface outcrops have been traced for 4,000 feet within the boundaries of the seven contiguous claims held under purchase contract.

A modern mill with a capacity of 150 tons has been completed and is now handling 100 tons daily. The finished product which is being sacked is running consistently over 74 per cent WO_3 in content. A new type (Stowell) magnetic separator is being used successfully. All the mine and mill machinery is individually driven by electric motors, current for which is supplied by a 200-horsepower (Fairbanks-Morse) Diesel generating plant.

The Black Rock claims of the Tungsten Corporation of California have been extensively developed and the new milling plant is producing a finished product that is running over 74 per cent WO_3 . The mill flow-sheet is an interesting departure from the usual practice for the extraction of scheelite from tungsten bearing ore.

Two electric pumps supply adequate well water for maximum mill operations. About 70 per cent of the water in the tailings is returned by a large (Dorr) thickener. Two 25,000-gallon tanks have been installed to supply even pressure and reserve storage.

THE flow-sheet of the mill reflects an interesting departure from the accepted practice for the extraction of the scheelite from tungsten bearing ore. The ore is crushed to three-inch mesh at the portal of the main haulage tunnel, then taken by a 900-foot gravity tram to the terminal bin at the mill. There it passes through a gyratory crusher set to $\frac{1}{4}$ -inch mesh. A vertical elevator carries the ore to the top of the fine-ore bin where it passes over a $\frac{1}{4}$ -inch vibrating screen. The oversize by-passes to a 30-ton bin feeding automatically into a set of (Allis Chalmers) rolls. The crushed product is returned to the foot of the elevator and once more passed over the vibrating screen on the top of the fine-ore bin. This bin has a capacity of 400 tons and is the storage from which the mill feed is drawn.

An automatic feeder passes the material into the mill, where it is fed onto a 12-mesh vibrating screen. At this point water is added. The undersize goes directly to two large concentrating tables, while the oversize is fed into a four by four (Colorado Iron Works) ball mill. It is interesting to note that only three and four-inch balls are used in the charge, and a ratio of not less than 65 per cent solids is maintained. This is to avoid sliming which, with such a brittle mineral, would otherwise occur.

The discharge end of the ball mill is fitted with a trommel screen from which the undersize is passed by a small elevator to a point where it is fed onto the two tables mentioned above. The oversize from the mill trommel is returned by another small elevator to a dewatering device from which it is again charged back directly into the ball mill.

The first bank of tables, mentioned above, is used for a complete roughing of the mill feed. The resulting middlings and tailings pass over a large 20-mesh vibrating screen. The undersize is sent by a (Dorrco) diaphragm pump to the feed hopper supplying a lower bank of tables, and the oversize is returned to the ball mill. After passing over the lower bank of tables, the middling and tailing cuts become true tails and pass from the mill to the (Dorr) dewatering thickener.

The concentrates go to a rotary drier of the company's own design and construction before passing to the magnetic separator already mentioned.

The scheelite crystals in the Black Rock ore are small and widely disseminated, but are released freely at minus 20-mesh or finer.

The writer wishes to express his indebtedness to R. P. Johnson, president of the Tungsten Corporation of California, without whose assistance this article could not have been compiled. C. S. McCausland is superintendent at the mine.



Milling plant of the Black Rock claims of the Tungsten Corporation of California

*Mining Engineer, Los Angeles

**PIONEERS ARE GUESTS OF
GEORGE HOLMES AT JAMBOREE**

ONE HUNDRED residents of the Pioneers' Home at Prescott, Arizona, were guests of George I. Holmes at the Jamboree and barbecue of the Arizona Small Mine Operators Association, held August 27 at Prescott, Arizona. Holmes, who attended the Jamboree, is the discoverer of the famous Golden Queen mine near Mojave, California.

It was the depression which drove George Holmes and his family into the desert back in 1932. He and his father, M. A. Holmes, prospected the Mojave district thoroughly and experienced a long period of poor pickings before George stumbled onto the mineralized boulder which led to the discovery which has made Soledad Mountain a \$25,000,000 mining camp in three years.

They saw some mighty tough times in the two years during which they were tunneling and drifting to trace the great vein and it took all the resources of the Holmes family to keep father and son in the field until their discovery reached the stage where mining engineers began scrambling for it.

The story is often related that the claim was purchased from an Indian for \$700. As a matter of fact, good fortune attended the industry with which they had prosecuted their search for a mine and it was not necessary to purchase the claim at all. Originally located by a man named Mc-

Brayer, the fractional parcel, about 18 acres, was held by a Los Angeles family for 31 years and was allowed to lapse just a few months before George made his discovery there. Thus, it was open for filing at the time he located the Golden Queen vein.

The sale of this mine at the close of 1935 for \$3,170,000, of which the \$170,000 was paid to buy off lessees, started a stampede which resulted in the purchase of the Starlight and Elephant groups by the Higgins interests of New York, and the consolidation of the Soledad-Mojave group by the Babcock-Pittman interests.

These are now operated by the Golden Queen Mining Company on a percentage arrangement. All of this development took place within 18 months from the time the Holmes interests sold out to the Golden Queen company. Today there are hundreds of miners working there and perhaps a dozen mines of more or less importance operating at different points on the hill.

George Holmes and his father are now operating the Middle Butte Mines, Inc., a few miles from Soledad Mountain, under lease from the Walter Trent interests. A crew of 15 men is employed and ore shipments average 100 to 120 tons per week.

The mill at Winterhaven, nine miles east of Ogilby, California, is being enlarged to 150 tons capacity to treat ore from the Madre property of the Holmes and Nicholson Mining and Milling Company. This property was located by George Holmes,

his father, and his brother, Kenneth, about a year ago and is believed to hold considerable promise. In the short time that the property has been under development 700,000 tons of \$20 ore have been opened.

**HOCHSCHILD INTERESTS
MAKE PERSONNEL CHANGES**

THE following staff changes have been announced by W. Val DeCamp, general manager of mines for M. Hochschild in Bolivia, South America:

L. E. Daume has been appointed mine superintendent for the Cia. Huanchaca de Bolivia at Pulacayo. P. H. Reagan, former Huanchaca mine superintendent, has been transferred to Oruro in connection with the operation of Cia. Minera de Oruro. V. Hampton, formerly assistant mine superintendent at Patino mines, has been named manager of the San Jose mine at Oruro. Henry B. Leggett has been named geologist for the San Jose property; G. Hawn, M. H. Keegan, and J. Kirig are mine foremen; and De Wys is administrator of the Itos mine.

At Cia. de Minas de Colquiri, O. D. Neidermeyer is mine manager; John Randall, mine superintendent; G. N. McCrae, mill construction superintendent; Gerald M. Kirwan, mine engineer; and K. J. Bell and L. Pommerolli, shift foremen.

J. G. van Blom has been appointed mine manager at the Morococala mine, and Kai Ravenborg, administrator at the Vinto plant, has been transferred to Machamarca.

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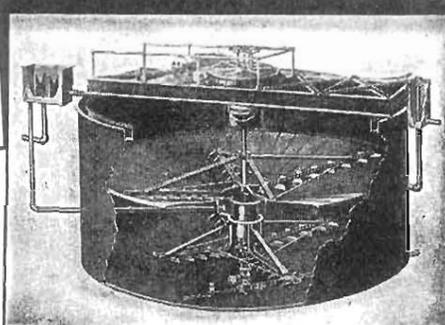
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A word that is frequently used in newspapers and periodicals, but one that is disliked by many men connected with mining, is the term "sniper." Dictionaries and college professors can, no doubt, furnish you with a correct definition of the word, but as I understand the term a sniper is something that is easily satisfied with anything it can get hold of. While men that the term fits may be found, it offends the miners who have been thus labeled to have to read it time and again in the papers. My sentiments are entirely with them in their cause to have this word banned from print, for I do not believe that a man who has been responsible for a new strike, be it gold, silver, or any other mineral that ultimately gains for its finder thousands of dollars, is a sniper.

If the term is good usage, then why not call the underground miner a "ground hog," or maybe a "rabbit-catcher," or some other term that is in keeping with his line of metal recovery?

Mining is one of the oldest businesses known. History traces the seeking of metals as far back as mankind can safely be recorded, but I doubt if you will find the term "sniper" in any of the older textbooks or periodicals on this interesting subject. The progress that mining has made throughout the long years of civilization is an achievement worthy of the highest praise. The men who were responsible for this progress, be it accidental or otherwise, certainly had to use intelligence in the solving of the many problems encountered.

Would you apply the term to a man you met while strolling along a creek bed, a man who had just struck it rich and whose pockets bulged with little nuggets taken from a deposit that he had discovered while prospecting the sand and gravel bars along the old water line? You know you wouldn't. Such a man has ceased to be a sniper in the eyes of the newspaper world. The powers that be hasten to the site, glad to do business with a successful PROSPECTOR, for such will be called when news of the strike leaks out.

Many books have been written which both praise and condemn the prospector, not because of the business that he is in, but because of his methods of going about the business. A well-known judge of Nevada, who has at one time followed the trails of the prospector, eulogizes the habits and good traits found among them. Their fine fellowship and general understanding of life's problems were lauded by him before a large gathering of Nevadans. He spoke of them as the builders of the west, the creators of such great states as California, Nevada, Arizona, and others where the elusive metal, gold, has been found.

In conclusion, may I add, it would be pretty poor taste to address a group of prospectors in one of these old-time camps and call them "snipers." They resent being called anything other than what they really are—PROSPECTORS.

HYDRAULIC ASSOCIATION HONORS HARRY ENGLEBRIGHT

CONGRESSMAN Harry L. Englebright was honored by approximately 200 members of the California Hydraulic Mining Association at a dinner meeting in Auburn, California, recently. The meeting was in the form of a special celebration, commemorating the beginning of actual construction work on the North Fork debris dam.

Colonel Warren T. Hannum, chairman of the California Debris Commission, in a talk before the association, said "So much credit is due to Englebright for accomplishing the approval of the bill, it seems he is worthy of the title, 'Father of the Debris Dams'."

Englebright outlined the progress of the long fight to obtain the dams and restore hydraulic mining, and warmly praised the work of the association.

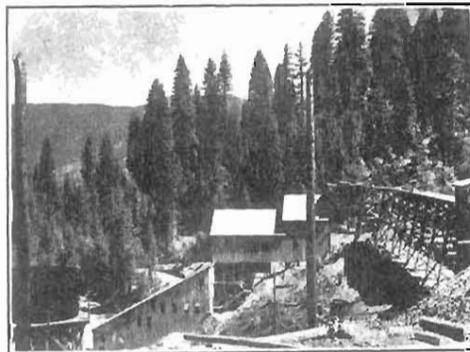
Resolutions have been passed by the association and forwarded to President Roosevelt recommending that the North Fork dam be named for Englebright and that the two on the American River be named for James Marshall and Captain John A. Sutter.

INDIAN VALLEY MINING CO. COMPLETES 150-TON MILL

THE NEW 150-ton Marcy-type ball mill at the Standart mine of the Indian Valley Mining Company, Greenville, California, is now on a production basis, according to G. L. Johnson, vice-president and general manager, Greenville.

The new plant includes three No. 44 flotation cells, an amalgamation table, settling barrel, concentrating tables, and a 6 by 22 classifier. Operations during the summer have been continuous, using the 30-ton stamp unit which the new plant replaces. This unit has been in operation for more than a year, utilizing a straight amalgamation recovery process, with an average recovery of 97 per cent.

Underground work at the property is being carried on along several veins averaging from 12 to 30 feet in width and ranging in value from \$5 to \$11 per ton. There is said to be between 500,000 and 600,000 tons of possible ore in sight. C. L. Hibbard, 1210 Western Avenue, Seattle, Washington, is president.



General view of the new mill at the Standart mine of the Indian Valley Mining Company.

OBITUARIES

C. Walter Carson, 70, died July 27, 1938, at Bonners Ferry, Idaho. For a number of years he was general superintendent of the Idamont Lead-Zinc Mine Company at Leonia, Idaho.

Granville Lundy, superintendent of the Gold Bar Dredging Company at Lewiston, California, died August 15 at Weaverville, California, as a result of injuries suffered 10 days previously in an automobile accident.

C. Parker Holt, vice-president and director of the Caterpillar Tractor Company, died August 24 at his home in Piedmont, California. He had been affiliated with the company and one of its predecessors, the Holt Manufacturing Company, for nearly 40 years.

Raymond Hawkins, 45 years old, died August 25 at his home in Alleghany, California, following an attack of pneumonia. He was associated with Fred Cassidy of Nevada City in the operation of the Oriental mine at Alleghany and had been in charge of work at the property for the past three years.

William J. Sharwood, metallurgical engineer, died early in July at Berkeley, California, at the age of 71. He was born in Tuolumne, California, and was a graduate of the Royal School of Mines, London, England. After graduation he was employed at several gold mines in California prior to joining the faculty of the University of California as instructor in chemistry. Later he was chemist for the Montana Mining Company at Marysville, Montana, and the Homestake Mining Company at Lead, South Dakota. Sharwood contributed numerous papers on analytical chemistry, assaying, metallurgy of gold, and economic geology. He was a member of the A. I. M. E., American Chemical Society, Society of Chemical Industry, and Fellow of A. A. A. S.

L. G. CARLTON

LESLIE G. CARLTON, 67, better known as "L. G.", of Colorado Springs, Colorado, died September 4, 1938, after several weeks' illness. For the past seven years he has been at the head of that extensive and varied organization loosely termed the Carlton interests.

The companies included in the Carlton interests are the Golden Cycle Corporation, United Gold Mines Company, Doctor Jack Pot Gold, New Gold Dollar, and the Elkton mining companies, as well as railroad, coal, and other industrial concerns. Carlton has been the guiding spirit for the past seven years, since the death of his brother, A. E. Carlton, with whom he was associated.

The Carlton brothers went to Cripple Creek from Illinois in 1889. In 1891 they organized the first transfer company at Cripple Creek and from that modest beginning the present structure rose steadily. At present most of the Cripple Creek mines and the great Golden Cycle mill are held by Carlton companies.

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High grade values were recently encountered in an exploratory winze at the Rossi Hill mine of the Bishop Tungsten Company, Bishop, California.



Spuds of almost pure scheelite weighing up to 50 pounds are reported. A permanent working shaft is being sunk to open up this zone. The company's mill is now operating at approximately 50 tons per day. Shipments from the mill in 1938 have totaled approximately 70 tons of 72-per cent scheelite concentrate. A. T. Wilkerson, Ralph H. Moore, and F. M. Breslin form the partnership which is operating the property. Twenty-five men are employed in the mine and mill.

The three shafts at the Skyline mine, 23 miles north of Mojave, California, are to be deepened and crosscuts run to block out the ore body and provide material for the mill. As soon as this work is done, the mill will go into operation. The plant has been on production during the past year but has been handicapped by lack of ore. The principal value is in gold and several shipments have been made to the Selby smelter. Vern Moore is mine superintendent. The Skyline is operated by the Piute Mining Company, which also operates the Burning Moscow, 46 miles north of Mojave.

Edward Herkelrath, Box 253, Randsburg, California, and Emil Butler are engaged in sinking a new shaft on the Master Key group of claims. The new shaft is down more than 30 feet and is said to be in ore showing from one to two feet in width and running from \$16 to \$20 per ton.

T. G. Young, 337 Kings Road, Hollywood, California, has optioned placer deposits in the Belleville mining district in East Ord Valley, north of the San Bernardino Mountains. The property, comprising five sections, was located by Thomas Hotchkiss, Box 5, Lucerne Valley, California, and said to indicate an average value of \$1.00 per cubic yard in gold, in addition to values in iridium and platinum.

Thomas Hotchkiss, Box 5, Lucerne Valley, California, is engaged in sampling large deposits of mineral bearing ground on the southeast slopes of East Ord Mountain. He has leased the Hoover group of 10 claims.

Directors of the Newmont Mining Corporation, 14 Wall Street, New York City, have declared a dividend of 50 cents per share on capital stock, payable September 15 to stockholders of record August 31, 1938.

James E. Babcock, 1200 Rives-Strong Building, Los Angeles, California, has received approval of a \$20,000 RFC mine loan for use in developing the Southern Homestake group of claims, located approximately 10 miles south of Ballarat, Inyo County, California.

The Oroville Gold Dredging Company, W. H. W. Wandesforde, president, 2052

Bird Street, Oroville, California, has received approval of a \$160,000 RFC mine loan. The company operates on the Feather River near Oroville.

E. B. Vandall and George E. Mates of Lone Pine, California, are developing the Lookout mine in Santa Rita Wash east of Independence, California. A 22-foot shaft has been sunk and three open cuts have been made, all showing free gold with a small amount of galena. The operators plan to drive a tunnel to crosscut the vein about 18 feet below and directly under the bottom of the shaft. Assays are said to range from \$40 to \$228 per ton. The property comprises three claims.

W. Johnson and associates of Marysville, California, have taken over the Daisy Blue mine in the Cement Hill district northwest of Nevada City, California, and are preparing to develop it. The mine, which is opened by a 300-foot shaft, is equipped with a 10-stamp mill. Some drifting has been done on the vein.

Sixteen men are employed at the plant of the Innes Dredging Company on Deer Creek, west of Nevada City, California. The plant handles 2,500 yards of gravel per day, using a 2½-yard dragline shovel. There is said to be sufficient gravel available to keep the plant in operation for about four years. A. B. Innes, president of the company, is making his headquarters at Nevada City.

A crew of 10 men is employed at the Three Kings mine, formerly known as the Irehan, located near Alleghany, California. A tunnel on the property is being extended to contact ore and is now in more than 1,200 feet. The mine is being operated under lease by Ted LeMaire and associates of San Francisco. William Morrison, mine foreman, Robert Stapleton, and A. H. Walker are directing work at the property.

Lessee are developing a new strike on the Blue Gouge vein of the Big Blue Extension group, located near Kernville, California, and owned by W. J. and B. D. Sawyer, Box 102, Kernville. They have over four feet of ore at a depth of 21 feet, assaying from \$15 to \$94 per ton. Three men are employed. The claims are being operated under lease by a group composed of J. R. Thomson, formerly of Arizona and Nevada, B. D. Sawyer, and associates.

A compressor and engine have been installed and retimbering of the old Sarah Jane shaft is under way at the Beauregard Extension group, Kernville, California, which is being operated under lease by George Holmes of Kernville and Richard Boyd of Mojave, California. The property is owned by B. D. Sawyer, Kernville, and associates.

Yuba Consolidated Gold Fields, Inc., F. C. Van Deirse, vice-president in charge of operations, 851 California Street, San Francisco, California, has recently entered into a lease on six parcels of land owned by the Yuba River Bottom Farms, and located east of Marysville, California. The property will be prospected with a view to mining the portions which show sufficient values. Under the terms of the lease,

mining is to begin within the next eight months. The company's Biggs No. 2 dredge was recently placed in operation on the Feather River, near Biggs, California.

Work is under way on the installation of new milling equipment at the Eagle-Shawmut mine, Chinese Camp, California, with completion scheduled for the middle of September. The new equipment, which includes a coarse crushing unit, ball mill, and additional flotation units, will bring the plant capacity up to 350 to 400 tons per day. Frank H. Mitchell is general superintendent at Chinese Camp. Horace G. Miller, 4800 Santa Fe Avenue, and George W. Clemson, 311 South Spring Street, Los Angeles, are the operators of the property.

The shaft of the old Maryatt mine at Tuttle town, California, is being cleaned out, a hoist is being constructed, and modern machinery installed, preparatory to sinking and exploratory work. Five men are employed under the direction of Robert Long, one of the owners of the property. It is planned to sink the shaft several hundred feet and provisions for milling will be made later.

The Antietam group of claims near Kernville, California, owned by W. J. and B. D. Sawyer of Kernville, has been optioned to a Los Angeles, California, syndicate which plans extensive development of the property.

Kern Mines, Inc., Kernville, California, has recently completed a trial run of its new crushing equipment, installed at the Big Blue shaft. The company is continuing its steady production rate of more than 100 tons per day. About 35 men are employed under the direction of Eirind Knutson, general superintendent, Box 77, Kernville.

Dredging operations are in progress at the Big Dipper mine, operated by Mrs. Elizabeth Simpson, Box 93, Palermo, California. The bed of Long Hollow Creek is being worked by means of a doodle-bug type dredge. The mine itself, a gravel property, will be reopened during the dry season when dredging operations are not possible. Mrs. Simpson recently made application for a permit to take 1.25 cubic feet of water per second from Long Hollow and Honcut Creeks for mining purposes.

Directors of the Lava Cap Gold Mining Corporation, Nevada City, California, have voted a three-cent dividend for the third quarter. Officials of the company recently inspected the property, which is reported to be operating satisfactorily with a crew of 280 men employed under the direction of Otto E. Schiffner, general manager.

Milling machinery is being installed at the Sierra Vista mine, formerly known as the Funny Bug, located in the Gold Hill district about six miles northwest of Placerville, California, preparatory to active operation. The property has been under lease and option to the Penn Development Company, Ralph Penn, president, for the past two years, during which considerable prospecting and development work has

been done. J. E. Masters is general superintendent for the company.

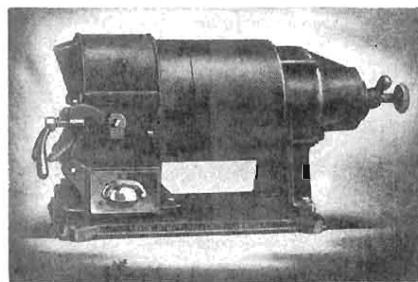
The Blue Bird Extension, Mojave, California, is shipping ore to the Tropic mill in small lots, according to Perry Renz, mine superintendent. Ore shipments began recently after a few feet of tunneling in the old shaft had uncovered a paying vein of ore. The Blue Bird proper has not shipped any ore since December of last year. The property is operated under lease by Elmer Renz, 204 West Manchester Avenue, Los Angeles, California. It is owned by C. C. Calkins.

H. V. Eaton, Nevada City, California, operator of the Eaton mine near Columbia

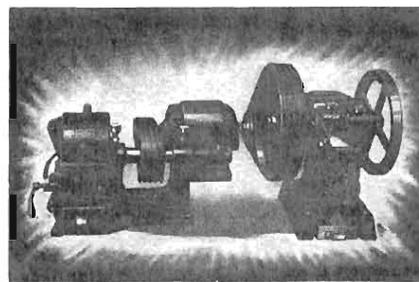
Hill, is engaged in driving a 225-foot tunnel which is expected to intersect the channel. Two men are employed.

Clyde J. Moore and M. J. Orth are operating a testing plant of their own design in the development of the Great Northern quicksilver mine, located about 26 miles northwest of Yreka, California, on Empire Creek. The plant, with a capacity of one ton per day, is reported to have given a 98 per cent recovery on run-of-the-mine ore.

The milling plant at the German Bar mine, North Bloomfield, California, is being rehabilitated under the direction of the Western-Knapp Engineering Company,



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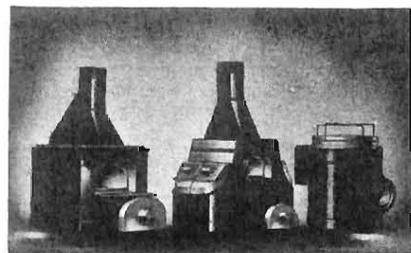
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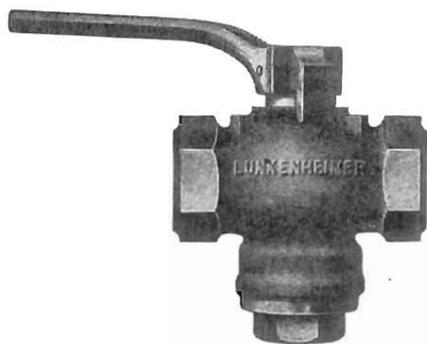


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San Francisco. Additional machinery is being installed and several changes are being made in the flow sheet. High water last winter cut under the mine and mill equipment, carrying away the foundations of the ball mill, flotation plant, jig, and classifier, and causing damage estimated at \$7,500. A crew is engaged in building a retaining wall to protect the mine equipment in the future. Mining operations were resumed at the property September 1. Ore will be hoisted from the No. 4 to the No. 3 tunnel. A winze is being unwatered below the point where previous operators took out an enrichment of \$2,600. Thomas E. Stephens is superintendent of the mine.

E. R. Dathe and D. F. Potter, Star Route, Placerville, California, are installing equipment and developing a water supply preparatory to active operation of the Fiori mine, located in the Newtown district. The property is under lease from Harry Lawson and is expected to be ready for development about the middle of September. The old Stedman ditch is being rebuilt to carry water to the property. In addition to the 40-acre Lawson property, the 32-acre adjoining property of Percy Alderson has been taken over. Approximately 52,000 yards of gravel will be moved by means of hydraulicking and by dragline.

Guy L. Chapman, Mariposa, California, and associates have recently purchased a complete Greenfield and McSpadden mill with crusher and plates for installation at the Ives mine, located on the Fremont grant.

Greenfield and McSpadden, 1835 East Sixty-second Street, Los Angeles, California, are interested in several California properties. One of these is the McLeod mine at Keeler, California, where 60 tons of gold ore are treated daily in the cyanide plant. At Mariposa, California, the Grizzly Gulch mine, equipped with two Greenfield and McSpadden ball mills, crushers, and rolls, is operating three shifts daily, treating more than 30 tons per day. At the Midpines mine, Midpines, California, a mill has also been installed and will be placed in operation soon.

William McLaughlin and associates are running a road to the Lucky Strike mine above Columbia, California, preparatory to installation of milling equipment. It is planned to treat the dump, which has been found to contain sufficient values to justify milling.

The Agnes Mining and Milling Company, Inc., Henry Erickson, president, Nipton, California, is engaged in developing the Agnes mine, a silver and gold property located in the Ivanpah mining district. The mine is opened by a 150-foot shaft, from which a 200-foot drift has been run. A 200-foot tunnel is being run to connect with a 300-foot drift on the 33-foot level. The tunnel is expected to open up a series of porphyry dikes which will provide stopping ground.

Operations have been resumed at the Sliger mine near Greenwood, California, following a suspension to permit the in-

stallation of electric power. A crew of 60 men is engaged in extraction of ore and in development work. It is said that approximately eight years' ore is in sight. The mine was optioned to the Mountain Copper Company, Ltd., last year and that company continued the shaft an additional 300 feet to the 1,400-foot level. The option was relinquished, however, and the property reverted to the Middle Fork Gold Mining Company, former operator, which is now engaged in developing the property under the direction of C. W. Plumb, superintendent.

The Hines-Gilbert mine, located near Greenwood, California, in the Spanish Dry Diggings district, has been leased to W. E. Wilson of Redding, California, for \$300,000 by Mrs. Elmerie Morgan of Auburn, California, who has held the lease on the property for some time. Work has been started on a new boarding house and arrangements have been completed for the moving of a 200-ton ball mill and flotation units to the property from Arizona. The 10-stamp mill on the property will serve as a primary grinding unit. Wilson and associates have also optioned the Paragon mine at Foresthill, California, from the King C. Gillette interests, with a view to carrying on hydraulicking operations upon completion of the Ruck-a-Chucky debris dam. Mrs. Morgan also negotiated this deal, it is understood.

Ore from the Casa Diablo mine near Bishop, California, is being hauled to the Burton Brothers mill at Rosamond, California, for treatment. E. S. Minz is operating the property, which is owned by William Burcham of Bishop.

Bruce Minard, Box 414, Mojave, California, reports values running from \$32 to \$35 per ton on ore from his Sterling property east of Coso Hot Springs. The values are said to be in free gold.

Charles and Norman Kistle, Nevada City, California, are preparing to install a five-stamp mill on their Green Mountain mine, located near Grass Valley. Ore tested at the Idaho Maryland mill is said to have given returns of \$9.30 per ton. The vein is seven feet wide and extends through the property for a distance of 1,900 feet. The tunnel is in 450 feet.

The Bradley Mining Company, Worthen Bradley, president, 1022 Crocker Building, San Francisco, California, is operating the Mt. Diablo quicksilver mine at Clayton, California. Philip W. Cox is superintendent at the mine.

The flotation mill at the property of the Virgilia Mining Corporation, C. H. Potter, superintendent, Virgilia, California, is being enlarged from its present capacity of 125 tons to 300 tons per day. Ore is being taken from the 350-foot level. Matt L. Sullivan, Mills Tower, San Francisco, is president of the company. A. H. Cohen, c/o George Wagner, 181 South Park Street, San Francisco, is engineer and manager.

The Iowa, Blue Gravel, and Hardscrabble mines, near La Porte, California, recently leased by S. W. Cummings, La Porte, are to be operated as an independent group and work will probably be carried on through an old tunnel on the Blue Gravel.

Twelve men are now employed. Cummings is general manager and treasurer of the Lucky Gold Hill Mining Company which holds the Lucky Gold Hill mine located on the opposite ridge from the Blue Gravel. Ferard Leicester, 105 Montgomery Street, San Francisco, is president of the Lucky Gold Hill.

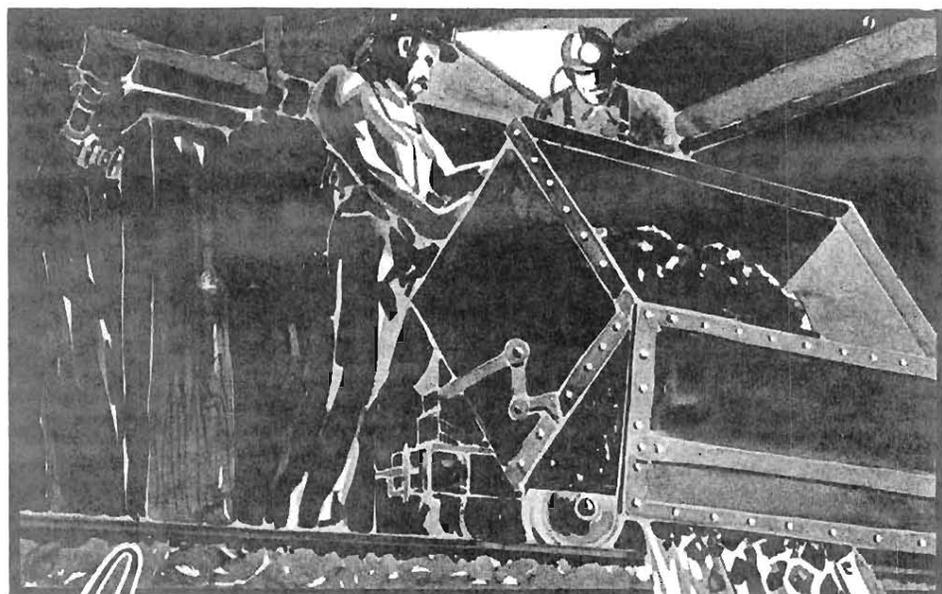
San Francisco interests are reported to have acquired the Lucky S mine near Taylorsville, California, from A. A. Harriman, owner. The mine is said to have produced between \$6,000 and \$8,000 during the past two months. The property carries both placer and quartz deposits. Henry Small will direct work at the mine for the new operators.

Machinery and equipment have been installed at the Whistle Bear placer mine, two miles from Sawyers Bar, Siskiyou County, California, by Robert Ford, Warren H. Carpenter, H. A. Harris, and Ed (Slim) Biglow. High-line cable has been installed and a 79-foot inclined shaft will be unwatered. It is then planned to drift up stream and crosscut into the ancient channel.

M. H. MacIlwaine, Carrville, California, has been granted a permit to divert 12.5 cubic feet per second of water from Buckeye Creek for mining purposes. Andrew J. Thickstun, operating the Race Track placers near Camptonville, California, has been authorized to divert 50 cubic feet per second from Slate Creek at an estimated cost of \$5,000.

Delgold Corporation has resumed work at the Erin-go-Bragh property near Jamestown, California, recently acquired with all other assets of the California Standard Gold Mines Corporation, and Harry M. Thompson, formerly associated with the King Solomon mine at Black Bear, California, is general manager in charge of operations. William T. Warren, until recently with the Anaconda Copper Mining Company at Butte, is superintendent. All of the stock of the Delgold Corporation is owned by former stockholders of California Standard, consisting of a group of eastern business men and capitalists. The property is equipped with a modern crushing and flotation plant of 150 tons daily capacity. Current operations consist primarily of extensive surface trenching with power equipment for the purpose of opening up large surface ore deposits for large-scale mining by power shovel methods, to supplement underground mining operations. California Standard produced approximately \$250,000 in gold during its 16 months of operation. Officers of the company are Charles B. Little, president, Room 915, 608 South Hill Street, Los Angeles, California; A. F. Muter, vice-president; and K. B. Little, vice-president and treasurer, who were also the principal officers of California Standard.

Mining and milling operations at the property of the Argonaut Mining Company, Jackson, California, have reached approximately a normal rate, although extensive retimbering remains to be done as a result of last February's fire. Milling was resumed July 16 and mining from regular



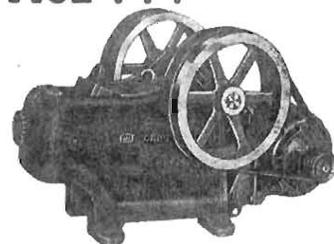
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stopes is being carried on with particular attention being directed to the new 6,150-foot level. It will be necessary to retimber the ventilation raise from the 4,350 to the 3,900 level but this will not interfere with mining operations. Alex Ross, Jackson, is general superintendent.

The property of the **Ballard Mother Lode Mines, Inc.**, located near Plymouth, California, has been acquired by William E. Anderson, mining engineer, under lease and option. The group is located on the Mother Lode and comprises four claims with three parallel veins. Indians prospecting on the claims early in the year encountered ore which is said to have run between \$30 and \$40 per ton. Tests of the surface gravel on the property have been made recently and an agreement has been made with the **Ingram Dredging Company** for installation of equipment to treat the gravel. Under the agreement with Anderson, this work will continue. It is understood that Anderson plans to begin development immediately, the first work to include the dewatering of the original Ballard shaft and of the Ratto shaft. John F. Ratto, Sutter Creek, California, is president of the Ballard Mother Lode company.

The new 100-ton flotation mill at the Malvina mine of the **Boston California Mining Company** near Coulterville, California, is operating at capacity on a 24-hour basis, according to Ed Mann, mine superintendent. The mine is rapidly nearing capacity production also and when that basis is reached a crew of 30 to 35 men will be employed. The property is opened by a 1,000-foot three-compartment shaft which is equipped with a double-drum electric hoist. Charles H. Segerstrom, Sonora, California, is president of the company.

The London interests, represented by W. R. Coleridge Beadon, La Porte, California, which have been engaged in exploratory work at the **Mountain Boy** mine near La Porte, are said to have acquired options on adjoining lands which will be examined. The Mountain Boy has been abandoned by the group.

A modern dust-collecting device is being installed at the milling plant of the **Golden Queen Mining Company**, Mojave, California. A giant suction fan is being placed in the crushing towers with a view to

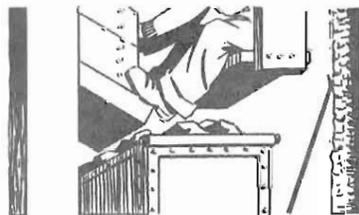
drawing off the dust-laden atmosphere into pipes which lead to bags. The bags will be emptied into cyanide tanks, where such gold values as are retained in the heavy dust will be recovered. The new installation will aid in the protection of workmen who have heretofore worn respirators to protect their lungs from the heavy dust. William C. Browning, 1214 Pacific Mutual Building, Los Angeles, California, is general manager of the company.

Extensive holdings in the Neenach, California, district are reported to have been acquired by John J. Raskob, Suite 213, 29 East First Street, Reno, Nevada, and associates. Included in the holdings taken over are **Rivera Mining Company**, **Rogers-Gentry Mining Company**, and the **McIntyre** estate, comprising approximately 365 acres. Both the Rivera and the Rogers-Gentry mines are being worked by Blake and Daly, who are making regular shipments of ore to the Jones mill at Lake Hughes, California. The Raskob interests are expected to start development work on the property immediately with operations in charge of W. J. Rogers of the Rogers-Gentry property.

Silt and debris are being cleared away at the property of the **Gold Bottom Mines, Inc.**, preparatory to resumption of operations, according to T. J. Nicely, Trona, California, general manager. The company's property was badly damaged by flood waters following cloudbursts in the foothills of the Slate Range Mountains.

A rich strike is reported in the **Fuller** mine, 1 1/4 miles south of Jackson, California. The seam is approximately 2 1/2 feet wide and the vein is reported to be from three to eight inches wide. The mine is a tunnel proposition reached through the **Amador Queen** tunnel.

Gordon, Kneebone, and Cooper are working the **Robbins** mine near Downieville, California. The property is being



leased by Kneebone from Sam Hudiburg, C. W. Robbins, and associates. The mill building is being enlarged and new milling equipment has been purchased.

Mining of a 20-foot vein is reported in progress in the lower workings of the **Defender** mine, Pine Grove, California. The new 75-ton flotation mill is operating at capacity and 35 men are employed at the property. Development of new territory is also under way. John D. Bardill is manager.

Extensive surface improvements are under way at the property of the **Idaho Maryland Mines Corporation**, Albert Crase, general manager, Grass Valley, California. Contemplating at some time in the future the construction of a new surface building on the site, the huge waste dump adjoining the Idaho shaft is being removed. A large addition to the employment office has been completed, together with approximately 30 new garages for use of mine employes. Both the employment office and the main office have been air conditioned.

Regular weekly shipments of ore have been started by the **Blanco Mining Company** from its **Bandora** mine, near Silverton, to the Leadville smelter. Principal values are in lead, with some gold and silver. John J. Sullivan of Denver owns the mine, now being operated under lease and option.

The **Tip Top Gold Mines, Inc.**, is reported to have completed the 274-foot drift connecting the new **Gold Dirt** shaft and the old workings on the first level of the **Gold Dirt** mine. In its **Perigo** mine the company is said to have opened the last 800 feet of the **Perigo** main tunnel which have been closed for about 25 years. The company is preparing its first shipment of bullion to the smelter. The company holds the **Gold Dirt**, **Perigo**, **Dew Drop**, and **Penobscot** mines and the **Perigo** and **Monarch** mills. Nels G. Olson, 1810 California Street, Denver, is president and general manager. Peter L. Lind is mine superintendent and Charles W. Dahlber is mill superintendent. Both are of Rollinsville.

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**BON DORE, INC., OPERATING
LINCO PLANT AT SAN ANDREAS**

BON DORE, INC., is operating a portable Linco placer machine, together with a three-quarter yard P & H Diesel shovel on property located near San Andreas, California. The equipment was moved early in the summer from Quartzsite, Arizona.

The plant is treating from 50 to 60 cubic yards per hour of tight gravel, using only 100 gallons per minute of new water. The gravel is placed on a grizzly where large rocks are washed and rejected. The small rock and fines pass into a feed hopper which in turn passes it into a Linco alloy steel scrubber, where it is washed and run onto a double screen. The rougher rejects three-quarter-inch material onto an adjustable swinging stacker and three-quarter-inch minus goes to the fine screen, where three-sixteenth-inch plus is rejected into a Linco nugget jig from which the tails are discharged onto the stacker. The three-sixteenth-inch minus, as a thin mud, is collected in the fines launderer and passed into a No. 36 Linco gold saver. The gangue matter, including the black sands, is passed to a Linco all-steel sand pump, which pumps the fine tails to a settling pond. The water, from which the sand has been settled out, is available for re-use.



The Linco portable placer machine, operated by Bon Dore, Inc., near San Andreas, California.

The Linco plant was manufactured by the Linco Engineering Company, 2816 Gilroy Street, Los Angeles, California. The liberal use of alloy steels and other modern metals has made it possible to construct these machines in extremely light weights without sacrificing wearing qualities. The water requirements are extremely low and the machine has been built in such a way that transportation on the highways is permitted. The machine can be dismantled and moved with ease and speed.

**NEW AREA OF FLORENCE MINE
BEING MINED AND MILLED**

THE Florence Company, Inc., Neihart, Montana, is operating its 50-ton flotation mill and producing a high-grade silver concentrate from ore extracted from a new section of the mine. This property, which is being worked under lease from the M. & I. Mining Company, is located

in the Neihart district of Cascade County, Montana.

The Florence group of five patented claims is the best known of the mines and lends its name to the whole property. It was originally owned and operated by the Florence Mining Company which started operations around 1890, continuing for about 15 years. During that period the main tunnel was run a distance of 1,300 feet. A winze was sunk from the adit and levels were opened at 100-foot intervals. In this way the mine was opened and stoped to a depth of 500 feet and while this work was going on, five tunnels were driven above the main tunnel and the ground stoped to the surface. Production during this period is said to have been \$1,500,000.

During the next 10 years the property passed through several ownerships with varying results. The present owner, the M. and I. Mining Company, acquired the ground in 1915 and the mine was worked under lease intermittently until 1930 when all activity ceased. About two years ago the mine was leased to the Florence company, Dan Rieder, manager. That concern installed a 50-ton flotation mill which it operated on waste dumps for 18 months. In the meantime, prospecting work was being carried on in the mine. By crosscutting 50 feet from the main level, an undeveloped vein was opened and has been sufficient to keep the mill running. To date about 200 feet of tunneling have been

done and about 100 feet of stoping. A 100-foot winze has been sunk from this level and a second level opened which is now ready for stoping.

E. A. Shaw, 1617 Central Avenue, Great Falls, is president and Allen Fierse, Secretary.

**VANADIUM CORPORATION STARTS
CONGER MILL CONSTRUCTION**

CONSTRUCTION of a 30-ton mill was started August 15, 1938, by the Vanadium Corporation of America at its Conger mine north of Nederland in Boulder County, Colorado. The plant is expected to be in operation by December 1. This property had been idle since 1919 when it was shut down by the Primos Mining and Milling Company, which sold it to the Vanadium Corporation the following year. About a year ago the Vanadium company reopened the mine and installed hoisting and other equipment. Robert Sterling of Boulder is manager of this portion of the company's holdings and Frederick F. Kett of New York is general manager of all mining operations for the concern, which has mining interests in Peru, Canada, and Virginia, as well as in Colorado. Headquarters are in the Graybar Building, 420 Lexington Avenue, New York. E. D. Bransome is president.

For the six months ended June 30, 1938, the company reports a net loss of \$5,794. This is computed after taxes, depreciation, interests, etc., have been deducted and compares with a net profit of \$612,400 for the like period of 1937.

**AVERAGE PRICES OF METALS
(Figures by American Metal Market)**

	Copper Per Lb. Conn. Valley	Lead Per Lb. New York	Zinc Per Lb. St. Louis	Silver Per Oz. New York
1924	13.024	8.097	6.344	66.731
1925	14.042	9.020	7.622	69.055
1926	13.795	8.417	7.337	62.107
1927	12.920	6.755	6.242	56.370
1928	14.570	6.305	6.027	58.176
1929	13.107	6.833	6.512	52.993
1930	12.982	5.517	4.556	38.154
1931	8.369	4.244	3.638	28.701
1932	5.792	3.181	2.881	27.892
1933	7.276	3.870	4.031	34.728
1934	8.658	3.8595	4.162	47.978
1935	8.880	4.0648	4.331	64.273
1936	9.710	4.7091	4.903	45.038
1937	13.391	6.0085	6.517	44.805
1938				
Jan.	9.250	4.500	4.850	47.250
Feb.	9.250	4.5152	4.861	44.750
Mar.	9.250	4.600	4.900	44.750
Apr.	9.400	4.600	4.900	44.900
May	9.500	4.600	4.900	44.869
June	9.500	4.600	4.833	44.750
July	9.596	4.600	4.787	44.750
Aug.	9.750	4.600	4.811	44.750
Sept.	9.750	4.600	4.850	44.750
Oct.	9.846	4.6308	4.850	44.750
Nov.	10.432	5.1136	4.938	45.421
Dec.	10.995	5.55	5.277	45.352
Ave. 1936	9.710	4.7091	4.903	45.038
1937				
Jan.	12.660	6.00	5.86	44.912
Feb.	13.60	6.2356	6.435	44.75
Mar.	15.990	7.1889	7.377	45.130
Apr.	15.346	6.175	6.984	45.480
May	14.00	6.00	6.75	45.025
June	14.00	6.00	6.75	44.818
July	14.00	6.00	6.928	44.750
Aug.	14.00	6.4519	7.205	44.75
Sept.	13.780	6.400	7.179	44.75
Oct.	12.060	5.740	6.087	44.75
Nov.	11.022	5.0326	5.632	44.75
Dec.	10.236	4.875	5.011	43.810
Ave. 1937	13.391	6.0085	6.517	44.805
1938				
Jan.	10.425	4.870	5.00	44.714
Feb.	10.00	4.6318	4.816	44.75
Mar.	10.00	4.50	4.433	44.446
Apr.	10.00	4.50	4.155	42.75
May	9.60	4.40	4.633	42.75
June	9.00	4.1481	4.148	42.75
July	9.810	4.882	4.75	42.75
Aug.	10.065	4.90	4.75	42.75

**OFFICIAL RECORD OF 1937 U. S.
MINERAL OUTPUT IS AVAILABLE**

MINERALS Yearbook 1938 is now being distributed by the United States Bureau of Mines and copies are available from the Superintendent of Documents, Washington, D. C. The price is \$2.

The 1938 yearbook presents a complete economic and statistical summary of the mineral industry of the United States in 1937 and contains a larger amount of precise and detailed data than any previous edition. For the first time in any yearbook, final statistics on non-ferrous metal mining are given for all but one state.

Current trends in production, consumption, and prices as well as technologic progress, world conditions, and foreign trade in nearly 100 metal and mineral commodities are reviewed. A comprehensive survey of the bituminous-coal industry is included, through the courtesy of the National Bituminous Coal Commission. The historical record of non-ferrous metal production in the principal producing western states is shown in graphic form.

The chapter on phosphate rock has been expanded in view of the current national interest in this subject. Other important features of this year's volume are: special compilations of basic data pertinent to the lead and zinc tariffs; a complete list of sulphuric acid plants in the United States; statistics on secondary metals; and a summary of the efforts of Germany, Italy, and Japan to meet their mineral-deficiency problems.

Proposed Convention Tours

A WIDE VARIETY of interesting and instructive trips has been planned for those who attend the Annual Convention and Exposition of the American Mining Congress in Los Angeles, California, October 24-27, 1938. Six different excursions, including a number of optional expeditions, have been arranged for Friday, October 28, and Saturday, October 29, by the tours committee. The trips will not be confined to mining operations, but will provide those



—Greystone Studios, Inc.

E. O. Slater

who prefer to visit other points of interest in the vicinity of Los Angeles an opportunity to do so.

One trip only is scheduled for Friday when a tour will be made to Mojave, California, to visit the milling plants of the Golden Queen Mining Company and Cactus Mines, Inc. The Golden Queen cyanide mill has a capacity of approximately 500 tons of ore per day, using a straight counter-current method that is up to the minute in all details. The Cactus plant handles 130 tons of ore per day by flotation and cyanidation.

The latter mill was originally designed to handle 100 tons of ore daily and was placed in operation about a year ago. It is strictly modern in every particular, including method of operation and equipment installed. One of the most novel and interesting features is the use of one-stage crushing in closed circuit, delivering a one-half inch product to the ball mill.

In order to increase the capacity of the Cactus mill to 130 tons per day, which the company decided to do shortly after the plant's completion, a 35 by 10-foot Dorr primary thickener and a 35 by 27-foot Dorr four-compartment washing thickener were installed. The washing thickener was added in preference to individual Dorr thickeners, for increasing settling capacity, and its operation has come up to expectations in every way.

THE Golden Queen mill was designed to handle 350 tons of ore per day and its capacity was later increased to 500 tons daily. The plant is equipped with the most modern machinery for all-slimes cyanidation, but embodies no metallurgical features which could be called entirely new or outstanding. Probably the most interesting de-

Many excursions to points of interest in Southern California have been arranged for those who attend the convention of the American Mining Congress in Los Angeles and who wish to spend a few days in the district after the convention officially closes on October 27.

partments are those where the crushing and grinding are done.

Because Golden Queen ore is much harder than that encountered in most mining operations, the capacity of the crushing and grinding equipment installed had to be substantially greater than that normally required to treat a similar quantity of material. The primary crusher is a 36-inch Traylor TZ bell-type gyratory, equipped with a special bowl and head which permit taking pieces as large as 12 inches. The secondary crusher is a Traylor type TZ gyratory unit with a standard head and bowl, permitting a maximum feed of seven inches.

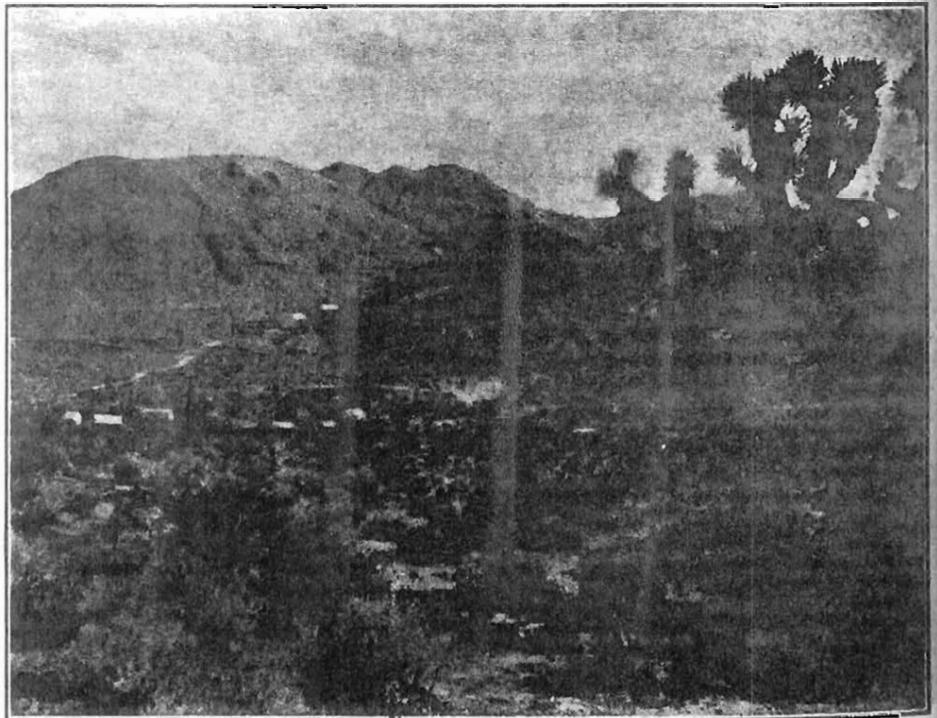
Marcy mills, size 67, were finally selected as the answer to the grinding problem. The grinding department was designed to give extreme flexibility and the mills can be operated either parallel or in series with

the classifiers. The plant is equipped with two Dorr Type DSF 6-foot by 21-foot 8-inch classifiers and one Dorr turret type DSFB classifier with an 8 by 30 by 12-foot bowl. The ore is ground so that 85 per cent passes 200 mesh, after which it is cyanided by agitation using the straight counter-current method.

Another interesting feature of the Golden Queen property is the novel control that is used to regulate the water supply. Inasmuch as water is rather scarce in the district, its use must be limited.

The well is located five miles from the mill and 300 feet below the plant reservoir. The well pump is a Winthroath 100-g.p.m. deep-well pump which is controlled by an electric float switch actuated by the level of the water in the booster tank. To deliver the water from the booster tank to the reservoir, five miles away, two booster pumps (Worthington horizontal duplex piston pumps) are used, one being for standby purposes. The operation of these pumps is automatically controlled by the level of the water in the reservoir.

Because an ordinary float-operated switch was not considered desirable as a means of controlling the operation of the booster pumps, the problem was solved by an unusual installation. At the reservoir is a specially designed snap float valve which is actuated by the variation of the water level in the reservoir itself. At the booster pump



Soledad Mountain, Mojave, California, as it appeared at the time Golden Queen Mining Company started its extensive development and production program.

*Chairman, Tours Committee
American Mining Congress
Los Angeles, California

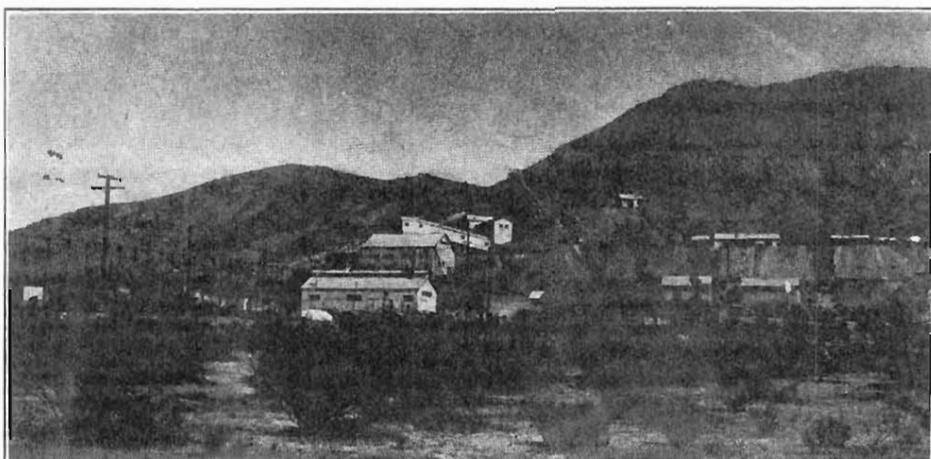
is an automatic altitude regulator, the operation of which is based on the variation of a few feet of static head in the main pipe line produced by a small standpipe built in the pipe line at the top of the reservoir. The altitude regulator automatically starts and stops the booster pumps.

ON SATURDAY, five optional trips are scheduled. These include excursions to the limestone mine of the Riverside Cement Company at Crestmore, California; the San Jacinto tunnel of the Metropolitan Water District near Banning, California; the mill of the Atolia Mining Company and the Yellow Aster mill of the Anglo American Mining Corporation, Ltd., in the Atolia-Randsburg district about 150 miles from Los Angeles; a trip around the principal portions of Los Angeles Harbor; and another to the Carnegie observatories on Mount Wilson.

Those who wish to visit the Riverside Cement Company's limestone mine should make their reservations early because the trip will be limited to 12 persons, the maximum number permitted underground at one time, to avoid interference with operations. An excellent opportunity will be afforded to those who are interested in the caving system of mining.

At this mine at Crestmore, California, a cube of limestone approximately 200 feet on each side is being caved by a method closely patterned after the systems in use in the Globe-Miami and Ray districts of Arizona. The method is unique in the extraction of limestone and those interested may witness in detail the procedure.

The Stanley deposit in which the limestone occurs has been divided into panels approximately 200 feet in a north and south direction and the width of the deposit in an east and west direction. In mining an individual block, it is separated from the adjacent material by the necessary number of shrinkage cut-off stopes and the bottom is then undermined by a series of small undercut stopes and pillars in much the same manner as that employed by the Nevada Consolidated Copper Corporation at Ray, Arizona. Because the limestone, although hard, is badly broken by displacement, it caves with satisfactory results.



Mill and surface plant of Cactus Mines, Inc., located near Mojave, California. This plant is treating 130 tons per day by flotation and cyanidation.

Deviations from standard mining procedure are found in the use of special explosives and of concrete in place of timber. Mounted jackhammers with adjustable shells are used for drifting in small tunnels and self-rotating jackstoppers are used in the cut-off and undercutting operations. A considerable portion of the production is obtained from material that descends during the drawing operations.

THE Yellow Aster and Atolia mills, which will be visited on another tour are two very different types of plants, both as to size and method of concentration. They are located in the Atolia-Randsburg district, about 150 miles from Los Angeles.

The mill of the Atolia Mining Company will probably be the most interesting of all that are visited, not because it is using a metallurgical method that has finally been developed for the economical handling of the company's tungsten ores, but rather just the contrary. Countless difficulties have faced the operators of this property since its first discovery and every time one problem has been solved another has habitually cropped up.

The company is still in the process of working out a completely satisfactory flow-sheet and indications point toward success. At present, however, a great deal of experimental work is being done in the face

of obstacles that are most disheartening at times.

A number of mills have been erected at Atolia and then dismantled because they were not suitable. The old Papoose mill, on the site of which the present plant stands, was operated at a time when good recovery was sacrificed for the sake of large production with the result that the 100,000 tons or more of tailings contain sufficient values to represent a worth-while retreatment proposition.

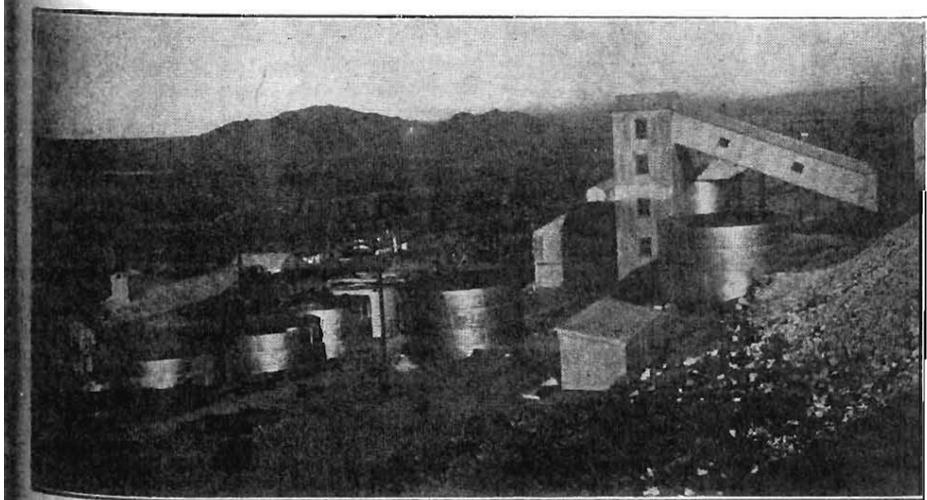
In 1926 a concentrator for treating placer ore was built which was rated with a capacity of about 800 tons when operating on a three-shift basis. Two years later, the Union concentrator for the treatment of mine ores was erected which had a maximum capacity of about 100 tons of ore daily when operated on a three-shift basis.

Both these plants have been completely torn down and replaced by a new mill, the present one, built last year. The placer operation was abandoned because it was not profitable and the Union mill was moved and partially incorporated into the new plant. The new mill has a flotation section capable of handling about 200 tons of material daily and is used to treat the slime tailings of the original Papoose mill.

The other half of the plant is an independent gravity concentrator for handling current production from the Union mine and from the various leases. It is also used for retreatment of the segregated, coarse sand tailings of the old Union mill of which there are about 200,000 tons. Its capacity is 150 tons daily.

One of the most baffling problems that has faced the operators of the Atolia property from the first has been the elimination of dusting and sliming. While the present crushing equipment worked fairly satisfactorily on soft, high-grade ore, it did not give sufficient capacity when handling harder ores or the sand tailings. The company now plans to replace this crusher with a set of crushing rolls capable of handling 800 tons per day of sand tailings.

In the flotation department, the problems have been complicated by the fact that the company has had to use saline water pumped from a dry lake bottom, seven



The 500-ton all-sliming cyanidation plant of the Golden Queen Mining Company, Mojave, California.

miles away. When this puzzler was solved, research was centered on finding a satisfactory way of depressing calcite and preventing it from contaminating the scheelite concentrates.

No satisfactory depressant was found so an acid leaching plant was built which dissolves the calcite and also apatite, containing the undesirable element, phosphorus. This plant was operated for a few weeks until it was found that the final product was unfilterable. Thirty-five tons of final product running 35 per cent WO_3 were run into a settling pond to dry and this required practically all summer.

In the meantime, tests have been made on dryers and a drying plant is being designed. Two thickeners are being installed to thicken the acid leached concentrates and give them a counter-current water wash to remove the calcium chloride and soluble phosphorus.

It is possible that the entire flotation plant will have to be revamped in order to use a special type cell that has been developed at Atolia and with which it has been found that a higher grade concentrate is obtained. The flotation plant is not now in operation, but it is planned to start it up as soon as the thickeners are installed and the drying plant is erected.

Located a few miles from Atolia Mining Company's mill is the Yellow Aster mill of the Anglo American Mining Corporation, Ltd., which is handling approximately 1,250 tons of tailings from the old Yellow Aster mill daily. This is an all-cyanide plant and is interesting because of the manner in which it handles low-grade tailings. Minor additions have given promise of materially increasing its capacity beyond the original 1,250-ton rating.

This is the largest tailings plant ever built in the west and "mining" of the material is accomplished by sluicing with a three-inch extra heavy hose fitted with $\frac{3}{4}$ -inch nozzles. When work was started, a little over three years ago, the tailings pile was estimated to contain 2,250,000 tons of material.

Early this year stage crushing, screening, conveying, grinding, and waste disposal



Clearing out broken rock in a San Jacinto tunnel heading with a Conway mucking machine.

equipment was added to the plant to permit the treatment of Yellow Aster mine ore. This equipment has demonstrated its ability to handle 2,600 tons of material in eight hours, delivering 650 tons to the mill for final treatment.

A huge cut is now being made in the mountain where it is estimated that between 8,000,000 and 12,000,000 tons of ore are available. The mining of this ore involves the removal of a large tonnage of overburden, which was estimated to total 6,000,000 tons when the contract for stripping the overburden was let. Both the Atolia and Yellow Aster mills will be visited in one trip.

THE TOUR to the San Jacinto tunnel of the Metropolitan Water District, 75 miles from Los Angeles, will give those who make it an opportunity to see under construction one of the longest tunnels in the

\$220,000,000 Colorado River Aqueduct. The length of the San Jacinto tunnel, which is 13 miles, is only exceeded by that of the 18-mile-long East Coachella tunnel. About one mile of the San Jacinto tunnel remains to be excavated and five or six miles are yet to be concrete lined.

The Colorado River Aqueduct consists of a main aqueduct 242 miles long extending from the river near Parker, Arizona, to the Cajalco reservoir near Riverside, California, and a distribution system leading to various consumption centers. It will carry water to a group of 13 cities situated in Los Angeles and Orange counties.

The bulk of the water will be used by the city of Los Angeles which found its local water resources nearing exhaustion 30 years ago. In order to supplement its supply, water rights were acquired in Owens Valley and the Owens River Aqueduct was completed in 1913, but as the population has grown it has become evident that water from Owens Valley is inadequate for the future needs of Los Angeles and the surrounding communities. Water in excess of the normal supply has been used for years which has necessitated heavy pumping and as a consequence the water level in all wells in the basin is dropping continuously; the flowing artesian wells of 20 years ago have disappeared.

With Boulder dam providing the necessary storage and flood control, it is believed that water from the Colorado River will be ample to supply all needs of the Metropolitan Water District that can be reasonably anticipated. The storage capacity of Boulder dam is 35,500,000 acre feet of water which compares with a total amount of water now being developed from all sources for use in the area served by the Metropolitan Water District of about 1,000,000 acre feet yearly.

(Continued on page 60)



The Atolia mill, showing two conveyors from primary crushing plant, flotation, thickener with acid plant set on the superstructure, and rubber-lined steel tank for storage of muriatic acid.

chapter on the economics of chromite and much of this company's data has been made available for the report.

In booklet form, with a generous number of maps, sketches, and photographs, the bulletin sells for 50 cents and is available at the Portland office of the department, or at its assay offices in Grants Pass and Baker.

PROPOSED CONVENTION TOURS

(Continued from Page 6)

When completed, the Colorado River Aqueduct will be a monument to engineering progress. From Parker dam, the water will be delivered to consuming centers by a series of 29 tunnels totaling 92 miles in length, 55 miles of conduit, 62 miles of lined canals, 29 miles of siphons, and 150 miles of distribution system. From the intake on the Colorado River to the highest point in the aqueduct, at the Hayfield tunnel, water will be raised by a series of pump lifts a distance of 1,357 feet. The capacity of the aqueduct is 1,500 cubic feet of water per second, or approximately one billion gallons daily.

Final passage of water from the Colorado River will be effected through the San Jacinto tunnel which pierces a spur of Mt. San Jacinto just south of Banning. Its western portal is at the lowest elevation that will permit an economic crossing of the area lying westward. The outlet of this tunnel is thus a principal factor in deter-

mining the height of the final pump lift to the 1,807-foot summit at Hayfield.

The San Jacinto tunnel is approximately 16 feet in diameter when lined, as are all the other tunnels in the system. Its excavation has proved difficult because of the relatively large amount of water produced where faults occur. Although this tunnel is not the longest in the system, the difficulties and problems encountered have been greater than in any other.

In the aqueduct system, where the rock is good, a simple concrete tunnel is used. This lining prevents leakage from the tunnel and reduces resistance to flow. Where the rock is broken so that the tunnel roof and walls will not stand without support during the construction period, timber or steel supports are erected immediately after excavation.

Timber supports consist of segmental wood arches, spaced as required, and two-inch to four-inch lagging where necessary. Steel supports consist of curved I-beams with pressed plate steel lagging or with wood lagging. The use of wooden lagging on steel I-beams was originated on this project and has proved very efficient and economical in many cases. Each type of support has uses for which it is considered superior.

Those who visit the San Jacinto tunnel will be given an opportunity to see the methods of excavation (11 drills mounted on a jumbo do the drilling and in good ground the face has been advanced 40 feet in one day), methods of supporting and lin-

ing the tunnel, and how the large amount of surplus water is handled. At one point in the tunnel, in the spring of 1938, a flow of 15,800 gallons per minute was encountered.

ARRANGEMENTS have been made so that those visitors who wish to view Los Angeles Harbor on boats can do so. An excursion will travel around the principal parts of the harbor so that the docks and loading facilities may be seen as well as ships at anchor and in their berths at the docks.

The largest oil-loading docks in the state are located in Los Angeles Harbor, as well as a large cotton compress, vegetable oil plants, and the Pacific Coast Borax Company's refining plant. Extensive facilities for handling lumber may be seen, the lumber being received by boat from the northwest. It is probable that a number of naval craft will be in the harbor. The breakwaters and lighthouse will be visible as well as the quarantine station and fish harbor.

A most interesting tour is planned to the Carnegie observatories on Mount Wilson. This trip can best be made by bus from Los Angeles, the distance being about 25 miles. To get the most out of this trip, the tours committee has suggested that it be made Friday afternoon so that dinner may be had on the mountain and the various instruments, including the 60-inch telescope, may be viewed during the evening. By advance arrangements, those who wish to do so may remain on the mountain during the night at the hotel or in cottages.

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Norman L. Wimmler, mining engineer, 74 New Montgomery Street, San Francisco, California, has recently returned from South America where he was engaged in mine investigations for an eastern syndicate.

Robert E. Tally is now located at Colton, California, where he is quarry superintendent for the California Portland Cement Company. He was formerly with the Phelps Dodge Corporation at Morenci, Arizona.

M. E. Clark, mining engineer, formerly of El Paso, is associated with the management of Hotel Murray at Silver City, New Mexico. He is interested in mining properties in the Silver City and Steeple Rock districts.

William Preston of Grave Creek, Oregon, is carrying on placer operations in Josephine County and recently made application for two second feet of water from a tributary of Grave Creek for mining purposes.

P. W. Simmons, 710 Fourteenth Street, Golden, Colorado, recently joined the E. L. Sweeney organization, mill designers and constructors. At present Simmons is engaged in building the Cameron mill at Cripple Creek, Colorado. Completion is expected by November 1.

A. L. Almy has accepted a position as mill superintendent for Keystone, Inc., Kingman, Arizona. He recently returned from Bolivia where he was mill superintendent for the Bolivian Tin and Tungsten Mines Corporation.

Joseph L. Thomson has gone to Baguio, Mountain Province, Philippine Islands, to accept a position in the mill of the Balatoc Mining Company. Thomson was formerly general manager of the Tapan Surigao Gold Mine, Inc., at Surigao.

William von der Hellen is carrying on placer operations on upper Althouse Creek in Josephine County near Grants Pass, Oregon. He is using a power shovel and trucking the gravel a quarter of a mile to a stationary washing plant.

L. T. McGuire has been named Pacific Coast manager of the Harnischfeger Corporation of Milwaukee with headquarters at 82 Beale Street, San Francisco. He was formerly manager of the large excavator division of the corporation.

Dave Wilson, Mariposa, California, recently shipped 20 tons of ore from his prospect on the Fremont Grant which milled \$71 per ton in gold. He has been working the property for the past four years and has sunk a 70-foot shaft.

H. F. Haller has left Holden, Washington, where he has been employed by the Howe Sound Company since June of this year, and is now at 2391 Koa Avenue, Honolulu, Hawaii. He is diamond drill foreman for W. M. Mullin, contractor.

Lewis T. Allsman is foreman of the cyanide plant at Yellow Aster mill of the Anglo American Mining Corporation at Randsburg, California. He is a brother of Paul T. Allsman who is associated with the U. S. Bureau of Mines at Salt Lake City, Utah.

T. J. THORNE TAKES NEW POST WITH HOLMES AND NICHOLSON

THOMAS J. THORNE has been named mine superintendent for the Holmes and Nicholson Mining and Milling Company, Box 828, Yuma, Arizona. He was formerly mine engineer for the Golden Queen Mining Company at Mojave, California, a position which he had held since January, 1935.

Thorne was born at Lyons, Colorado, and attended the State Preparatory School of Colorado for 3½ years. He then spent a year at the Army and Navy Academy, Washington, D. C., and two years at the College of Engineering, University of Colorado.

In 1923 he spent six months with the Lakeside Construction Company at Boulder, Colorado, then was with the Public Service Company at Boulder for a year. In September, 1934, he joined the staff of the Nevada Consolidated Copper Company at Ray, Arizona, and was employed by that company until September, 1934, serving in various capacities.

He then went to the Riverside Cement Company at Riverside, California, as assistant mine foreman, which position he held until 1931 when he was promoted to foreman. Due to a curtailment of production the mine went on a one-shift basis with no mine foreman and he took the position of shift boss, which he held until September 1933. This position was followed by a short period with the Hunkin and Conkey Construction Company, Mecca, California, after which he returned to the Riverside Cement Company as shift boss holding that post until he joined the Golden Queen Mining Company as mine engineer in January, 1935. Thorne is a member of the American Institute of Mining and Metallurgical Engineers.

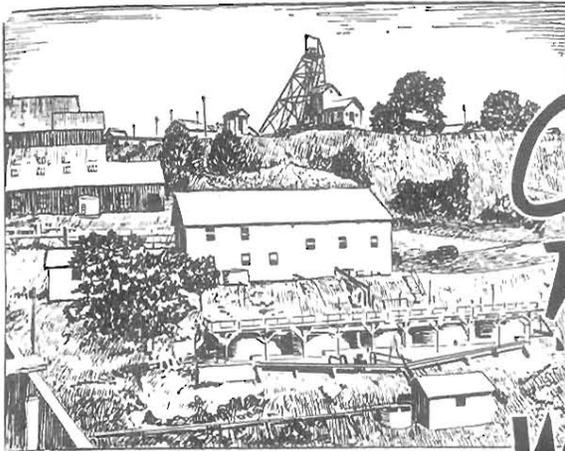
Fred C. Gebhart, field engineer, has closed his offices in Salt Lake City, Utah, and established headquarters in Carson City, Nevada. Gebhart, closely associated with S. Frank Hunt, expects to investigate properties in southern Nevada and California.

W. H. Teuscher and W. Bonzi have severed their connections with the Van Arsdale Engineering Company, 1180 South Fair Oaks Avenue, Pasadena, California, and the business is now being operated under the management of G. D. Van Arsdale.

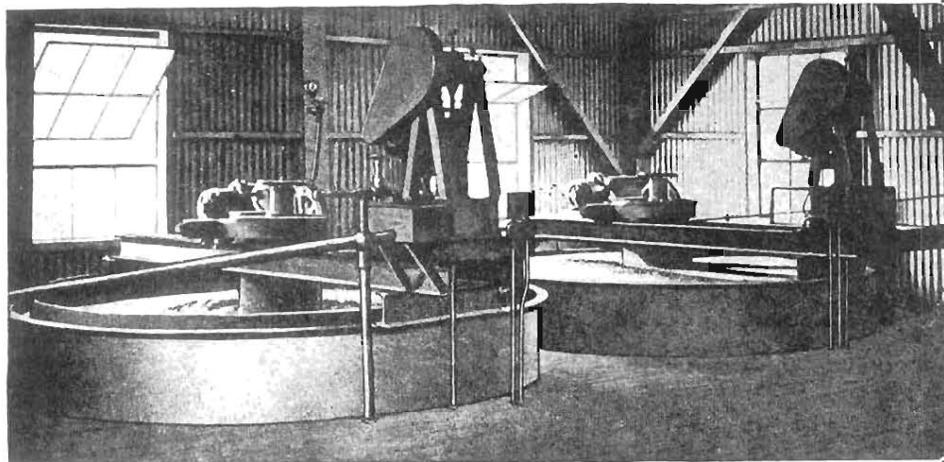
Leonard Lewin has returned to Silverpeak, Nevada, where he is employed by the E. L. Cord interests on the Black Mammoth Consolidated property. He has recently been at the Auburn-Chicago mine at Penryn, California, operated by the same interests.

Hollis G. Peacock, a member of the engineering staff of the United States Smelting Refining and Mining Company, has been transferred from Fairbanks, Alaska, to Salt Lake City, Utah, where the company offices are maintained in the Newhouse Building.

John T. Collins, president and general manager of the Pacific Gold Mining Com-



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**PROJECT IS PROPOSED
TO HONOR "CHIEF" TOLMAN**

IN ORDER to honor Professor C. F. "Chief" Tolman, who retired as head of the geology department of Stanford University at the end of the spring quarter of 1938, a group of the "Chief's" former students has formed a temporary executive committee to work out an appropriate project. The committee is composed of L. L. "Red" Aubert, '22; L. M. "Les" Clark, '24; L. A. "Doc" Cranson, '22; H. F. "Tiny" Lynn, '23; and C. W. "Charley" Merrill, '22. Merrill, who is acting supervising engineer of the Mineral Resources and Economics Division, U. S. Bureau of Mines, Federal Office Building, San Francisco, California, is secretary-treasurer of the committee.

Some 500 of Tolman's former students are being sounded out by the committee in order to secure their ideas as to what should be done. One suggestion has been that a fund be raised for the establishment of a "John Tolman Memorial Scholarship in Ore Deposits," named for the "Chief's" son who died last year while managing the Robinson gold mine in Plumas County, California.

Tolman was born June 2, 1873, in Chicago, Illinois, and was married 27 years later to Hanna Martha van Steen of the Netherlands. He was educated at the University of Chicago where he received his B. S. degree in 1896 and during the following two years he was a fellow at the university. He was graduated with honors and was a member of Sigma Xi.

In 1896 he received his first position, that of assistant geologist for the United States Geological Survey. In 1905 he was made professor of geology at the University of Arizona and in 1906 he was appointed professor of geology and mining. He remained with the University of Arizona until 1912.

In 1912 Tolman went to Stanford University at Palo Alto, California, to accept an associate professorship in economic geology and seven years later was made a professor. Until his retirement last spring Tolman continued his work at Stanford and during the past year or two he was head of the geology department. In addition to his teaching, Tolman has been retained as consulting geologist for various corporations and public utilities since 1900.

Tolman's hobby in his professional field is the application of geology to mining, ground water, and foundation problems. Lately he has been writing a text book on ground water.

The "Chief" is the author of many scientific papers among which are the fol-

lowing: Ore Deposition and Enrichment at Engels, California, Economic Geology, Volume 12, 1917; Summary of Progress in Microscopic Study of Siliceous Shales, Geological Society of America Bulletin, Volume 38, 1927; Biogenesis of Hydrocarbons by Diatoms, Economic Geology, Volume 22, 1927; Owens Valley Regions, Geological Society of America Bulletin, Volume 40, 1929; Erosion and Deposition in the Southern Arizona Bolson Region, Journal of Geology, Volume 17, 1909; Graphic Solution of Fault Problems, Mining and Scientific Press, Volume 102, also published in book form; Magmatic Origin of Ore-Forming Solutions, Mining and Scientific Press, Volume 104, 1912; and various other articles on secondary enrichment of ores and ore deposits.

Tolman is a member of the Geological Society of America, American Institute of Mining and Metallurgical Engineers, Seismological Society of America, and of the American Geophysical Union.

**PITTMAN PREDICTS RETURN OF
77.57-CENT SILVER PRICE**

SILVER miners throughout the west received encouragement recently when Senator Key Pittman of Nevada predicted that President Roosevelt will restore the former 77.57-cent buying price of silver the first of next year. The present price of 64.46 cents per ounce for domestic newly mined silver, which was established January 1, 1938, by presidential proclamation, will remain in effect until the first of next year unless repealed or otherwise modified in the meantime.

Pittman recently made a study of statistics and data gathered by the Rocky Mountain Silver Foundation which he said had

produced "extraordinary data" supporting the monetary use of silver. "These statistics and graphs will be presented to President Roosevelt within a few months and he will act immediately to restore the former 77.57-cent price," Pittman predicted.

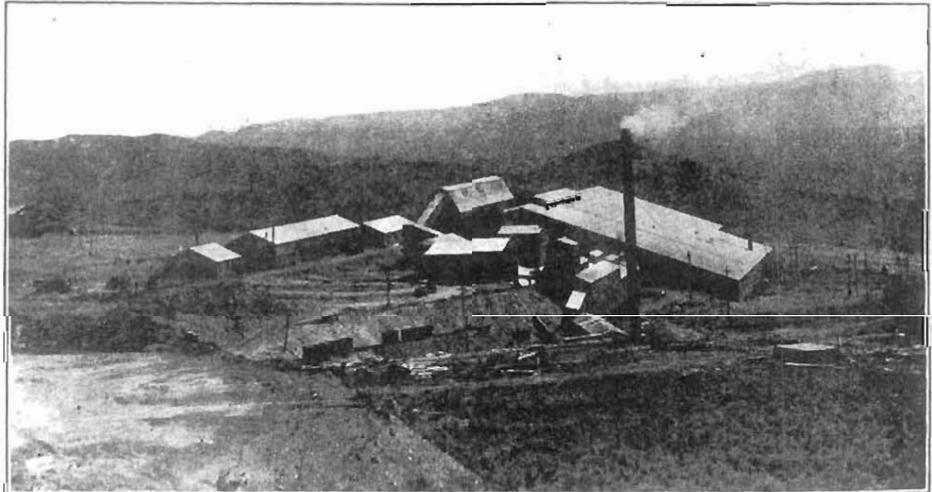
"Of course," he added, "the whole question of the silver policy over a period of years will remain with congress. The silver bloc did good work in both the last sessions of congress and their work presages more action and more interest in the coming sessions."

Pittman pointed out that the silver movement is gaining strength in both houses of congress and that it is entirely possible that some definite legislation fixing the price of silver will be enacted.

**INITIAL DIVIDEND PAID
BY NEW NEVADA PRODUCER**

A DIVIDEND of 5 cents a share on the outstanding 1,500,000 shares of capital stock has been declared by the Getchell Mine, Inc., George Wingfield, Box 2520, Reno, Nevada, president. Amounting to \$75,000, this payment represents the company's initial dividend and was made September 21.

The property is situated 25 miles north of Golconda in the Kelly Creek district of Humboldt County. The 800-ton cyanide mill is treating over rated capacity and is under the superintendency of C. W. Wark, Golconda. A total crew of 125 is employed, with Fred Wise as general superintendent. Both underground and open pit mining methods are employed. Noble Getchell, Box 2520, Reno, is vice-president and general manager.



The 600-ton cyanidation and roasting plant of Getchell Mine, Inc.

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Nuggets from Pacific Coast States

Brief items covering the mining industry in California, Oregon, and Washington

Two carloads of ore have been shipped to the Garfield smelter from the Oro Fino mine located 12½ miles east of Baker, California. The first car returned \$31.50 per ton and represents mine run ore, taken from a five-foot vein. The second car, composed principally of ore taken from a 20-inch, high-grade streak in the

mine, is expected to run close to \$100 per ton. The property is opened by two tunnels and two shafts, and ore is being mined at present from an 80-foot shaft which connects with a 340-foot tunnel. The mine maintains a width of 6½ feet from the surface down to the tunnel level. The two veins being developed strike north and south, and east and west, and it is planned to continue the tunnel to intersect their junction. The property is owned by Jerry and Norman Korfist and Jones Findly.

The Hayfork Gold Dredging Company, Charles C. Stearns, manager, Hayfork, California, is operating a dragline dredge in the channel and on the benches of the Hayfork of the Trinity River. Operations are carried on with a 1½-yard Lima dragline shovel and a washing plant. A crew of 17 men is employed and operations are on a 24-hour basis. The amount of material handled ranges from 1,500 to 2,500 cubic yards per day. The machinery was originally installed by the Wyandotte Dredging Company and was purchased from that organization.

The Roaring River Gold Dredging Company, J. Ellery Sanders, superintendent, Cottonwood, California, is dredging on Roaring River 15 miles west of Cottonwood using a dredge of the bucket-ladder type. The company controls two miles of the channel which will be dredged to an average width of 800 feet and a depth of 10 feet. The dredge, of the steel pontoon type, has a rated capacity of 50,000 cubic yards per month but has handled as high as 2,700 cubic yards per day with a bucket-tipping speed of 36 buckets per minute. It is operated 24 hours a day with a crew of 20 men employed. Norman Cleaveland, 351 California Street, San Francisco, is the manager of the company.

The contracting department of the Chastuma mine, Samuel T. Shaw, Jr., and P. J. Robin, operators, Plymouth, California, recently completed a 500-foot bedrock tunnel for the Chastuma Mining Company and is now driving the tunnel an additional 100 feet. The 500-foot distance was completed in 55 days including the placing of a compressor and other necessary equipment, laying of track, digging of drainage channels, installation of pipe line for compressor, and laying a pipe line for blowing the tunnel. A 75-foot reservoir tunnel was also driven during that time.

Gold-bearing quartz has been encountered on Myrtle Creek by Winnie Morrell of Crescent City, California, and plans are being formulated for the immediate development of the property. The quartz is reported to assay from \$25 to \$44 per ton.

A new dredge is being built by Harold A. Harris of Fair Oaks, California, for the W. and W. Gold Dredging Company. The new plant will be operated near Rocklin, California.

Operations have been resumed at the Gopher Hill mine in the Meadow Valley district near Quincy, California, after having been suspended since last fall. Robert G. Stevenson, Box 874, Quincy, is co-partner and superintendent of the property.

An extensive development program is under way at the Keller mine near Graniteville, California. A crew of four men is employed under the direction of E. A. Van Gortitz and satisfactory ore is reported to have been encountered in a new tunnel which is being driven.

The Western magnesite mine, formerly known as the Red Mountain, located near Patterson, California, is being reopened on a temporary basis by the California Chemical Company, S. H. Barrows, president, Newark, California, following a shutdown several months ago. A large order from an eastern steel mill specifying product of the Western mine brought about the resumption of operations which will continue for about five weeks.

William and Elmer Ogle, Volcanoville, California, are reported to be encountering high gold values in gravel operations in their property near Volcanoville.

Approximately 400 acres of placer ground on the Trinity River near Weaver-ville, California, have been taken over by the North Star Mining and Development Company. Hydraulic operations are said to be scheduled for the immediate future.

Clem Baker, Oroville, California, is engaged in developing a property in the Hurlston district which he has under option.



All news appearing in *The Mining Journal* is obtained from sources believed to be reliable, but the accuracy cannot be guaranteed. However, every item has been sent to the person or company mentioned for verification before publication.

The property has a 15-foot quartz ledge which outcrops for 1,500 feet. Several shafts have been sunk and values are said to have increased with depth. The vein averages four feet in width.

Six miles of difficult road have recently been completed to the Pine Creek tungsten mine near Bishop, California, operated by the United States Vanadium Corporation. A 300-ton mill is under construction which will treat both tungsten and molybdenum ore. Operations are directed by Clarence H. Hall, superintendent.

The San Andreas Dredging Company, Earl M. Clark and Lew G. Graves, operators, has recently placed in operation a new dredge near San Andreas, California. George Haskins of Lincoln, California, is to be in charge of the new plant which is to be worked on a 24-hour basis.

Development work is to be resumed at the Big Silver mine near Darwin, California, following installation of a compressor plant, power unit, and blacksmith shop. New bunk and boarding houses and office buildings have also been completed at the property, according to Paul Bolton, president of the Saline Valley Mining Company, 203½ South Park View Avenue, Los Angeles, California. The company plans to explore the Big Silver vein system by a series of drifts. Approximately 150,000 tons of milling-grade silver ore are said to be available for treatment.

One of the "toughest" pieces of tunnel ever run in that district is being driven at the White Lily mine of the Shaffer Gold Mines near Seneca, Plumas County, California. Last fall a new drift was started from the outside to tap the old workings and to open up known ore bodies. When the new work was within about 10 feet of and parallel to the old workings, water, backed up into some 4,000 feet of old tunnel, drifts, and crosscuts, and under about a 50-foot head, broke through from above and to the right of the new drift. At that time the new tunnel had just passed through a 35-foot clay fault and was progressing slowly with breast boards through a soft schist formation. After the rush of water had subsided 700 cars of muck were removed from the tunnel before the old face could be reached. Subsequent operations have been carried on under most difficult circumstances. With ground weight and water pressure snapping poles and lagging like match wood, iron T-rails were finally driven some 10 feet ahead making it possible to proceed inch by inch behind a solid face of breast boards, which are pushed ahead by jack screws. Approximately 450 gallons of water per minute are flowing out of the face of the drift. After the first set was placed it was again possible to use poles for lagging. The property is being developed under the direction of B. F. Barbee, superintendent. The company is headed by C. B. Shaffer, 33 South Clark Street, Chicago, Illinois.

A number of lessees are working at the Black Hawk mine Randsburg, California, and the mill is running steadily with sufficient ore blocked out to keep the plant in operation for more than 60 days. J. F.

and G. W. De La Mar and William T. Haight are running a 300-foot crosscut at the 100-foot level which is expected to cut a good ore body. They are also running a southeast crosscut to pick up a known ore body. John Laylow, another lessee, has just completed a mill run of 12 tons which averaged \$40. Warren and Homer Martin are milling 50 tons of \$10 to \$12 ore at present. Edward L. Haff, 421 Central Building, Los Angeles, is consulting engineer and manager for the eastern owners of the property.

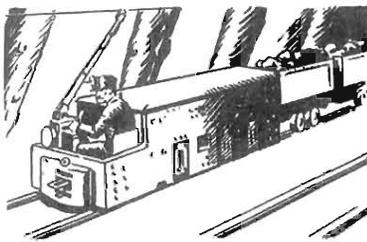
Arthur Bishop, Placerville, California, and Glenn Overpack, Oakland, California, have leased the Martin gravel mine located in the Texas Hill section and are engaged in reopening the old tunnel. Upon completion of this work it is planned to sample the property and carry on further development. The mine is a part of the John I. Martin estate.

Roy Journigan, 709 East Beverly Boulevard, Whittier, California, has been granted a permit to divert 11,520 gallons per day from Green, Burrow, and Burns Springs for mining and domestic purposes.

J. F. Garrette, Woodland, California, has filed applications for permission to divert 8 cubic feet per second from Kunz Creek and 8 cubic feet per second from Mill Creek, both tributaries to Kalmath River, for mining purposes.

The Panob Gold Dredging Company has placed its new dredge in operation on the Louis Kiss property located three miles southeast of Lincoln, California. The operators are Walter Pantle of Lincoln, and C. L. O'Brien, Sacramento manager for the White Motor Company. The plant, which was constructed by the Judson-Pacific Company of San Francisco, includes a 54-inch by 20-foot trommel and a recovery unit composed of four 36-inch Ainlay bowls. A 1¼-yard Northwest shovel handles the gravel. The plant has a capacity of 100 cubic yards per hour.

Concentrates left after the free gold had been extracted were tested by Wildberg Brothers Smelting and Refining Company, 742 Market Street, San Francisco, California, for the Shields Mining Company, Box G, Newcastle, California, with encouraging results. According to H. M. Shields, manager, the concentrates contain



values sufficient to increase total returns 10 cents per cubic yard. The Shields company is operating an extensive gravel deposit near Newcastle which includes the gravel claims of J. E. Payne, 85 acres of the Wilson Ranch, and the 115-acre Ruby Ranch.

The Middle Fork Gold Mining Company operating the Sliger mine near Greenwood, California, is reported to be planning installation of a cyanide plant to treat concentrates and rework tailings. The mine has attained a daily production of 100 tons under the direction of C. W. Plumb, superintendent, and this will be boosted to 125 tons per day shortly, it is understood. Electric power has recently been installed. A crew of 65 men is employed.

The crew of men which has been employed at Quintette for the Bear State Mining Company has been transferred to the company's mill near Volcanoville, California. J. P. Donovan is general manager.

Arthur L. Kirst, Ernest P. Wellman, and C. W. Lloyd have acquired the Littlefield quartz mine located about 3½ miles from Westpoint, California. The property was owned by Adele and S. M. Hughes.

Seven men are employed at the Sugarman mine near Sonora, California, and drifting to the north and south is in progress on the 450-foot level. Ralph Butler, Sr., Rose Court, Sonora, is directing operations.

A foundation is reported being laid for a mill of considerable tonnage at the Bondurant mine, Coulterville, California. The property has been under development for a number of years and is said to have a good tonnage of ore available.

Eleven former workers at the Columbus mine, Tuolumne, California, have leased the property and equipment from the Colum-

bus Gold Mining Company and are developing ground and milling ore on the 500, 600, 700, and 800-foot levels, averaging 25 tons daily. The men have formed a partnership and are proceeding to work the mine on a cooperative basis. The mine produced heavily for many months and was rated as one of the richest on the Mother Lode. The group which took over the property includes W. L. Bion, A. Van Opstal, J. B. Sivori, G. H. Wheatley, L. R. Hopper, P. T. Hambric, E. E. Blake, H. L. Collier, A. Oliver, E. L. Larsen, and K. Wyhlidko. Sivori was superintendent under the company management.

At a recent meeting of stockholders of the Amador Mother Lode Mining Company held in the company's offices in the Stack Building, Reno, Nevada, all officers and directors were re-elected by unanimous vote. Officers of the company are O. E. Chaney, Reno, president; E. A. Stent, Jackson, California, vice-president; and Ernest Stent, San Francisco, secretary-treasurer. The company recently became a holding corporation with interests in two large gold properties, the Fremont-Gover mine and the California group, both located on the Mother Lode near Drytown, California. At the Fremont-Gover mine which has been on a regular production basis for some time a well equipped flotation mill is treating from 175 to 200 tons of ore per day.

L. J. Banks, manager of the Roosevelt mines located between Alleghany and Forest, California, plans to thoroughly sample the property before any further work is undertaken. He has recently completed a considerable amount of dead work and has now returned to Oakland, California, where he is addressed at 1540 Sixth Avenue.

The Alaska Juneau Gold Mining Company, P. R. Bradley, president, 1022 Crocker Building, San Francisco, California, reports a gross revenue of \$444,500 for August bringing the eight months' total to \$3,464,500. Operating profit after inclusion of miscellaneous revenue amounted to \$190,300 for August making a total of \$1,368,700 for the eight months before deductions for depreciation, depletion, and other income charges.

The Vesubio Mining Corporation has been organized at Calexico, California, with a capitalization of \$100,000 for the purpose of developing two sulphur deposits

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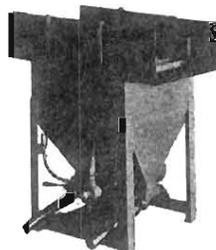


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and for the manufacture of insecticides and neutralizers for Imperial Valley farmers. The organization owns or controls two sulphur deposits near Calexico, one a 300-acre deposit highly valuable for agricultural purposes which will be refined by a specially developed flotation process without the use of heat. This deposit is located 25 miles south of Calexico. At present the company is mining one of its deposits located 41 miles from Calexico and five miles west of the San Diego highway. Experimental work on the flotation and refining of the deposits for agricultural purposes was carried on principally by Louis Vremsak, president of the corporation. Before organization of the company, extensive tests were carried on in the Groch Engineering Company laboratory at Los Angeles. It is expected that the first unit of the new flotation plant will be on a production basis in less than 60 days.

The Marigold mine located in Graniteville, California, is being operated under lease and bond by six men. An inclined shaft is being sunk on a three-foot quartz vein and milling rock is being encountered with depth, warranting the installation of a 25-ton plant. Harry V. Reeder, Graniteville, is one of the lessees of the property.

The Carson Hill Gold Mining Corporation, 206 Sansome Street, San Francisco, California, paid an initial dividend of two cents a share on September 20. It is understood that this payment does not mean that a regular dividend policy has been established. The fiscal year for the company closed September 30 and while estimates of earnings are not available it is understood that the tons of ore produced approximated 375,000 for the year and that recovery equalled or exceeded the 1937 figure of \$2.19 per ton. Ore production in the fiscal year ended September 30, 1937, amounted to 335,180 tons. The stock of the company is principally owned by the Anglo American Mining Corporation which purchased a controlling interest early in 1937. The Carson Hill properties are located near Melones, California, and were mined more or less continuously by former owners from 1849 to 1926. They were taken over by the present company in 1931 and, following rehabilitation, operations were started in 1933.

Natomas Company has declared a regular quarterly dividend of 20 cents a share, payable October 1 to stock of record September 13. The company, a gold dredging organization, is headed by Thomas McCormack, Forum Building, Sacramento, California.

Quartz assaying from \$3.50 to \$7 per ton in gold is reported to have been opened up in the face of the south drift from the mill tunnel at the North Hubbard property, Julian, California. The mine is being developed by the Moro Bay Copper Company, Ogden C. Chase, president, 420 Kearns Building, Salt Lake City, Utah.

Shaft-sinking operations are reported to be progressing satisfactorily at the Experimental mine of the Shoe String Mining Company near Columbia, California. Exploration work in progress on the third level is said to be showing much promise. Ore

is treated on the property in a five-stamp mill equipped with amalgamating machinery and a concentrating table. F. J. Schoettgen, Box 178, Columbia, heads the Shoe String company.

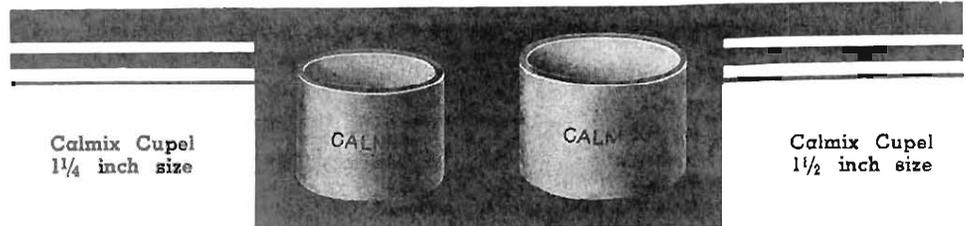
M. D. Madden, owner and superintendent of the Madden and Coulter mine located eight miles southeast of Coulterville, California, reports that he has encountered good values on the 100-foot level. The ore is treated on the property in a three-stamp mill. Several men are employed.

Connelley Brothers are operating under lease the Azalia mine near Graniteville, California, and are engaged in development work.

Eight men are employed at the old Travis mine near Graniteville, California. Operators of the property are reported to be encouraged by the results of development work.

Installation of a compressor has been completed at the Hot Water mine near Graniteville, California, and drifting on the vein is now under way at the bottom of the 64-foot shaft. The vein ranges from 12 to 14 inches in width. The property is equipped with a five-stamp mill. W. L. Baker, R. H. Garner, and J. L. Jackson are the operators.

The Yreka Mining Exchange, Yreka, California, has acquired the Chalcopyrite



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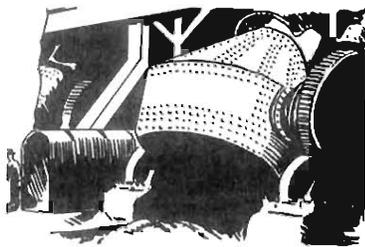
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copper property which lies between the Parker Ranch and Callahan in Scott Valley. A crew of four men is engaged in preparing the property for production and it is planned to start shipping ore to the Tacoma smelter immediately. Operations are in charge of W. H. Holloway. The mining exchange is headed by Major H. A. White. No work has been done at the mine since 1930.



several weeks. However, all difficulties affecting production have been overcome and indications are said to point to a production during the latter half of the year which should enable the company to maintain its position as the third largest gold producer in California. The milling of marginal ores, ranging from \$2 to \$6 per ton, has been discontinued for the time being and such ores are now stored against some possible future contingency.

Quail Gold Mines, Inc., H. B. King, president and manager, Coulterville, California, has started installation of a new milling plant at its property near Coulterville. The mill, which is expected to be in operation by November 1, was purchased from the Denver Equipment Company and will have a maximum capacity of 65 to 70 tons per day. Equipment includes a crusher, ball mill, classifier, amalgamation barrel, and eight flotation cells. Power will be furnished by a Diesel engine. Otto D. Rohlfs, formerly manager of the Original Amador mine at Amador City, California, is superintendent of construction and will have charge of the plant upon its completion. The company is said to have 100,000 tons of ore blocked out and opened by tunnels so that no pumping or hoisting will be necessary. Ore on the dumps will be treated first and it is estimated that this will average \$10 per ton in gold. Mine ore is calculated to range from \$7 to \$25 per ton in value. The mill will be operated continuously throughout the year.

Captain John D. Hubbard, Paradise, California, has resumed operations at his Terra Lava placer mine in Little Butte Creek Canyon north of Paradise and is employing a crew of eight men.

A resumption of operations is planned at the **Lucky John** mine near Paradise, California, owned by Henry Martens of San Francisco. A. J. Martens, Paradise, is manager of the property.

New pumping equipment is being installed at the **Rattlesnake** mine seven miles north of Mono Lake, California, by the **Mono Mining Company**, which has an option on the property. The new equipment will be used to unwater the old workings. An attempt to pump out the shaft earlier this summer failed because the equipment was not capable of handling the flow. Dr. Robert S. Wade, 801 Bush Street, Santa Ana, California, is president of the Mono company.

The **San Juan Ramsey Company**, Incline, California, has resumed mining operations, following a lengthy shutdown caused by storm damage last winter. Values are said to average \$30 per ton. Alexander S. Wyner is general manager.

The **Lava Cap Gold Mining Corporation**, Otto E. Schiffner, general manager, Nevada City, California, reports that production for the first half of 1938 was considerably less than for the same period in 1937. This is attributed to the milling, temporarily, of ores of a slightly lower average gold content, and in part to a cave-in in the **Banner** workings which reduced production from that property for

Frank Hunt, Grass Valley, California, has purchased the Hoepfner estate at Brownsville, Yuba County, California, and will conduct sheep and stock grazing on the surface and mineral development underground. The estate, which comprises 880 acres, has undergone considerable mineral exploration and approximately \$250,000 has been spent in prospecting and surveying the extensive vein system.

A carload of ore is being shipped every other day from the **Lucky Strike** mine near Baker, California, which is being developed by "Cactus" Johnson. It is understood that construction of a mill is planned for the near future.

Two silver bricks were shipped recently from the property of the **Zenda Gold Mining Company**, Yermo, California. The tailings are being cyanided by L. Coke of Yermo. In addition two carloads of ore have been shipped to the smelter.

The **Kanaka Corporation**, Robert D. MacAfee, Jr., superintendent, Box 1086, Nevada City, California, which has been working gravel deposits on Kanaka Creek, is dismantling its dredging equipment and will move it to ground leased on Wolf Creek southeast of Grass Valley. It is understood that the results obtained at the Kanaka Creek site were not entirely satisfactory.

Two new dredging projects are getting under way on the Calaveras River about two miles west of Jenny Lind, California. One, a dry-wash outfit, is being operated by Fuller and Dennison. The **Calaveras Mining Corporation** is operating a dragline.

A 505-foot tunnel at the **Rattlesnake** placer mine near Downieville, California, will be extended about 600 feet under contract during the coming winter for the purpose of prospecting for the channel above the faulted area. At present only one shift of two men is at work in the tunnel. The remainder of the crew of 10 men is engaged in building a new log house, shop, and work sheds, and installing a small water-power plant for lights and ventilation. The property is under option to Roy H. Elliott, 918 Hobart Building, San Francisco, California.

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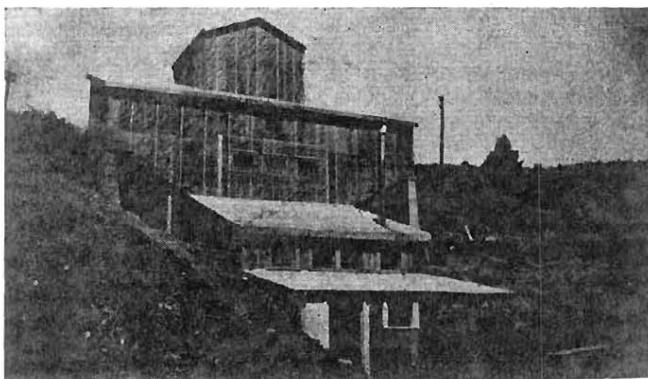
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80 Mesh	Ross activated	84
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The Pacific Gas and Electric Company has run power lines to the two plants.

Fall and winter development at the Forbestown, California, properties of the Idaho Maryland Mines Corporation will center at the Gold Bank and Shakespeare mines, according to Fred W. Denton, Jr., general superintendent at Forbestown. Prospecting and diamond drilling will be undertaken at the Shakespeare and the Forbestown mill will operate one shift. About 75 men will be the peak employment for the present. Albert Crase, Grass Valley, California, is general manager of the company.

James R. Moffat, Nevada mining man who recently undertook the reopening of the old Black Swan mine at Mooney Flat near Nevada City, California, has abandoned the project, after having pumped out the old hydraulic lake which destroyed the mine 35 years ago. By means of shaft sinking and drilling it was possible to test the territory through which the old tunnel had run and values were found to be worth while. However, the interests which had agreed to back Moffat met with reverses which made further financing impossible.

The Gold Star Dredging Company, James F. King, president, Marysville, California, has recently purchased an Allis-Chalmers tractor and a Moore bulldozer for use in construction of roads and clearing of ground preparatory to operation of a modern all-steel dredge. Actual operations are expected to be under way before the first of October on a 24-hour basis. The company holds leases on property on Deer Creek between the holdings of the Atlas Gold Dredging Company and the Enos interests. The company also has extensive holdings in Trinity County and will shortly enlarge its operations there also.

John P. Holmes, 117 McDow Street, Susanville, California, and associates have organized the Susanville Mining Company to carry on development of the "Believe It or Not" mine located five miles south of Susanville. A 40-ton flotation plant and other equipment are being installed at the property and a tailings pond is being prepared.

The old Trojan gold mine located one mile north of Mokelumne Hill, California, has been acquired by William C. Werle and associates. The property adjoins the LeRoi mine, which was formerly known as the Lucky Joe, and is to be developed by the Trojan Mining Company, a partnership of which Werle is manager. Picked samples have run as high as \$35 per ton with average values ranging from \$5 to \$10 per ton. The property is still in the prospect stage, according to the operators. It is equipped with a 25-ton milling plant.

Roy Ventura and Harold Best have completed the construction of a new dredge at Lincoln, California, which will now be dismantled and moved to the Guy Neal Robinson property, 14 miles northeast of Lincoln on the Bear River, where mining operations are planned. Ten men will be employed on a three-shift basis. The dredge, which is equipped with three Pan-American jigs, was designed and built by Ven-

tura and was financed by Best. The boat is powered by a Caterpillar Diesel and is designed to handle 1,000 yards in 24 hours. It has a three-quarter-yard dragline and also has several new features, including a partial mill.

The Humphreys Gold Corporation, A. E. Humphreys, president, 910 First National Bank Building, Denver, Colorado, has secured leases on 260 acres of ground north and east of Redding, California, which it plans to use for mining purposes. The company is at present operating a dragline dredge at Carbondale, California, under the direction of D. G. Brown, general superintendent.

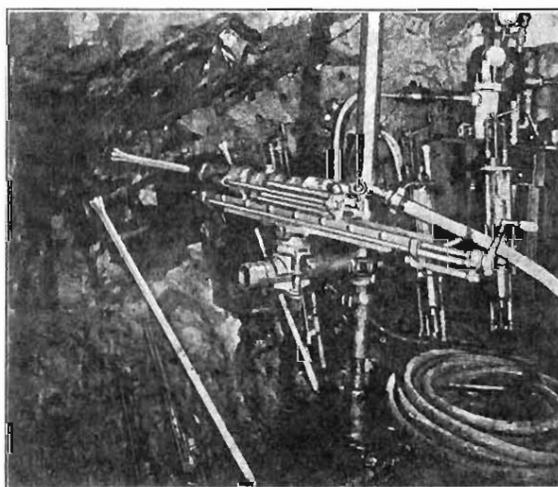
The first 50-ton unit of a new milling plant is under construction at the property of the Pride of Mojave Mining Corporation, Mojave, California. Additional 50-ton units will be built as they are needed until the plant has reached a capacity of 150 tons. A tunnel is being driven from the Four Star shaft to the Pride shaft to form a connecting link for development work. J. J. Murray is supervising engineer at the mine.

Jack Cooper of Hollywood, California, who owns 640 acres of patented land in the Mojave mining district, is understood to be making plans for development of the property. He is represented by C. H. Tyler, Mojave, California.

B. D. and P. W. Elliott, Downieville, California, have made application to the California Debris Commission for permission to operate the Craycroft mine by hydraulic methods. The mine lies between the North and Middle Forks of the North Yuba.

Inyo Metals, Inc., Stewart C. Bedell, president, Big Pine, California, has been organized to develop a tungsten property in the Waucoba district of Inyo County, 36 miles from Big Pine. Six feet of 4 per cent WO₃ are reported on the surface of the Last Rose group and seven feet of 5 per cent scheelite are reported available on the surface of the Omar group. The company recently applied for a permit to divert one cubic foot of water per second from Waucoba Creek for mining purposes. Estimated cost of the diversion is \$5,000. Associated with Bedell are S. K. Thomas,

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317 T. W. Patterson Building, Fresno, California, and C. McBride, Sanger, California, trustees for the Geophysical Explorations, Inc.

G. C. Allender, Downieville, California, has made application for a permit to divert 50 cubic feet per second from Little Canyon Creek for use in developing the Blue Lake placer mine, comprising 400 acres.

Following extensive tests, the Desert Gold and Aluminum Corporation, S. C. Hedrick, president, Arcade Building, Seattle, Washington, has decided that it will be necessary to install some type of grinding equipment in order to make a more complete recovery of the values from its property, located in the Chocolate Mountains of Imperial County, California. Sluicing operations were found to recover only about 40 per cent of the values indicated by drill tests.

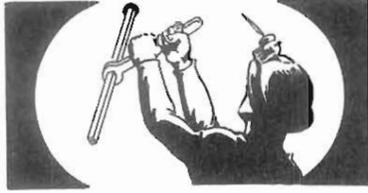
The Timms Gold Dredging Company, Charles H. Timms of Galena, Oregon, president and general manager, reports that 400 acres of dredging ground has been developed for future use on the north fork of Burnt River in Baker County, Oregon, and

development of additional ground on the middle fork of the John Day River is now under way. Production of gold with some silver continues, 2,000 yards of material being moved every 24 hours. A 3½-cubic foot dredge is used. Carl Timms is assistant general manager and H. B. Timms is mechanic, both of Galena. About 19 men are employed.

Production was recently started by the Waldo Copper Company, M. E. Hughes of Takilma, Oregon, president and general manager, and capacity output of 50 tons daily is being maintained. Ore carries values in copper and gold and is treated in the company's 50-ton flotation mill. A new 1,350-foot tunnel is being driven and is expected to cut three known ore bodies. This ground is owned in fee by the company and is developed chiefly by a tunnel to a depth of 350 feet. H. Petrolo Collins is consulting engineer and mill superintendent and James and Max M. Hughes are foremen, all of Takilma. A crew of 14 is employed. Besides the Waldo mine the company is operating the Sunbeam gold property and taking out about 20 tons of ore daily.

A daily production of 6,000 yards of gold bearing gravel is being maintained by the Ferris and Marchbank dragline dredging project at John Day, Oregon. J. H. Ferris, John Day, and J. W. Marchbank of Daly City, California, are operating as a partnership, with Ferris as general manager. John D. Smith is superintendent; Osborn Winsvold, chief electrician and Diesel engineer; and F. B. Carothers, purchasing agent, all of John Day. A total of 26 men is employed. Recovery is by amalgamation and some silver is obtained along with the gold.

The Jack Blank group of two placer claims near Canyon City, Oregon, has been



leased recently by the Roba brothers. Lawrence Roba, Box 181, Canyon City, is general manager of operations, which include hydraulic mining in the summer and drift placer mining in the winter. The operators intend to install a small dredge and recovery plant to recover the fine gold in the north fork of the John Day River. Roba will design the equipment himself.

The Western Gold Corporation started regular production September 8 at its new dredging ground near Granite, Oregon. The company acquired about 400 acres at the confluence of Granite and Clear creeks, but carried on an operation near Golden, Idaho, before moving the dredge and other equipment to Oregon. A new steel hull was built to replace the wooden hull of the dredge and the operation will probably be electrified. S. K. Atkinson, Box 2120, Boise, is president. Three shifts are employed.

Work is reported to have been resumed at the Champion mine at Cottage Grove, Oregon, in the Bohemia district of Lane County. The property is operated by the Mahala Mines, Inc., which also holds the Musick mine in the same district. Edward Kelly, formerly associated with the University of Oregon, is in charge at Cottage Grove.

Progress is reported by the Grande Ronde Mines, Inc., C. H. D. Douglas of Yakima, Washington, president and general manager. The company is developing the Aurelia, Standard, and other mines in the Grande Ronde district of Union County about 30 miles northwest of Baker. L. C. Hoppel of Selah is company secretary.

The New Eldorado Mining Company has been organized by Joseph E. Bunker, William Honrath, and R. J. Bunker, all of Bates, Oregon, to operate the Heppner mines, also known as the Dan B. Stalter claims. The property, located in the Green Horn district 70 miles west of Baker, has been idle for some time and is being reopened and explored by the new interests. It is leased from the Heppner Mining Company of which James Williams is president and C. H. Shultz, secretary, both of Tillamook, Oregon. A new sawmill has been installed and camp building constructed. It is planned to install a new Denver mineral jig. The 20-ton flotation and gravity concentration plant is treating 10 tons of ore daily, recovering gold, silver, and copper. The mine has been opened by 3,900 feet of underground workings to a depth of 2,000 feet. Present production is said to be coming from new development work. Six men are employed.

Production of 100 tons of ore daily is reported by the Quicksilver Syndicate of Blackbutte, Oregon. The crew numbers 38 men and equipment has a maximum capacity of 180 tons daily. The official staff

includes: Frank Taylor, president and mill superintendent; Fred L. Mills, secretary and general manager; Daniel J. Mills, assistant general manager and purchasing agent; and Roy Eddy, assistant mill superintendent and master mechanic, all of Blackbutte. C. J. Madsen of Cottage Grove is mine superintendent.

A crew of 30 men is employed in the mine and mill on the Highland-Maxwell property which Claire D. Schlemmer, Baker, Oregon, is operating. About 40 tons of gold-silver ore are treated daily in the 100-ton flotation mill. Donald Henderson Baker is general manager. The new shaft has reached the 100-foot level and is reported to have opened excellent ore.

The old Silverton mines on the Stillaquamish River near Granite Falls, Washington, are being reopened by the Ore Recoveries Corporation, which is backed by Scott Calhoun, 804 Summit Avenue, Seattle, and J. K. Sloan of Greensburg, Pennsylvania. The mill has been completely electrified and equipment includes primary crushers, ball mill, rolls, and selective flotation plant. Capacity is 50 tons of ore daily. Values are principally in silver and gold.

The 50-ton mill of the Monica Mines, Inc., is reported to be working two shifts under the supervision of J. H. McClellan. Arthur F. Eastman of Loomis, Washington, is mine superintendent. The property, known as the New Light mines, is under lease to Roy and Frank Staples of British Columbia. S. S. Callahan of Winthrop is president of the owning company which has offices in the Peyton Building, Spokane. The mine is in the Slate Creek district in eastern Whatcom County.

Theodore B. Bruener of Aberdeen, Washington, and associates have formed a company to build and operate a \$200,000 plant to process manganese ore. The recovered metal will be produced in bars. Interested in the company with Bruener are: A. C. Murray, Jerry McGillicuddy, Henry Egge, W. A. Rupp, R. J. Ullman, and F. Fitzgerald. The concern plans to apply for an RFC loan of \$110,000 to aid in financing this project. Ore will come from deposits on upper Stevens Creek and about 250 tons will be treated daily. The plant will be located at Neilton in Grays Harbor County.

DREDGING INTERESTS APPEAL COURT DECISION

THIRTY dragline outfits, operating along or adjacent to Honcut Creek, have filed notice of a motion for a new trial in Yuba County superior court in connection with the suit filed against them more than a year ago by farmers and land owners along the creek.

Operations were enjoined by court order after a long drawn-out trial about a year ago, in which the land owners proved to the court's satisfaction that the mining operations created objectionable and damaging conditions along the Honcut.

losses are partly compensated for by elimination of such assessments.

The definition of a bona fide prospector is somewhat in the different states, in general it is taken to mean an individual who has personally carried out whole or major part of the field work prospecting for gold and which includes person other than a company who has contributed to the expenditures incurred in work of prospecting and development. Queensland, Australia, the term is extended to include a company which, through its employes, has carried out the whole or major part of the field work of prospecting, as well as any person other than the company who has contributed to expenditure incurred in the work of prospecting and development.

The ruling in effect in many states in Australia, permitting the deduction of prospecting expenses in reporting net income for taxation purposes, provides also for prospecting expenses incurred in the preceding years and not recovered may be claimed as a deduction. Furthermore, in Western Australia, income taxes are assessed after the net income arising from mining operations exceeds the capital expenditure for plant and equipment and development of the property. Taxes are paid after such expenditures have been recovered by operating the mine.

While such a constructive tax program goes far toward stimulating gold production in Australia and has been of substantial financial benefit to the nation, similar legislation affecting the production of minerals other than gold should be of other substantial benefit.

TAILED REPORT MADE OF CHROMITE DEPOSITS IN OREGON

ANTICIPATION of a demand for chromite by electric furnaces and other nonmetallurgical and ferro-alloy industries which Bonneville power may encourage the department of geology and mineral industries of Oregon has published Bulletin No. 9, Chromite Deposits in Oregon.

Under present conditions half the net price of chrome is consumed in freight and handling charges between the nearest rail point in Oregon and the point of consumption in the east. Earl K. Nixon, director of the department of geology and mineral industries, states that with a production plant near Portland, part of the freight charges would be saved for the producer, but he would still have to compete for ore from New Caledonia and the Philippines. However, Nixon points out, an electric furnace plant in the Columbia River would favor Oregon producers by providing a steady market for their ore, which would allow them to cut mining costs by operating on a regular schedule.

The report, made by John Eliot Allen, geologist for the department, gives a general survey of chromite deposits in Oregon, which occur mostly in Curry, Wheeler, Grant, and Baker counties, and deals with the deposits specifically. Byron of Grants Pass, vice-president and engineer of the Rustless Mining Corporation, has written a special introductory

VISIT BOOTH 227 AT THE EXPOSITION FOR DUST AND FUME CONTROL

The fifth annual Metal Mining Exposition will be held at the Ambassador Hotel in Los Angeles, California, from October 24th to 27th inclusive.

Western Precipitation Corporation, pioneer in dust and fume control, cordially invites you to see its exhibit in booth 227. An invitation to visit the main offices, plant, and laboratories at 1016 West 9th Street is also extended.

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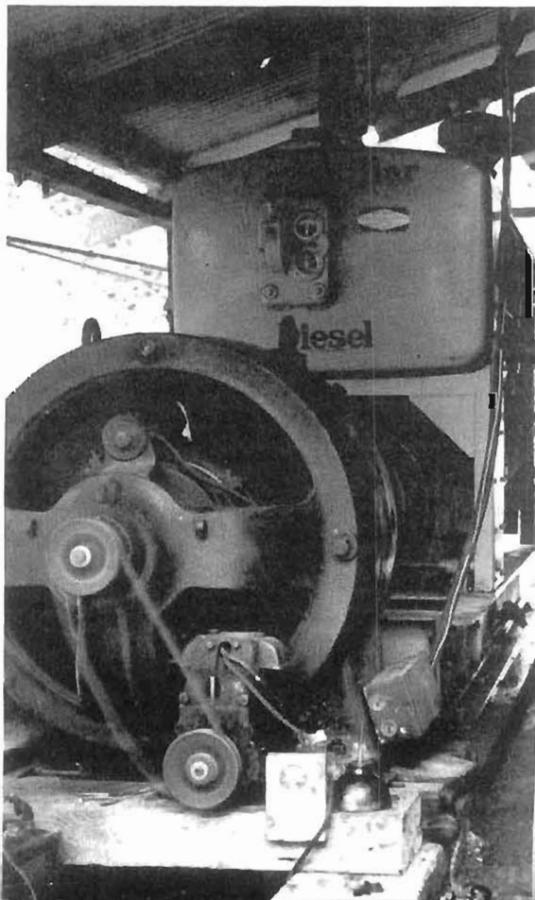
In October, 1936, Bradley Mining Co. purchased a "Caterpillar" Diesel D7700 engine to power a Gardner-Denver 210 cu. ft. compressor at their Mt. Diablo Micksilver Mine in Contra Costa County, California.

In June, 1938, 20 months after its first day's work, this industrious engine had logged up the remarkable total of 12,000 hours' service—a seasoned veteran in less than 2 years!

Working day and night, it burned an average of only 2½ gallons of 6¢ fuel per hour, used no oil between changes and needed no major repairs.

Now, after a general overhaul, the engine is back on the same continuous schedule—ready for many more thousands of hours of money-saving work. Small wonder Bradley purchased another "Caterpillar" Diesel D7700 Engine in April to power their 50 kw. Electric Generator.

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ENTERTAINMENT PLANS FOR MINING CONGRESS MEETING

LOS ANGELES has made extensive plans for the entertainment of those attending the meeting of the American Mining Congress, October 24 to 27. A number of interesting events for the after-hours have been arranged by the entertainment committee, headed by H. W. Howe.

On Monday evening, October 24, an informal "get-acquainted" party, with dancing and a novel entertainment program and a floor show, is to be held in the Biltmore Hotel. On Tuesday, October 25, Frank J. Romero, "The Barbecue King" of Southern California, will serve a barbecue in the patio of an old Spanish home on Olvera Street, with entertainment to include troubadours, serenaders, puppet show, and the Caliente Inn floor show. Olvera Street is a quaint spot with an interesting history. Its natural Mexican setting will be a special attraction to delegates and their wives. Wednesday evening has been left open so that convention visitors may choose their own amusements from the many and varied attractions at hand.

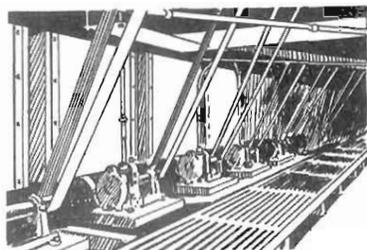
Thursday evening will bring to a climax the week's activities. The annual banquet will be held that evening at the world-famous Cocoanut Grove. Cornelius F. Kelley, president of the Anaconda Copper Mining Company, will be the principal speaker. Harvey S. Mudd, well-known mining man of Los Angeles, will serve as toastmaster.

Friday and Saturday, October 28 and 29, will be taken up by educational field excursions. On Friday there will be a trip to the Golden Queen Mining Company's cyanide plant and Cactus Mining Company's cyanide and flotation mill at Mojave. Busses will leave the Ambassador Hotel at eight o'clock and return at five o'clock in the evening.

On Saturday the optional trips include one to Atolia Mining Company's tungsten mill and Yellow Aster's cyanide plant, both in the Atolia-Randsburg district. Bus leaves Ambassador Hotel at 8 a. m. and returns at 5 p. m. The second is to the San Jacinto Tunnel of the Metropolitan Water District of Southern California, where underground tunnel operations will be observed. The bus will leave the Ambassador at 8:30 a. m., returning at 4 p. m. The Riverside Cement Company's underground limestone mine will be visited by a group to leave at 9 a. m. and return at 4 p. m. The other trip will be a visit to the Los Angeles Harbor, including a boat ride through the harbor. Women guests are especially invited on this trip. The bus will leave at 9 a. m. and return at 12:30 p. m.

PROPOSES TRADING OF U. S. COTTON FOR FOREIGN SILVER

A NOVEL plan has been suggested by Senator Key Pittman of Nevada as a means of aiding American cotton producers and at the same time further carrying out the purpose of the Silver Purchase Act. The proposal provides for the direct barter of United States cotton for silver held in India and China. Pittman contends that by this



method surplus cotton from our country could be sold in foreign markets under conditions that would greatly facilitate the making of payments.

The plan suggested by Senator Pittman calls for the trading of 10 pounds of cotton for one ounce of silver. Such a trade would result in export of 13,400,000 bales of cotton and importing 670,000,000 ounces of silver. On August 1 of this year there was a carryover of 13,400,000 bales of cotton, of which 7,000,000 bales are under government loans, he pointed out.

Silver certificates would be issued against the silver thus acquired, with which the holders of the exported cotton would be paid at the rate of 12.9 cents a pound. This price is arrived at by the fact that the 670,000,000 ounces of silver would coin \$64,300,000 silver dollars, or be the basis for issue of silver certificates to that amount. The 13,400,000-bale carryover is equal to 6,700,000,000 pounds for which \$864,300,000 would equal 12.9 cents a pound.

AVERAGE PRICES OF METALS (Figures by American Metal Market)

	Copper Per Lb. Conn. Valley	Lead Per Lb. New York	Zinc Per Lb. St. Louis	Silver Per Oz. New York
1924	13.024	8.097	6.344	66.731
1925	14.042	9.020	7.622	69.065
1926	13.795	8.417	7.387	62.107
1927	12.920	6.755	6.242	56.370
1928	14.570	6.305	6.027	58.174
1929	18.107	6.833	6.512	52.993
1930	12.982	5.517	4.556	88.154
1931	8.369	4.244	3.638	28.701
1932	5.792	3.181	2.881	27.892
1933	7.276	3.870	4.031	34.728
1934	8.658	3.8595	4.162	47.973
1935	8.880	4.0648	4.391	64.273
1936	9.710	4.7091	4.903	45.038
1937	13.391	6.0085	6.517	44.805
1936				
Jan.	9.250	4.500	4.850	47.250
Feb.	9.250	4.5152	4.861	44.750
Mar.	9.250	4.500	4.900	44.750
Apr.	9.400	4.600	4.900	44.900
May	9.500	4.600	4.950	44.869
June	9.500	4.600	4.883	44.760
July	9.596	4.600	4.787	44.760
Aug.	9.750	4.600	4.801	44.750
Sept.	9.750	4.600	4.856	44.750
Oct.	9.846	4.6308	4.850	44.750
Nov.	10.432	5.1196	4.933	45.431
Dec.	10.995	5.55	5.277	45.352
Ave. 1936.	9.710	4.7091	4.903	45.038
1937				
Jan.	12.660	6.00	5.86	44.912
Feb.	13.60	6.2356	6.435	44.75
Mar.	15.990	7.1889	7.377	45.130
Apr.	15.346	6.175	6.989	45.460
May	14.00	6.00	6.75	45.025
June	14.00	6.00	6.75	44.818
July	14.00	6.00	6.929	44.750
Aug.	14.00	6.4519	7.205	44.75
Sept.	13.780	6.400	7.179	44.75
Oct.	12.060	5.740	6.087	44.75
Nov.	11.022	5.0326	5.632	44.75
Dec.	10.235	4.875	5.011	43.810
Ave. 1937.	13.391	6.0085	6.517	44.805
1938				
Jan.	10.425	4.870	5.00	44.714
Feb.	10.00	4.6318	4.816	44.75
Mar.	10.00	4.50	4.413	44.446
Apr.	10.00	4.50	4.155	42.75
May	9.60	4.40	4.043	42.75
June	9.00	4.1481	4.143	42.75
July	9.310	4.882	4.75	42.75
Aug.	10.125	4.90	4.75	42.75
Sept.	10.255	5.00	4.855	42.75

WORK IS RESUMED AT CHINO BRANCH, NEVADA CONSOLIDATED

THE CHINO Mines Division, Nevada Consolidated Copper Corporation, Horace Moses, general manager, Hurley, New Mexico, has been ordered to resume limited operations October 16.

The resumption of mining operations at Santa Rita and milling operations at Hurley follows a four-month layoff which began with the shutdown June 14. The company resumed stripping operations in the pits at Santa Rita the first of August. Construction of the huge smelter at Hurley is progressing steadily.

UNION EXECUTIVES HINDER STRIKE AGREEMENT IN UTAH

DESPITE the fact that five Utah mining companies and a referendum vote of 5,900 members of the International Union of Mine, Mill, and Smelter Workers accepted a two-year wage agreement, the executive board at Butte, Montana, announced that it would not accept it and recommended that no local union sign the agreement. It is understood that the board objected chiefly to the seniority clause in the contract, which it considered in violation of the Wagner Act. The contract was agreed upon by Utah mine operators and their employes early in August.

WEST'S INDUSTRIAL REPORT IS NOW HALF COMPLETED

UNDER the impetus of a staff of 35 technical experts and their assistants, headed by George W. Malone as consulting engineer-manager, the industrial survey of the 11 western states, one of the largest and most important surveys of its kind ever undertaken in this country, has now reached the half-way mark at San Francisco headquarters, 111 Sutter Street. It will be completed by the first of the year and published immediately. The survey and report will assemble in condensed, authoritative form complete information on all agricultural, forest, mineral, water, and recreational resources of the west; all highway, railway, boat, air, and pipeline transportation; all sources of power and heat, such as hydroelectric, coal, gas, and oil, with their distributing systems; local and foreign markets available for the sale of western products; population trends, trade balances, and other controlling requisites for further feasible western industrial development. The survey is being made by the Industrial West, Inc., a non-profit, cooperative organization of western utilities (both publicly and privately owned) and other large concerns looking toward expansion.

The state of California through its commission for the Golden Gate International Exposition is directly supporting the survey and with its own and federal funds is now constructing a gigantic, topographical relief map, 100 by 110 feet in size, of the 11 states which constitute the west, to be exhibited at the exposition. This huge and unique relief map will carry all the resource and industrial information now being gathered.

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men" is planned. The right to hire and fire may be another factor in the consideration of whether an employe is a "bona fide" executive or administrative employe.

Labor Department plans propose the setting up of the organization on a regional basis, patterned after the plan of the Social Security Board. This calls for 12 supervisory regional offices, the same number as the social security set-up, although the regions are not identical. Each regional office will be manned by a staff headed by a regional director. His duties will be advisory, to assist employers in interpretations and in speeding consideration of local problems in the Washington headquarters. He will also receive complaints and have certain responsibility for enforcement.

New Mexico, Colorado, Idaho, Montana, Utah, and Wyoming will be in District 11 with headquarters in Denver. California, Nevada, Oregon, Washington, and Arizona will be in District 12 with headquarters in San Francisco. Other headquarters have been located tentatively at Boston, New York, Philadelphia, Richmond, Cleveland, Chicago, Birmingham or Atlanta, Minneapolis, Kansas City, and Houston.

At the present time the only place to secure information is from the Wage-Hour Division of the United States Department of Labor, Washington, D. C. It will probably be some time before the regional offices will be organized and ready to do business.

INCREASING ACTIVITY IN STUNNER-PLATORO DISTRICT

ALTHOUGH little information has been given to the public, a small district in the northwest portion of Conejos County, Colorado, known as the Platoro-Stunner district, is forging steadily ahead. The Commander mine in the Kerber Creek area, owned by Jesse J. Montgomery of Monte Vista, was recently leased to George Richard Smith of Pratt, Kansas. A new road has been completed to the property and new buildings are under construction. Operations are directed by L. G. Johnson.

A lease and option are reported to have been taken on the Eurydice mine near the ghost town of Stunner where a crew of 15 men is employed. This mine was operated for a part of the past year, with no reported production, by William B. Avery of Monte Vista.

The Stunner Mines, Inc., started rehabilitating the workings last May and is now building a 50-ton flotation mill. Both newly mined and dump ore will be treated. Stanley Porter of Michigan is president of the company and W. A. Perkins is general manager.

The Smuggler-Sunbeam group of claims is owned by Charles Edman and associates of Monte Vista and is under lease and option to Leonard Anderett and Vincent Frodsham of Grand Junction, Colorado. Another recent change took place when the Winchell ground, owned by H. H. Winchell of Monte Vista, passed to new management. The Platoro Gold Mines, Inc., holding the Valley Queen and other mines in the Platoro area, operated during part

of 1937, but reported no production. The company, headed by L. R. McCabe, 418 West Twelfth Street, Pueblo, has installed a mill.

Other smaller properties are being operated and several eastern groups are stated to be investigating conditions. It is just a few miles northwest of this region, over the line in Rio Grande County, that the Summitville district is situated.

FINAL PLANS APPROVED FOR "TREASURE MOUNTAIN" EXHIBIT

A SPECTACULAR mining exhibit was assured for the 1939 Golden Gate International Exposition when final approval was given to the plans of Mining Exhibits, Inc., and announcement made that the California State Commission of the Exposition is calling for bids for construction of Treasure Mountain.

Treasure Mountain, to be built in the gigantic Palace of Mines, Metals, and Machinery on Treasure Island, will enable the layman to obtain first-hand knowledge, under ingeniously simulated conditions, of actual mining operations.

Entrance to Treasure Island will be through a passageway resembling the tunnel of a mine. Emerging, the visitor will find himself in a valley between two towering mountain ranges in a typical mining region.

From the valley one may see the reproduction of the open-cut copper mines of Utah, Arizona, and Colorado, a replica of the Mother Lode country, and models, actually working, showing surface mining operations such as panning, cyaniding, flotation, hydraulicking, and dredging.

In Treasure Mountain valley there will be a full-sized reproduction of the old assay office at Ophir, California, the first mint to be established in the gold country.

Near by there will be the Hall of States, Alaska, and the Philippine Islands. Here the visitor will find displays of the mineral resources of the 11 Western states, the Philippines, and Alaska. Another outcropping of mining will be found in the Hall of Commercial Products. Here everything will be on display from medical metals to household cleaners.

From the valley the visitor will step into a shaft for a close-up of underground mining operations. The illusion of descending into the innards of the earth will be cleverly simulated by the use of shifting dioramas. Once in the underground workings the spectator may inspect a three-compartment shaft and view hoists and cage in operation. Continuing on through the tunnel he will see replicas of typical ore bodies of some of the world's most famous mines. A cross-section of the Butte district will show the vein formation, tunnel structure, and shafts.

In Treasure Mountain visitors of the World's Fair of the West will see miners operating drills and mucking machines. They will see trucks, cars, and hoists handling ore. Even water will seep slowly through the tunnel roof to make the underground illusion a perfect one.

Another feature of the exhibit will be a full-sized, operating gold mill. The precious metal will be extracted daily from

Nuggets from Pacific Coast States

Brief items covering the mining industry in California, Oregon, and Washington

The Desert Gold and Aluminum Corporation, S. C. Hedrick, president, Arcade Building, Seattle, Washington, is making preparations for installation of recovery equipment at its property located in the Chocolate Mountains of Imperial County, California.



L. Lore Wartes, mining engineer, 451 Skinner Building, Seattle, Washington, will direct the selection of the equipment and its installation at the property. He will also place the property on a production basis. Location of the mill will depend upon whether or not a large daily yardage is to be treated. If it is decided to treat only two or three hundred yards per day the equipment can be set up at the well and trucks used for transportation. However, a large output can be handled more satisfactorily at the scene of operations. A Diesel shovel will be used to load the material into a hopper from which it will pass into a revolving trommel. The minus one-inch material will be trucked to the company's well where a storage bin will be built. The gravel will be run over a system of Hungarian riffles for recovery of the heavy gold, then over a Pan-American placer jig, and finally over a pulsating type jig. If the fine quartz in the gravel is found to contain sufficient gold values not recoverable through placer and jig equipment, a milling program will be developed to meet the situation. Drilling crews are to be put to work immediately with a view to thoroughly proving the extent of the values. The company also plans to pay particular attention to the development of a deposit of alunite known to be located on the property.

The Central Eureka Mining Company, C. C. Prior, president, 2012 Hunter Dulin Building, San Francisco, California, has declared a dividend of 6 cents a share on preferred and common stocks, both payable October 15 to stock of record September 30. The company paid 6 cents a share on both stocks in August, 8 cents in June, and 6 cents in April and February. The October payment will bring dividends for the year to date to 32 cents a share. The company's property is located at Sutter Creek, California. James Spiers is superintendent at the mine. The company is reported to have crosscut an ore body on the 3,150-foot level and is now drifting in both directions. In places the vein measures eight feet in width. So far it has not been possible to determine whether this is a new vein or the faulted section of the old vein which was lost on the 3,000-foot level.

The Alaska Juneau Gold Mining Company, P. R. Bradley, president, 1022 Crocker Building, San Francisco, has declared the regular quarterly dividend of 15 cents and the usual quarterly extra dividend of

15 cents, both payable November 1 to stock of record October 4.

High-grade ore is reported being mined at the Page pocket mine in the Browns Flat district near Sonora, California, and installation of a small mill is under consideration. The mine is being developed by James N. Byers, Don Coppi, and George Herndon who have been at work on the property for a number of months. The ore, which is coming from a 10-inch vein, is being stockpiled for future milling.

Two men are engaged in development work at the French Corral gravel mine near French Corral, California, under the direction of A. A. Wise. New machinery has recently been installed to speed up operations.

High-grade gold bearing quartz is reported to have been encountered at a depth of 50 feet at the Black Oak mine on the Mother Lode highway 2½ miles from Altaville, California. The property, which comprises 20 acres, has been worked by means of a tunnel system for the past year by McFall and Becker.

Water was encountered at a depth of 42 feet in shaft sinking operations at the property of the Spring Valley Mining Company, Inc., Valley Springs, California. Work has been halted pending the installation of pumps and the completion of construction work on a blacksmith shop, hoist building, etc. Seven men are employed under the direction of D. W. McCarty, superintendent. The property, located 2½ miles east of Valley Springs, is owned by McCarty. Offices of the company are located at 820 Kansas Avenue, Topeka, Kansas. A geophysical survey of the property was completed recently by Isham and Isham, 230 Redwood Avenue, Sacramento, California.

A 500-foot Sullivan Angle compound compressor with semi-Diesel drive has been installed at the Genter mine, Alleghany, California, and a steel frame compressor building is now under construction. A primer house has been built in accordance with specifications of the Industrial Accident Commission and a magazine will be constructed as soon as the compressor building is completed. This work will be followed by a resumption of active mining. The tunnel is in about 250 feet and crosscutting to the serpentine is under way. The property, formerly known as the Madden mine, is being developed by the Genter Gold Mining Company under the direction of Carl G. Genter, secretary-treasurer and manager.

All news appearing in The Mining Journal is obtained from sources believed to be reliable, but the accuracy cannot be guaranteed. However, every item has been sent to the person or company mentioned for verification before publication.

National Hotel, Nevada City, California. James G. Pierce is president of the corporation and E. H. Hatch is vice-president.

H. C. Dudley, 704 Lonsdale Building, Duluth, Minnesota, and associates are reported to have optioned property in the Grass Valley-Nevada City district comprising approximately 1,200 acres. Included in the optioned claims are the Banner Mountain mining properties of Charles H. Taylor, lying northeast of the Idaho Maryland property, together with the adjoining claims owned by Mrs. Maude I. Clark of Salt Lake City. It is understood that exploratory work will be undertaken shortly. Dudley is associated with Cia. Minera de Maguarichic in Mexico and also has mining interests in Canada.

Fred F. Cassidy, Nevada City, California, has made application for a permit to divert 50 gallons of water per minute from Gold Star Tunnel, tributary to Kanaka Creek, for mining purposes. Estimated cost of the diversion is \$4,000.

A new warehouse is being added to the surface plant at the Spanish mine near Washington, California, and additional underground exploratory work is under way, it is understood. D. K. Ribble is general superintendent.

A 300-foot tunnel at the Chloride mine on Rattlesnake Creek near Dedrick, California, is reported to have encountered a three-foot ledge of ore which averages \$60 per ton. Hatfield Goudey, a geologist of Goldfield, Nevada, is understood to be mapping the property with a view to purchase and development on a large scale. The mine has been worked for the past several years by Dan O'Shea and H. W. Gentry.

Improvements are being made at the old Abbott quicksilver mine near Wilbur Springs, California, under the direction of Everett Freels, superintendent, preparatory to reopening the property. The mine is being equipped with a rotary retort and other modern machinery. Alvin Underhill is to be chief chemist. The property is owned by Mrs. Barber De Bles, who spends much time at the mine.

T. L. Brite, Box 572, Big Pine, California, is shipping ore from the Reward and Brown Monster mines near Lone Pine to the Tropic mill at Rosamond, California. He is operating both properties under lease from Guy Eddie of Los Angeles. The ore is trucked a distance of 125 miles.

The Golden Bear mine located in the Gold Stripe district near Greenville, California, is to be on a production basis soon, according to S. B. Waters, operator and co-owner. A 40-ton mill has been installed and development work has been in progress throughout the past winter and summer. A glory hole has been developed which will permit work to be carried on through the open pit. The ore shoot is from 20 to 80 feet wide and is free milling. The Golden Bear group comprises 60 acres.

Hal D. Draper, assayer, Nevada City, California, will be in charge of purchases for a new plant to be erected at Auburn, California, for the treatment of small lots of concentrates from the Auburn district

and adjacent territory. As the trade grows and expands larger lots of concentrates will be handled.

The Myers-Rose Mining Company is operating a dragline dredge on the old Rose property north of Oregon House, California. The ground is owned by H. J. Rose and is being worked by Charles Myers and his sons Harold, Wesley, and Leroy. They built the dredge themselves and the dragline is of the standard type. At present the dredge is dragged along on its skids when moving is necessary but it may be mounted on a float later to handle the large amount of ground available. However, it will be necessary to obtain a water supply for the pond.

A small rotary furnace has been installed at the Clear Creek quicksilver mine near Hernandez, California. The property is owned and operated by Wesley W. Webster.

At the Ruby mine, L. L. Huelsdonk, resident manager, Goodyears Bar, California, 1,500 feet of an intervolcanic channel known as the Mott or York channel have been breasted. Pay material stopped at a point where it was fed by the erosion of an older Tertiary channel flowing in from the east. At present diamond drilling is in progress in an attempt to locate the position of this older channel. If this work is successful it is planned to run a raise and breast the older channel, otherwise all work will be confined to the quartz mining. No curtailment of operations is contemplated at the property.

Operations are being resumed at the old Morning Star mine near Markleeville, California, under the direction of H. W. Hawkins, manager. About 600 feet of old tunnel workings have been retimbered and the main shaft is being opened preparatory to starting operations on the lower levels. The property is believed to contain a large body of commercial ore.

Lord and Bishop, Box 812, Sacramento, California, are operating a dredge and dragline on Greys Flat in Plumas County. The outfit moves 1,800 yards of gravel per 24 hours and the recovery is said to average one-half ounce of gold per hour. There is sufficient ground available to keep the plant in operation for another 15 months. Victor B. Hayes is superintendent.

Installation of a 60-ton pilot plant has been completed at the property of the Shadow Mountain Tungsten Mines, Inc., located 18 miles northwest of Adelanto, California. The new plant is capable of 85 per cent recovery. It is understood that if the plant is found to be satisfactory a 400-ton mill will be installed soon. The single shaft at the property is down 70 feet and samples are said to show one per cent and more of tungsten. The property under development was acquired recently from Oliver P. Adams and E. Richard Just. The tungsten deposits were originally located in 1937. Fay L. Wright, 811 West Seventh Street, Los Angeles, is secretary-treasurer and general manager of the Shadow Mountain company.

Development work is continuing with a small crew of men at the Norambagua mine of the Campbell Grass Valley Mining Company, Grass Valley, California. The present crew will carry on development with a view to blocking out sufficient ore to warrant the employment of additional men and the resumption of operations at the mill. George W. Worthington is manager at the property.

Ted Lindblad has closed his automobile agency at Sacramento, California, and has moved to Hayfork, California, where he will direct his mining operations. He has recently acquired property near Hayfork and will move his dragline equipment to that location. He is also interested in the Thompson mine at Roseville, California.

A. Mills, Fort Jones, California, owner of the old Conzetti quartz mine on the south fork of the Salmon River near Garden Gulch, has completed a short spur road from the county highway to the mine and is preparing to rebuild the mill on the property. The mine has been idle for some time. Previous operation by Conzetti was unsatisfactory because part of

the ore is refractory and transportation to Cecilville had to be made by mule trains.

High-grade ore is being shipped as it is mined at the property of the Stockton Hill Corporation, Grass Valley, California. The shaft is being sunk to the 600-foot level and crews are now down 360 feet. A six-foot vein has been encountered in the bottom of the shaft which assays \$35 per ton. Ore has been blocked out on three sides on the 265-foot level and it is planned to do the same at the 400-foot and 600-foot levels. Walter R. Woock, Box 126, Auburn, California, is president of the company.

L. E. Elliott, Fort Jones, California, and Hal Hall, Redding, California, are reported to be tracing a promising ledge in Mill Creek, Siskiyou County. They are said to be planning the use of seven or eight large giants on their property which covers approximately 3 1/2 miles of the Mill Creek bed.

The Cal Oro Dredging Company, Lawrence Gardella, president and general manager, 681 Market Street, San Francisco, California, is constructing a new dredge hull on the Lange Brothers property near Yreka, California.

Mrs. H. F. Bell of Santa Margarita, San Luis Obispo County, California, one of the principal owners of the Rinconada quicksilver mine near Santa Margarita, has a small crew engaged in development work. It is expected that production will be resumed during the winter months.

A ball mill with a capacity of 25 tons per day has been placed in operation at the Mark Twain mine on the X. O. Howe property near Tuttletown, California. The mine is being developed by D. O. Miller, Sr., and D. O. Miller, Jr., both of Sonora, California, who are employing a crew of four men. The mill is being operated about 14 hours per day during which it treats from 10 to 12 tons of ore. The ore is mined from a slope at the 40-foot level and is averaging about \$50 per ton. Concentrates from the ball mill are run over amalgamating plates and corduroy tables. Work at the mine is under the direction of D. O. Miller, Sr.

The Red Rose quartz mine located east of the Mohican mine near Tuolumne, Cali-



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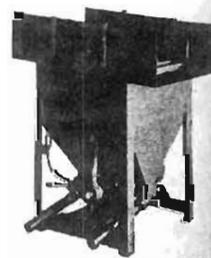


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California, is being reopened by R. A. and F. A. Comer. Several shafts have been sunk on the property and a number of tunnels run. A 10 to 12-foot vein carrying some free gold is said to have assayed from \$5 to \$6 per ton.

Satisfactory ore is reported being mined at the Indian Girl property in the Jupiter district near Columbia, California. The mine is equipped with a five-stamp mill and four men are employed under the direction of F. L. Macpherson, superintendent.

A two-stamp mill is being installed at the Crocker group of six quartz claims near Crocker station on the Big Oak Flat road by Charles Gillis, Sonora, California. Development of a large deposit of high-grade ore at the property is said to have necessitated the installation of the new plant. The vein averages 20 inches in width and is understood to contain principally free-milling material. A concentrating table is also being installed.

The E. A. Kent Dredging Company is preparing for dredging operations on the south branch of Sutter Creek at Volcano, California. A power line is to be installed and work is to begin shortly. Mac Lowden of Jamestown, California, is in charge of construction with Joe Rice of Sonora, California, as general superintendent. Joseph A. Keyes, Box 525, Jamestown, is field superintendent and purchasing agent for the company.

The Susanville Mining Company, Susanville, California, is preparing to sink a 100-foot shaft at the "Believe It or Not" mine to crosscut three veins which show on the surface. This will be followed by drifting in both directions on each vein to determine its extent and the quality of the ore. R. L. Chester, one of the owners of the property, is manager and mining operations will be carried on under the supervision of W. D. Whittet. F. M. Shaw, geologist and mill operator, will make assay and metallurgical tests of the ore as work proceeds. A substantial headframe has been erected and a 25-horsepower engine, hoist, and compressor have been installed. In clearing ground for a tailings reservoir a third vein was uncovered which will be explored from the shaft being sunk. The dump will now be located on the low ground north of the shaft.

A new 40-ton rotary furnace is to be installed at the property of the Mercury Production Company near Hernandez, California, according to M. G. Ramiers, one of the operators. Seven men are employed in driving the tunnel and in removing ore. At present the tunnel is in 120 feet and several veins have been cut.

The Salmon River Mines Company, E. C. Hatchem, president and general manager, Callahan, California, is completing a 1,000-foot tunnel which is entering the ore shoot 90 feet below the upper workings. Construction of a water power plant is in progress and this work will be followed by construction of a new mill at the lower portal.

A new Bendelari jig has been installed at the mill of the Little Bodie Mining Company, Bodie, California, and regular ship-



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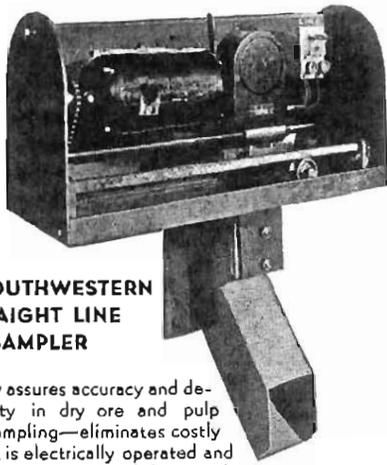
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ments are now being made from the property. George De Wolfe is manager.

Steady development is in progress at the Ben Dane mine four miles east of Pine Grove, California, owned by Benjamin Dane. Up until a short time ago all work had been carried on through a 105-foot shaft, but now a second shaft located 280 feet up the mountain from the first is down 45 feet and has proved profitable. An ore shoot has been contacted which measures 1½ feet in width and assays from \$8 to \$10 per ton. The property is equipped with a three by three Straub ball mill, Standard concentrating table, and two Kraut flotation cells.

The 550-foot shaft at the Pocahontas mine near Drytown, California, has been unwatered to the 300-foot level where an extensive program of sampling is to be carried out. A large ore body developed on that level by former operators is reputed to be of commercial grade and if this is found to be true the present operators plan extensive mining. Work is under the supervision of Anthony Wieler and eastern capital is financing the project.

Tulare and Elmer Warner of Stockton, California, are operating a dredge on the Tuolumne River about six miles east of Waterford, California. The plant is treating approximately 500 cubic yards per day.

George De Wolfe of Chula Vista, California, who is operating under lease four claims owned by Tom Munn and Mrs. Bradshaw Munn near Mono Lake, California, is considering the installation of a new and larger milling plant at the property. Should he decide to install the plant it is planned to have it erected and housed in before winter. The mine, which is located about two miles from the highway on Virginia Creek, is under development and is opened by a 160-foot shaft and a 50-foot drift from that level. The present pilot plant located on the property consists of crushers, a Marcy ball mill, Dorr classifier, amalgamation plates, and four Kraut flotation cells. About 25 tons of ore per day are being milled at present and if further development continues to show the grade of ore now being mined the new mill is expected to be installed.

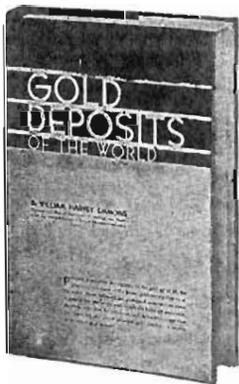
Jess Knight, Mojave, California, owner of the Gum Tree and Four Jacks mines, has leased both properties to George D. Smith of Mojave. Smith will continue with installation of new equipment which had been started by Knight and which includes a new compressor, new ore bins, and construction of a road from the Mojave-Lancaster highway. The road-building job is a heavy undertaking as the property is located half-way up the north side of Soledad Mountain. The Gum Tree will not be worked until the Four Jacks has gone into production on a larger scale. At present ore shipments from the Four Jacks are averaging 250 tons per month of \$14 ore and this production is expected to be doubled within 30 days.

With two furnace units treating 200 tons of ore daily and turning out an average of 400 to 450 flasks of quicksilver per month, Henry W. Gould, Mills Building, San Francisco, general manager of the New

Idria Quicksilver Mining Company at Idria, California, has announced plans for cutting in two additional recovery units in the event of an advance in the price of quicksilver. Prime factor in the world quicksilver price is said to be the fortunes of the Franco forces in the Spanish civil war. The capture of the rich Spanish Almaden mines by the rebels would place control of a large percentage of the world output in the hands of Italy, and it is pointed out that such an eventuality should serve to revive the European cartel which from 1928 to 1931 pegged the world price at \$125 a flask. Present quotations vary from \$72 to \$78 a flask. The proposed increase at the New Idria property could be brought about by modernization of two old furnaces on the property, last operated during the boom days of the World War. The property now employs a crew of 125 men working two shifts underground and three at the furnaces. Ore is taken from drifts between the 100 and 500-foot levels and trammed to the recovery plant a half-mile down the mountainside at the mouth of the No. 1 tunnel. Additional ore is being obtained from slag dumps of early operations when recovery ran only 60 per cent as against the 95 per cent average with present equipment. Development work is being pressed in the main workings as well as at the San Carlos property on the south end of the mountain, where the old tramway is being repaired, to bring the property into operation should production be increased. C. Hyde Lewis is mine superintendent at the property.

The Operator Consolidated Mines Company, Major J. Paul Jones, manager, Box 213, Randsburg, California, has leased the property of the Little Butte Mining and Milling Company near Johannesburg for a period of five years, according to an announcement by E. L. Riggs, owner. All equipment, including the pumps, motors, and drilling equipment, is included in the lease. The Operator Consolidated company is at present working the Operator mine near Johannesburg and one of the chief reasons for leasing the Little Butte property, it is asserted, is to secure water. As soon as additional equipment can be installed water will be pumped from the Little Butte to the Operator, and production will be undertaken at the Little Butte.

A new roaster and drying plant for gravity concentrates is being built at the property of the Atolia Mining Company, David D. Baker, general superintendent, Atolia, California, and construction of an automatic dryer plant for drying acid-leached flotation concentrates is contemplated. The company also plans the installation of a new set of rolls in the gravity concentration plant which will give a capacity of 300 tons per day on sand tailings. Two thickeners are being installed as additions to the acid leaching plant. The company's new mill was completed last year and consists of a flotation section with a capacity of 200 tons and a gravity concentration section capable of handling 150 tons. The new plant was built on the site of the old Papoose mill where 100,000 tons or more of tailings are available for reworking for their tungsten content. Operating officials at the property



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THE MINING JOURNAL
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ude J. W. Cooper, mill superintendent; L. Cox, chief mine engineer; Pat Lutz, ster mechanic; Bradley Dennis, chief smist; A. C. Wimberley, chief clerk; Her- t Straub, foreman, Union mine; P. O. gst, foreman, Amity mine; A. P. Snook, eman, Paradox No. 3 mine; Edward oot, manager, Main lease. Thirty-five n are employed in the mines, 25 in the l, and 25 in the surface crew.

The Edwards Mining Company, Charles Archerd of Grants Pass, Oregon, presi- nt, is planning to start development on a large scale within the next 60 days. The company holds the Ida gold mine and 100-ton flotation mill near Grants Pass, both of which ve been idle during the last few years. G. Grager of Salem, Oregon, is secretary.

James B. Murray of Rogue River, Ore- n, and associates are reported to have quired the Black Channel mine, owned F. A. Bates of Gold Hill. The mine is ated on Fooths Creek six miles from ld Hill. The new owners plan to in- ll new equipment and conduct extensive erations. Test shafts are now being sunk, e mine comprising an area of 950 acres. edging will be started April 1, 1939.

A crew of 10 men is employed at the arly mines at O'Brien, Oregon, which e being operated under lease from G. Hales. Production was made from No- mber to July and preparations are now ing made for operations during the ater season. Ditches and flumes have en prepared and the pipe line laid. Open ethods of mining are employed and e gold, platinum, and silver values are overed by riffles and jigs. About 250 rds of material are handled daily. C. Stout of O'Brien is general manager.

The Oregon Chrome-Gold Syndicate, illiam M. Muchow, 5 South Wabash enue, Chicago, Illinois, president and eral manager, is employing 12 men at roperty at Powers, Oregon, work be- y confined to development. A 100-ton onson rod mill has been installed and ts are being conducted to determine an efficient method of extracting the gold d chrome values. For this purpose ore is ing trucked from different parts of the roperty to the mill. The company holds out 2,000 acres, most of which is chrome d, with a few acres containing values the platinum metal group. The property s been developed by a tunnel and an en pit, the work extending to a depth of 0 feet. The staff at Powers includes illiam McLaughlin, general superintend- t; G. M. McFadden, chief mine engineer; ck Fulton, construction engineer; Ben rna, master mechanic; and A. H. Thack- e, chief chemist. Robert M. Harrison of rtle Point is field engineer for the com- y. Consulting work is done by Otto oher of Portland and E. A. Ritter of ver is chief geologist.

William L. Merritt of Susanville, Ore- n, reports that while the Princess mine ar Susanville is idle now, development ll be undertaken this coming winter.



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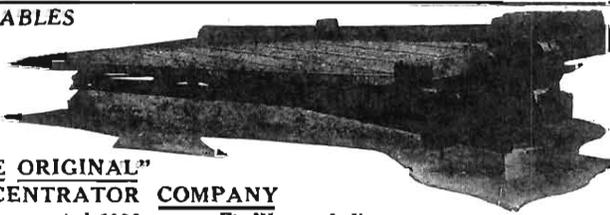
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CONTROVERSY OVER JOSHUA TREE MONUMENT MAY BE SETTLED

POSSIBILITY of an early settlement of the controversy over the establishment of the Joshua Tree National Monument is believed possible as a result of a recent conference held in Los Angeles, California, by the Mining Association of the Southwest and a group of business men from Twentynine Palms, California. At the conference it was brought out that the Department of the Interior is not disposed to proceed with improvement of the Joshua Tree monument until the dispute over inclusion of too much territory has been settled.

It was intimated that if the mining association, which started the controversy over the Joshua area, is disposed to introduce a bill in the next congress for elimination of the five easterly ranges of the monument, the bill probably would meet with no opposition from the Department of the Interior. The elimination of the five easterly ranges, it is believed, would throw open for mineral entry practically all of the land susceptible of being mined. The remaining area would be left to preserve the large Joshua forests.

A bill will be drafted by Victor Hayek, secretary of the association, for submission to the membership. Should it be approved by the organization an effort will be made to have Representative Harry Sheppard of Yuba, California, introduce it at the session of congress which convenes in January of 1939.

GOOD WAGES ARE PAID BY CUBAN MANGANESE PRODUCER

ACCORDING to reliable information, the wages paid by the Cuban Mining Company, a manganese producer with properties at Cristo, Cuba, are considerably higher than the figure stated in an article carried in the June 15, 1938, issue of The Mining Journal telling of the necessity of tariff protection for the domestic manganese industry. In that article, entitled "Hamstringing of American War-Metal Producers," it was reported that wages paid by the Cuban-American Manganese Corporation totaled 70 cents a day without board, implying that that was the prevailing wage in Cuba.

Authentic figures which have been received by The Mining Journal show that wages paid by the Cuban Mining Company exceed this figure by a wide margin and that the lowest wage paid by that company is \$1.10 per eight-hour day. An ordinary mill man draws from \$1.30 to \$3.25 per day, while miners earn a minimum of \$1.50 per day and as much as \$2.75 when working on a contract basis. Mechanics, carpenters, electricians, etc., as well as the better class of workmen, are paid from \$2 to \$4.50

per day. The company's property is an open pit proposition and five shovels are used. The shovel runners draw a minimum of \$4.50 per day and up to \$225 per month.

In addition, the company operates a store for the convenience of its employes, selling groceries and materials to the men at cost plus handling expense only. Furthermore, a group life insurance policy is carried on all men in addition to the regular accident compensation insurance required by law.

The group insurance carried by the Cuban Mining Company pays beneficiaries of the men who die while in the employ of the company on the following basis: \$300 for employes earning \$1.50 per day or less; \$400 for employes earning more than \$1.50 per day and not more than \$2 per day; \$500 for employes earning more than \$2 per day but less than \$100 per month; \$750 for employes earning \$100 per month but less than \$200 per month; \$1,000 for employes earning \$200 per month but less than \$300 per month, and \$1,500 for those who draw \$300 per month or more.

While the wages paid by the Cuban Mining Company are low when compared to American standards, they are high in Cuba, and are not in the same class with the low wages that are paid in many foreign countries where manganese is produced in competition with the domestic product. The company is reported to make immense purchases in the United States, where it buys practically all its equipment and supplies, and has for years been taking all the excess foots from the cottonseed oil market.



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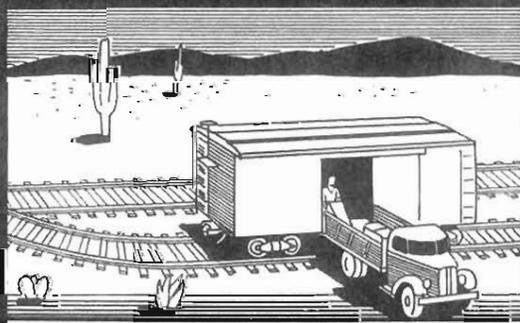
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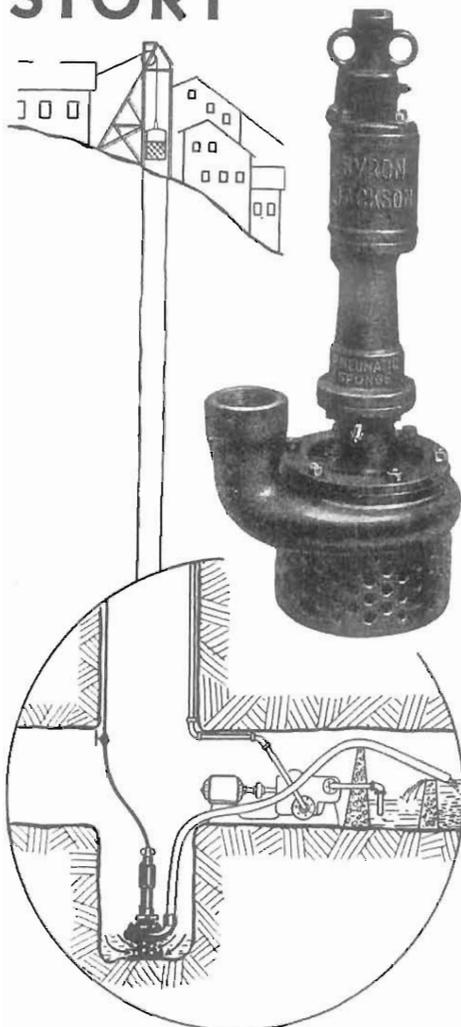
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William T. Morgan, 76, consulting engineer of Denver, Colorado, died September 6, 1938. He specialized in the erection of ore mills and did a great deal of work both in the United States and abroad.

Oscar Hinrichs, chief clerk of the Denver mint, died September 6, 1938. He had been employed at the mint since 1897 and was assistant curator at the Smithsonian Institute in Washington before going to Denver.

Thomas B. (Sam) Herron, a partner in the firm of Herron and Laster, Inc., operating under lease the Lake Superior and Arizona property near Superior, Arizona, died September 28 at his home in Mesa, Arizona. He was 43 years old.

Marvin A. Williams, 46 years old, chief engineer of the steam electric plant of the Nevada Consolidated Copper Corporation, Hayden, Arizona, died October 9 following a two-month illness. He had held the position of chief engineer for 12 years.

Douglas Gray 83, retired mining engineer who had lived in Arizona 51 years, died October 13 at Tucson, Arizona. He was at one time associated with the American Smelting and Refining Company at El Paso, Texas, and began his mining career in Cripple Creek, Colorado.

Sidney I. Dees, 39, mine foreman at the Alabama California Gold Mines Company, Auburn, California, was found dead near Coggins, 45 miles northeast of Georgetown, California. He met death while on a fishing trip and an autopsy is said to have disclosed that he had been shot through the head.

Preston Locke, engineer for the American Smelting and Refining Company, was drowned October 6 at Vancouver, British Columbia. He had been doing engineering work in the district for his company for two months. Locke maintained his headquarters in London but also spent some time in Pasadena, California.

Josiah Bond, pioneer mining man, died September 12 at his home in Patagonia, Arizona. He was a registered Arizona mining engineer and owned several properties in the Patagonia district, including the Toluachi and the Colossus mines. Bond was a member of the Patagonia Council, Arizona Small Mine Operators Association.

Will Nettle, hoist man at the Tennessee mine of the Tennessee-Schuykill Corporation, Chloride, Arizona, for the past two years, died the latter part of September at Las Vegas, Nevada, as a result of injuries received in an automobile accident. He was employed in the Jerome district before moving to Chloride more than two years ago.

N. H. Mellor, 76, died of pneumonia recently at his home in Winkelman, Arizona. He was active as a cattle rancher and mine operator during the early days. At one time he was superintendent of the Christmas mine at Christmas, Arizona, and later acquired the Hope Metals property near Winkelman. He sold the latter to an eastern company.

Walter Mellen, 50, former Cananea Consolidated Copper Company accountant, died at Bisbee, Arizona, October 5 following a long period of ill health. He was employed as an accountant for Cananea from 1908 to 1917 and after that time had been connected with a government office at Washington, D. C. He moved to Bisbee last February in hopes of bettering his health.

Harry Briggs Rice, former resident of Douglas and Morenci, Arizona, and long associated in executive positions with the Phelps Dodge Corporation, died September 29 at Santa Cruz, California. He became assistant manager of the Detroit Mining Company store at Morenci in 1899 and served two terms as state senator in the territorial legislature while at Morenci. In 1905 he was named assistant manager of the Phelps Dodge store at Douglas and held that position until 1916, when he was made manager. He retired in 1919.

William F. Simpson of Root and Simpson, metallurgical chemists and assayers in Denver, Colorado, died August 15. Simpson, a graduate of the Colorado School of Mines with the class of 1901, received his elementary education in the Pueblo schools. His first position after graduation was with the American Smelting and Refining Company in Monterrey, Mexico, as assayer, a post which he held for 10 years. He then took a similar position with the Minerals y Metales de Villadanea, Nueva Leon, Mexico, remaining for three years. Returning to the United States he became associated with Leonard and Root of Denver. In 1918 after the retirement of Leonard, the firm Root and Simpson was established. Root died several years ago and after that Simpson carried the business on alone.

R. POTTER CAMPBELL RETURNS TO EXAMINE OREGON MINES

THE R. POTTER CAMPBELL interests of New York are again active in the state of Oregon. The E. and E., Columbia, Taber Fraction, North Pole, Homestake, Golden Gate, and adjoining claims in the Bourne district near Sumpter, Oregon, were consolidated and acquired by the Cracker Creek Mining Company, a newly organized concern. The Campbell Oregon Gold Mining Corporation is leasing the property from the Cracker Creek interests. Present work consists of rehabilitation of old mine buildings, construction of new ones, and reopening old tunnels for examination. Values are in gold and silver.

The staff at Sumpter includes George W. Worthington, lately general superintendent in charge of the Campbell interests in California; M. T. Chestnut, Jr., assistant mine superintendent, purchasing and employment agent; and David Proffert, foreman. R. Potter Campbell, 84 William Street, New York, is president of the company, and Fred G. Parish, also of New York, is consulting engineer. Hugh E. McKinstry, New York, is chief geologist and examining engineer. A crew of 16 men is employed.

The R. Potter Campbell concern operated the Ben Harrison mine near Granite in Grant County for about two years, suspending work in July of 1937.

UTAH COPPER EMPLOYEES

VOTE AGAINST C. I. O.

IT IS REPORTED that mill employes of Utah Copper Company at Bingham Canyon, Utah, recently voted overwhelmingly against the C. I. O. and the NLRB. Late in August the NLRB held an election to determine whether the local C. I. O. union was to represent the Utah Copper Company employes for collective bargaining or whether this would be done by the newly formed Independent Association of Mill Workers. At that time 481 votes were cast for the C. I. O., 454 for the Independent association and 29 ballots for neither union.

As neither side received a majority of the total votes cast NLRB ordered another election, but refused to put the name of the independent union on the ballot, merely asking if C. I. O. representation was acceptable. The result was 666 votes against the C. I. O. and 282 votes in favor of it.

EMPIRE STAR MINES CO.

WINS COURT DECISION

THE UNITED States Circuit Court of Appeals at San Francisco has handed down a decision in favor of the Empire Star Mines Company, Ltd., Grass Valley, California, in its suit against the Grass Valley Bullion Mines, Inc., also of Grass Valley. The opinion, written by Judge Clifton Mathews with Judges William Denman and Curtis D. Wilbur concurring, reversed a lower federal court decision upholding validity of a patent held by the Grass Valley Bullion, and remanded the case with judgment for damages in favor of Empire Star Mines Company, Ltd., for all ore extracted from its properties by the Grass Valley company.

The decision turned on whether the commissioner of the general land office had power in 1933 to issue a mineral patent to the Grass Valley company in return for surrender of the agricultural patent originally issued to a Nevada County homesteader in 1882. The court held he did not, the land not being subject to disposition under mining laws since 1896. It was also held that the Grass Valley patent was a mineral patent in "form and name only," actually being an agricultural patent entitling the company only to ore situated directly beneath its surface claim. The court declared that the question of whether the apex of the so-called Galena lode was actually within the Grass Valley claim was not an issue in the case.

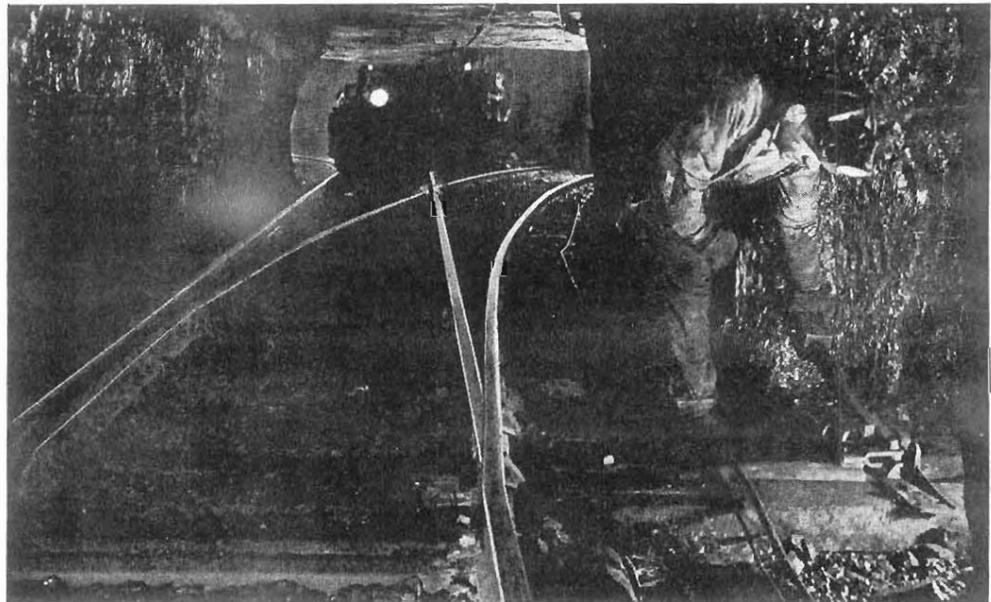
Suit was filed in October, 1934, by Empire Star as owner of the Daisy Hill, Arcturus, and Gold Run claims, against Grass Valley Bullion, trustees of Bullion Consolidated Gold Mining Company, Idaho Maryland Mines Company, and other defendants, to restrain the extraction of ore from the shaft of the Bullion in the Galena claim under Empire Star's vertical boundaries, and for an accounting for ore extracted. Bullion admitted operating under the Empire Star property, but claimed that since they were the owners of the Galena claim they had the apex of the vein and were entitled to extralateral rights under Empire Star property.

Bullion also claimed, as owner of the La Bruja claim, that they had extralateral rights to such portion of the Galena lode as lay beyond the limits of Galena claim, under the theoretical apex doctrine, the apex of the vein beyond the Galena claim being in agricultural land and La Bruja claim being the mining claim highest on the lode.

Empire Star contended that the Galena claim was invalid, disputed the location of the Galena lode, and contended that the apex of the vein ran across the side lines of the Galena claim. The identity and continuity of the vein below the 100-foot level in the Bullion shaft was admitted, so the testimony was directed chiefly to surface conditions.

The validity of the patent to the Galena claim was upheld by Federal District Judge F. A. St. Sure, however, and he also sustained the contention of the Bullion as to the course and continuity of the Galena lode through the claim and awarded the defendants the extralateral rights on the Galena lode. The claim of Bullion to an extralateral apex in the La Bruja claim was denied, however.

Empire Star thereupon appealed the case to the higher court, with the result that the St. Sure decision was reversed in the opinion just handed down by Mathews. A special master is expected to be appointed by the court to assess damages for ore extracted from Empire Star property by the Bullion company.



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in the Red Rock district near Patagonia, Arizona. Eight men are employed under the direction of Roy E. Sharp, general manager. The property is under lease to California interests.

The American Smelting and Refining Company, B. R. Hatcher, division manager, Box 2028, Tucson, Arizona, has taken over under lease the Humboldt mine adjoining the Trench mine at Patagonia, Arizona, also under lease to A. S. and R. Six men are engaged in development work at the Humboldt. The property is owned by the Bracey Curtis estate. At the Trench a crew of 35 to 40 men is employed in development work. It is planned to continue on a development basis until sufficient ore has been blocked out to warrant construction of a milling plant.

Five men are employed at the Ajax mine, Arivaca, Arizona, under the direction of John D. Murphy, superintendent. The property, which is equipped with a 10-stamp mill, is being operated by the Oreona Mining Company.

The Old New York mine near Arivaca, Arizona, owned by J. B. Fuherton of Arivaca, is now one of the Long Shot group. Two men are employed.

Mining and shipping are in progress at the Cottontail mine, Arivaca, Arizona, under the direction of W. T. Toney, owner and operator. Four men are employed.

Four men are employed at the Wedge mine, Arivaca, Arizona, under the direction of Wesley W. Cates, owner. Milling and

shipping are in progress, the ore being treated in a five-ton plant on the property.

Intermittent mining and milling are being done at the Grand Central mine, Nogales, Arizona, owned by H. B. Imus of Nogales. The property is equipped with a 25-ton Huntington mill. When work is in progress a crew of approximately five men is employed.

A car of concentrates per day is being shipped from the American Girl mine at Ogilby, California, operated by O'Brien



Mines, Inc. The property is equipped with a 175-ton flotation mill. A crew of 120 men is employed under the direction of W. D. McMillan, resident manager. Of this number, 15 are employed in development work. Other operating officials include A. O. Wilson, mine superintendent, and B. L. Cope, mill superintendent.

The McGeachin Mining Company, I. E. Rose, general manager, Iowa Hill, California, is engaged in testing gravel values at its Big Dipper hydraulic mine near Iowa Hill. The tests are reported to be giving satisfactory returns. The company, which is headed by Chauncey Dunn, Capitol National Bank Building, Sacramento, California, is preparing to carry on hydraulic operations behind the North Fork debris dam now under construction.

The Mountain Copper Company, Ltd., William F. Kett, general manager, 351 California Street, San Francisco, California, is reported to be testing by means of core drilling the Expansion mine in the Missouri Flat district west of Placerville, California.

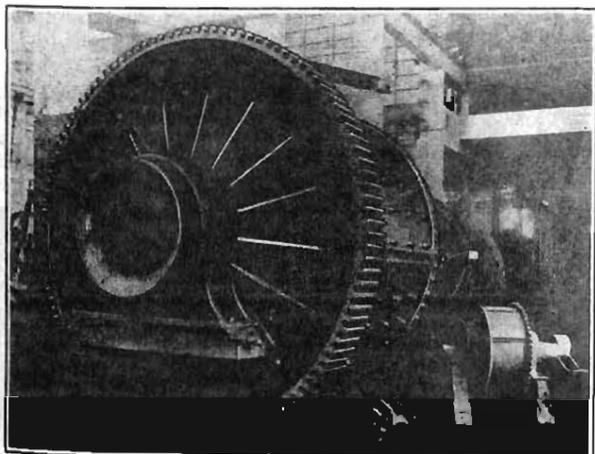
C. H. Cruickshank and W. H. Gardner, operating the Heckendorn mine 12 miles east of Westpoint, California, have recently installed a Wilfley table. They are milling \$20 to \$30 ore, using a 16-ton Straub mill. A total of 6,000 tons of ore is blocked out and 100 tons have been shipped to the smelter.

The Kennedy Mining and Milling Company, William Sinclair, superintendent, Box 501, Jackson, California, is engaged in sinking its main shaft to a depth of 5,700 feet and no development is planned until that objective is reached. A total of 40 men is employed, 25 underground and 15 on the surface. The cyanide plant, which is treating tailings, is operating three shifts.

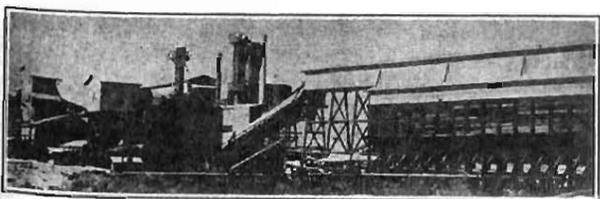
A 50-ton mill is being installed at the Young America mine in the Sierra Buttes district near Sierra City, California. The plant was purchased from the Southwestern Engineering Company. The new tunnel leading off the old No. 4 tunnel is now in more than 100 feet and values are said to be increasing. Work at the property is directed by C. H. Vail. The project is backed by J. J. McDonald of Santa Rosa, California.

The Keystone mine near Sierra City, California, has been taken over under

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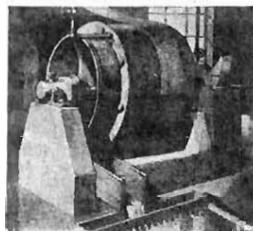


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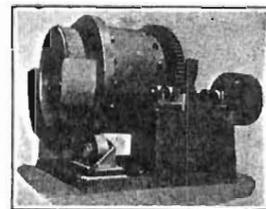


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lease and bond by J. B. Townsend and C. H. Vail and a small crew is engaged in development work. The mine, which is owned by Harold Mar, 1507 Tulare Street, Fresno, California, is equipped with a 30-ton amalgamation plant.

Bob Kincaid and Tom Mulhall of Searchlight, Nevada, owners of the Eagle gold property located in the Chiquita hills 21 miles south of Searchlight, have leased the mine to Jack Audrey of Needles, California.

Frank C. Strebe, Coulterville, California, is engaged in milling development ore from his Hill mine located nine miles east of Coulterville. The ore is treated in a 20-ton Ellis mill and cyanide plant. The property is opened by two shafts 35 and 85 feet deep and a total of 300 feet of drifting. There are said to be five ledges averaging from 2½ to nine feet in width.

The Quail Gold Mines, Inc., H. B. King, president and manager, Coulterville, California, plans the installation of a pressure pumping system to raise river water a distance of three miles for milling purposes. The company is engaged in constructing a new milling plant at its property which also is expected to be in operation by November 1. It will have a capacity of 65 to 70 tons per day. Otto D. Rohlf is superintending construction of the plant and will direct its operation upon completion.

The new 200-ton milling plant at the Mountain King mine of the Jumbo Consolidated Mining Company, Copperopolis, California, was placed in operation September 5. The new plant was installed by the Western-Knapp Engineering Company, 760 Folsom Street, San Francisco, California, and is designed for flotation and amalgamation. Byron E. Rowe is general superintendent at the mine. The company is headed by W. J. Shaw, 506 Bay Cities Building, Santa Monica, California.

A 50-ton cyanide plant is being installed at the property of the Humming Bug Mining Company, Inc., nine miles from Yreka, California, by the Western-Knapp Engineering Company, 760 Folsom Street, San Francisco, California.

J. O. Carper, Boston Building, Denver, Colorado, is representing New York and Boston interests who have taken over the Mack mine in the Canada Hill district southeast of Nevada City, California. Preliminary opening of the property is in charge of J. L. Jackson, who has a contract for the work. Power has recently been installed, pumps have been put in, and unwatering is to begin immediately.

Extensive sampling and surface exploration work at the Spanish Oak mine in the Kelsey district has yielded excellent results, according to Russell J. Wilson, Garden Valley, California, who with associates acquired the property several months ago. A recent 20-ton test run made at the Black Oak mill resulted in a cleanup totaling \$3,715. The property consists of 20 patented acres and additional land held as mining claims. Exploration and development work will be continued and the ore milled at the Black Oak, which is also owned by Wilson and which is said to be the richest high-grade producer in El Dorado County.

The Whitmore Mines, Inc., Rosamond, California, has resumed full time operations at its No. 6 shaft. The property has been idle for some time due to legal difficulties.

Shipments of copper ore are being made from the Copper Queen mine near Callahan, California, to a custom smelter at Tacoma, Washington. A carload of ore is shipped weekly and is said to sample from 12 to 20 per cent copper and \$1 to \$8 per ton in gold. Extensive reserves are reported exposed.

Construction of a mill with a daily capacity of 15 tons has been started on a group of four claims on the slope of Mt. Steel south of Lundy Lake near Mono Lake, California. Production is scheduled to begin within six weeks. Pack boxes will be used for transportation of ore from the mine to the mill, a distance of 1½ miles, but it is planned to widen the trail later to permit the use of a tractor and trucks. Several camp buildings are under construction near the mill on Deer Creek. The property is operated by Gordon Bettles of Winnemucca, Nevada.

The International Mineral Refiners, Inc., has been organized to produce and purchase ores of molybdenum, vanadium, tantalum, titanium, tungsten, manganese, germanium, gallium, and sulphur. Headquarters are at 175 East Green Street, Pasadena, California, and the company has mining properties in Culberson County, Texas; Inyo County, California; Sulphur, Nevada; Wickenburg, Arizona; and in Lower California. Major A. J. Terrill of Beverly Hills, California, is president of the company; J. Wallace Woodworth, Pasadena, is vice-president; and Charles Johnston, Pasadena, is secretary. Directors include Dr. G. Wallace Walker, Arivaca, Arizona; Thomas Blair Kennedy, Altadena, California; and Charles Bruce Stevens, San Diego, California.

B. W. Bellyea, 6800 South Alameda Street, Los Angeles, California, is carrying on extensive development work at the Little Bear mine in the Cargo Muchacho district near Ogilby, California, with a view to shipping 50 tons of ore daily to the Holmes mill near Ogilby. The Little Bear is owned by R. E. Bennett, J. H. Price, Ramon Lopez, and A. E. Stephenson, 221 Gila Street, Yuma, Arizona.

Fifteen men are employed at the Tumco mine, Ogilby, California, under the direction of Thomas L. Woodruff, general manager. The property is equipped with a 20-ton milling plant.

The Holmes and Nicholson Mining and Milling Company, Kenneth Holmes, general manager, Box 828, Yuma, Arizona, is enlarging its mill to a capacity of 150 tons per day. A crew of 12 men is employed at the mining property which is located in the Cargo Muchacho Mountains near Ogilby, California.

Increased orders for magnesite have brought the announcement that the Western magnesite mine, formerly known as the Red Mountain, located near Patterson, California, will continue in operation until the end of the year with a possibility that the run may be extended beyond that time.

the property was reopened recently for that was expected to be a five-week period. The mine is operated by the California Chemical Company, S. H. Barrows, president, Newark, California.

Ore development is under way at the Tennessee Consolidated Mines Company property near Walkermine, California, and it is understood that the company is planning the erection of a mill. George L. Lemis, Sr., 509 Felt Building, Salt Lake City, Utah, is president of the company.

T. D. Plamondon of Montreal, L. J. Donahue of New York, and Frank L. Dempsey of St. Louis have leased 160 acres of placer ground near Randsburg, California, from Louise Kitzmiller and are installing equipment capable of handling 100 tons per day.

Fier, Slaughter, and associates are reported to have leased placer holdings of the American Gold and Tungsten Corporation near Randsburg, California, where they are installing dry-wash equipment for treatment of the gravel.

The small mill at the property of the Abolia Rand Placers, Inc., Atolia, California, is being operated by Charlie E. Irwin under a leasing arrangement. H. H. Morse is superintendent. Fourteen sets of lessees comprising a total of 35 men are working on the property and four men are employed at the mill. The mill is operating one shift, treating lessees' ore together with some custom ore. A second shift will be added if sufficient additional lessees begin work at the property.



The Panob Gold Dredging Company, Lincoln, California, is operating two nine-hour shifts daily, handling from 2,000 to 2,500 cubic yards in 18 hours. The plant, which was designed by Walter E. Pantle, co-owner and superintendent, and built by the Judson Pacific Company of San Francisco, includes a dragline dredge equipped with a recovery unit composed of four 36-inch Ainlay bowls, and a 1¼-yard Northwest shovel.

The Alabama California Gold Mines Company, Auburn, California, announces a uniform increase of \$1.50 per ton in the value of ore with each level. The company is now milling 200 tons of ore per day, the greater part of which is coming from the 650-foot level. William A. Beaudry is general superintendent and Joseph David is mine superintendent.

A 25-ton pilot unit of a cyanide plant has been placed in operation at the Glory-Tintic mine in the Shadow Mountain district of San Bernardino County, California, according to E. D. Foster, Nipton, California, operating engineer. J. B. Marston, 111 West Washington Street, Chicago, Illinois,

is the owner of the mine. A second cyanide unit is to be added as soon as the operation is standardized. The mill at the property has a grinding capacity of 200 tons per day, and is also equipped with a 50-ton amalgamating and concentrating plant.

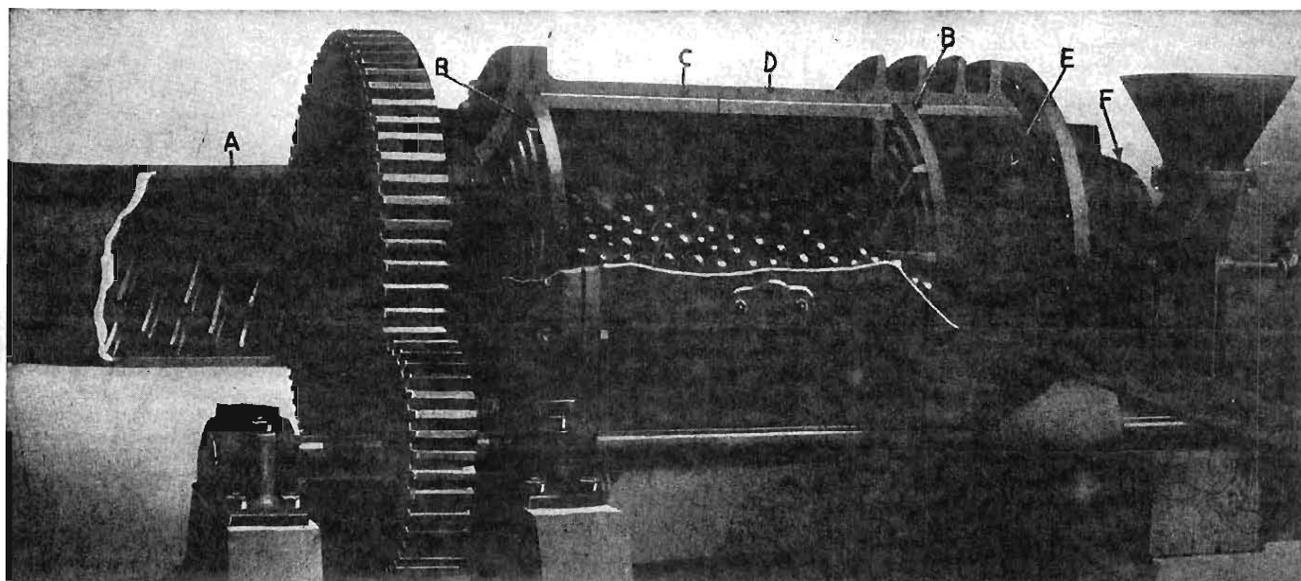
The Graham Loftus Oil Corporation, 811 West Seventh Street, Los Angeles, operating the Grigsby silver property, also known as the Palisades, near Calistoga, California, is reported to have opened up a large body of ore containing sufficient material to operate the mill at full capacity for over a year. The ore is said to average approximately \$8 per ton in gold and silver. The company is employing a crew of approximately 40 men and is shipping from \$18,000 to \$25,000 in concentrates to the Selby smelter each month.

Elton O. Carvin, Forest, California, is employing six men at the South Fork mine near Forest. Development work is said to indicate good values and the crew may be increased later.

Development work is in progress at the Tennessee mine at Poker Flat near Downieville, California. The work is being done by the Pore brothers and includes the driving of a raise. The property is owned by the Scott family, and R. M. Scott, Downieville, is one of the principal operators.

A larger compressor is being installed at the Gold Point mine near Downieville, California, which is to be powered by a Diesel engine. The present compressor equipment was found to be inadequate to meet the added demands of recently expanded de-

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velopment schedules. The mine is owned by D. F. Sullivan of Downieville and is being operated under lease by the Tombstone Development Company, Tombstone, Arizona. William Porri is manager at the property with headquarters at Sierra City, California.

Shaft sinking operations are in progress at the Crystallized gold mine located near Downieville, California, according to C. W. Robbins, one of the owners of the property. Operations are under the supervision of Al Kneebone. The shaft is expected to tap the ore body at a lower level. The mine is equipped with a 15-ton Gibson ball mill and a Wilfley concentrating table. The concentrator has not been put into operation since its installation last July. A new hoist was recently added.

All equipment is being removed from the Telegraph mine nine miles north of Downieville, California, under the direction of John M. Sheedy, owner. The surface workings and buildings were so badly damaged by a cloudburst last winter that removal of the equipment was decided upon to forestall complete loss.

W. Anderson has taken over the Bald Mountain property near Forest, California, and crews are engaged in drifting. Several small veins have been encountered. The Bald Mountain was worked for years as a gravel mine, but as the gravel is becoming exhausted veins are being developed.

Jim Kistle, Nevada City, California, and three partners have taken a lease and option on the Daisy Blue mine about four

miles northwest of Nevada City. The shaft has been pumped out and drifting and stoping are in progress. Ore is said to assay \$18 per ton. The 10-stamp mill has been placed in operation.

The United Empire Gold Mines Company is driving a deep winze on the Osceola vein from a point about 3,000 feet from the

COLORADO

portal of the tunnel and through old stopes. The winze is being sunk to the Osceola high-grade streak on which it is planned to resume mining. Ore was reached about on a level with the 520-foot level of the White Crow mine. About the time the ore was encountered, a drift some 400 feet long, timbered and tracked, ready for mining, was accidentally discovered. No mining has been done in this block, which is low-grade ore and will probably not be opened this year. The White Crow is not now being worked nor is the company contemplating doing so. M. S. Brandt of Boulder, Colorado, is trustee and general manager.

Exploration work is to be continued through the winter months by the Summit Mining Company on its holdings in the Stony Pass section of San Juan County, Colorado. E. F. Walker of South Fork is general manager. Mining equipment has been installed and a small camp is established. The company's earlier operations were carried on from the Creede side of the pass.

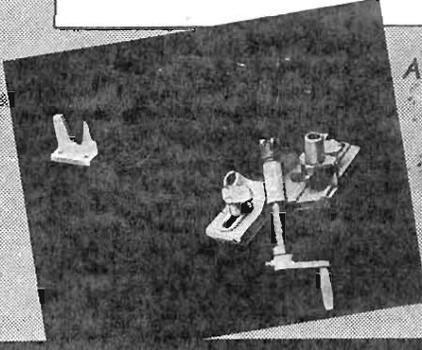
D. W. Schmitt, Box 470, Boulder, Colorado, and K. F. Fulton, 835 Pearl Street, Boulder, are reported to be building a 60-ton reduction plant at the portal of the Logan tunnel near Boulder. A large part of the Logan mine has been leased to Fulton and associates for some time. Other lessees are also working on a smaller scale in the mine, which is controlled by the Logan Metals Company, John R. Wolff, Boulder, president and general manager.

New electric pumping equipment will be purchased by the Cameron Gold Mines, Inc., to replace the present pump to supply water from the mine for the concentrating plant. All buildings are completed for the new 100-ton flotation mill and the machinery is being installed. Milling is scheduled to start the first week in November. The lower grade ore in the Mitchell vein will be run through the mill and both the Pinnacle and Cameron dumps will be treated. It is probable that the Pinnacle shaft will be reopened within the next few months. W. H. Webber, 512 Equitable Building, Denver, Colorado, is president and general manager of the company which operates at Cripple Creek.

John T. Barnett, First National Bank Building, Denver, Colorado, and C. S. Glascoe, 1002 Patterson Building, Denver, have purchased from W. H. Powless and the Samuel Cohen estate the Mudall group of 12 patented lode claims and the Upper Four Mile Placer Survey 16297. The property covers 260 acres of patented ground on both sides of the London Fault for a distance of one mile north from Four Mile

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THE INSTALLATION of mechanical clarifiers may solve the problem of polluted water due to mining operations. The device, which is to have field tests in the much-discussed Trinity County, California, mining field, was developed by Paul Shaw of the California Fish and Game Commission and had its first workout recently at the property of the Gold Hill Dredging Company near Loomis, California. Results are reported to have been satisfactory.

STATEMENT

of the Ownership, Management, Circulation, Etc., Required by the Acts of Congress of August 24, 1912, and March 3, 1933 of The Mining Journal published semi-monthly at Phoenix, Arizona, for October 1, 1938.

STATE OF ARIZONA.

COUNTY OF MARICOPA

Before me, a Notary Public in and for the State of Arizona aforesaid, personally appeared Charles F. Willis, who, having been duly sworn according to law, deposes and says that he is the owner of the Mining Journal and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, as amended by the Act of March 3, 1933, embodied in section 537, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are:

Publisher—Charles F. Willis, 528 Title and Trust Bldg., Phoenix, Arizona.
Editor—Same.
Managing Editor—Same.
Business Managers—None.

2. That the owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding one per cent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a firm, company, or other unincorporated concern, its name and address, as well as those of each individual member, must be given.) Charles F. Willis and Helen H. Willis (wife).

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.) None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in capacity other than that of a bona fide owner; and that this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

CHARLES F. WILLIS, Owner.
Sworn to and subscribed before me this 24th day of September, 1938.

ESTELLA COMBS, Notary Public.
(My commission expires June 18, 1941)

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MASTER MECHANIC, 39, experience with mines and mills, construction and repairs. Diesel engines, welding, aerial tramways, hydro-electric, power installations. Electrical engineer. Address: Box F-27, The Mining Journal, Phoenix, Arizona. 10-30

MINING ENGINEER, age 34, good health, married, no children, speaks Spanish. 11 years experience, desires position as mine superintendent or foreman. Will go any place. Address: Box B-52, The Mining Journal, Phoenix, Arizona. 11-30

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An old timer has told me of an experiment he has just conducted along the Kings River, an experiment concerning gold deposition in ground worked over many years ago.

This old fellow, hale and hearty after nearly four-score years of good living to his credit, traveled with his father up through the Kings River gorge at the age of 12. Halting at a bend in the stream where the sands showed promise, they erected a small dam to change the course of the stream for nearly 500 yards. The pay dirt proved to be quite rich and they worked it with both sluice box and rockers. When they left this site, after carefully working over every inch of ground, the father remarked: "Son, we've picked her clean as a whistle." They destroyed the dam and allowed the flow of water to revert to its old channel.

After a lapse of 60 years the old-timer returned to the workings and decided to try exactly the same procedure that he and his father had used on that first trip. This time, however, the ground did not contain the sparkling gold particles on the surface and the sluice box recovery was so poor that it did not pay for the lumber used. He figured that he extracted about 75 cents from the worked-over ground. In other words, the deposition for this particular stretch of ground had amounted to a little over one cent's worth of gold a year.

Of course, this calculation could not be accurate, but it does give one a good idea about this interesting subject, especially when one sees newcomers stop at any old pile of tailings along the bank of a river and begin to rework them.

On a recent trip up the Kern River, I saw several parties stop at one particularly attractive tailings pile. The tailings were attractive because of the perfect camping site afforded near at hand. Due to a previous experience I refrained from informing them that the ground and the tailings had been worked as recently as the week before. At that time I had told exactly the same story to another party camped there, only to have him nearly jump down my throat, informing me that he was "smart to me" and my ideas of jumping his mineral claim.

You can imagine how much gold that particular pile yielded when I tell you that in my three trips up and down the river I had seen three parties working at it with brand new shovels. Their reward was seeing the dirt moved another 30 feet down the river bank.

There are many companies, today, that made it a business to rework tailings. Modern machinery has made this possible. The men in this business make a thorough study of the tailings they plan to treat, so that they will know exactly what they are doing. The average prospector is handicapped by lack of knowledge along these lines, but I would advise him to test every old pile of tailing because many of them carry values that will net him a handsome profit.

Another Anaconda company, the Walker Mining Company at Walkermine, California, has reopened its mines for production, employing around 500 men. The Walkermine were closed last May when the Mountain City company suspended work. This forced the International Smelting and Refining Company smelter at Tooele, Utah, which handles ores from these two properties, to shut-down. With the reopening of the mines, the copper plant has also been reopened and 150 men have been re-employed.

WAR DEPARTMENT CALLS FOR BIDS ON SECOND DEBRIS DAM

BIDS will be opened at the office of the U. S. Army Engineers, Federal Office Building, Sacramento, California, November 29, for construction of the Upper Narrows debris dam on the Yuba River near Smartville, California. The call for bids was issued by the war department, according to an announcement by Colonel Lincoln B. Chambers, district engineer.

The dam, which will be of the concrete arch type rising 265 feet above the foundation, will cost approximately \$4,500,000. It will be approximately 1,200 feet long at the crest. The new structure is to be used to store debris from hydraulic mining operations.

A dam for the same purpose is under construction on the North Fork of the American River near Auburn, California, for which A. Teichert and Son, Inc., 1846 Thirty-seventh Street, Sacramento, California, has the contract.

Two other dams are planned, one at the Ruck-a-Chucky site on the American River and another on the Bear River. The cost of the projects is to be returned to the government by means of a tax on each cubic yard of earth mined by the hydraulic companies. It is estimated that the cost will be paid off within 25 years. Irwin E. Burks, Auburn, California, is resident engineer in charge of construction for the war department.

It was recently decided to include power and irrigation features in the dams, which necessitated a revision of the Upper Narrows plans to permit provisions for outlets, penstocks, and other details. The Sacramento Valley Utility Company has been given the permit to install and operate the hydroelectric power plant at the Narrows dam. The company's permit is a preliminary one and the firm is given 18 months in which to work out its plans for submission to the federal power commission. A permit must also be secured from the state division of water resources for use of the water flowing over the dam.

The power plant is to be of 12,000-watt capacity and its output is to be distributed to mining concerns in the surrounding area. The plant will be located 1,000 feet below the dam and will take the water under a head of 550 feet.

The utility, organized for the purpose of obtaining the power right, was the only applicant. Arthur H. Breed, 315 Fifteenth Street, Oakland, California, is president of the company.

IDAHO MARYLAND REPORTS FOR FIRST HALF OF YEAR

THE Idaho Maryland Mines Corporation, Grass Valley, California, in a message to stockholders, reports that while output of gold produced are in excess of last year production for the same period, this by way of comparison is no longer informative, it does not reflect the increased cost largely higher wages and increased social security and old-age benefit taxes. Therefore, the company has substituted the gross profit figures taken after deduction of costs, including losses on Forbestown operations, but before any deductions for depletion, depreciation, or federal taxes. For the six months ended June 30 this figure is \$857,522 as compared with \$913,104 for the first six months of 1937. E. L. Oliver, 351 California Street, San Francisco, president of the company.

Recent improvements at the Grass Valley property include an addition to the New Brunswick dry house and the placing in service of new electric cap lights. The corporation has also completed additions to its principal storage dam and has built a new road to replace the old Idaho Gap road.

An increase in employment has also been made and the employes are now divided as ground workers, 276; surface workers, 159; mill workers, 31; office force, 5. New Brunswick mine, underground workers, 191; surface workers, 35; mill workers, 13.

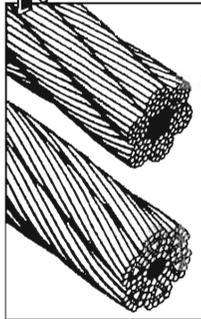
AVERAGE PRICES OF METALS (Figures by American Metal Market)

	Copper Per Lb. Conn. Valley	Lead Per Lb. New York	Zinc Per Lb. St. Louis	Silver Per Ounce New York
1924	13.024	8.097	6.344	66.74
1925	14.042	9.020	7.622	69.06
1926	13.795	8.417	7.337	62.10
1927	12.920	6.755	6.242	56.37
1928	14.570	6.305	6.027	58.17
1929	18.107	6.833	6.512	52.99
1930	12.982	5.517	4.244	38.15
1931	8.369	4.244	3.638	28.70
1932	5.792	3.181	2.881	27.89
1933	7.276	3.870	4.031	34.72
1934	8.658	3.8595	4.162	47.92
1935	8.880	4.0648	4.331	64.27
1936	9.710	4.7091	4.903	45.05
1937	13.391	6.0085	6.517	44.80
1936				
Jan.	9.250	4.500	4.850	47.250
Feb.	9.250	4.5152	4.861	47.750
Mar.	9.250	4.600	4.900	44.750
Apr.	9.400	4.600	4.900	44.900
May	9.500	4.600	4.900	44.869
June	9.500	4.600	4.883	44.750
July	9.596	4.500	4.787	44.750
Aug.	9.750	4.600	4.801	44.750
Sept.	9.750	4.600	4.850	44.750
Oct.	9.846	4.6308	4.850	44.750
Nov.	10.432	5.1136	4.983	45.431
Dec.	10.995	5.55	5.277	45.362
Ave. 1936	9.710	4.7091	4.903	45.089
1937				
Jan.	12.660	6.00	5.86	44.912
Feb.	13.60	6.2356	6.435	44.75
Mar.	15.990	7.1889	7.377	45.130
Apr.	15.346	6.175	6.989	45.460
May	14.00	6.00	6.75	45.025
June	14.00	6.00	6.75	44.818
July	14.00	6.00	6.929	44.750
Aug.	14.00	6.4519	7.205	44.75
Sept.	13.780	6.400	7.179	44.75
Oct.	12.060	5.740	6.087	44.75
Nov.	11.022	5.0326	5.632	44.75
Dec.	10.230	4.875	5.011	43.810
Ave. 1937	13.391	6.0085	6.517	44.806
1938				
Jan.	10.426	4.870	5.00	44.714
Feb.	10.00	4.6318	4.816	44.75
Mar.	10.00	4.50	4.413	44.444
Apr.	10.00	4.50	4.155	42.75
May	9.60	4.40	4.043	42.75
June	9.00	4.1481	4.143	42.75
July	9.810	4.882	4.75	42.75
Aug.	10.125	4.90	4.75	42.75
Sept.	10.255	5.00	4.855	42.75
Oct.	10.981	5.10	5.015	42.75

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income tax, of \$330,449. During that period the company produced 24,704,041 pounds of copper at an average net production cost per pound of 8.065 cents. The average cost of producing copper is after deducting gold and silver values and includes all operating costs, Arizona taxes, federal social security taxes, depreciation, and administrative expenses, but does not include any allowance for mine depletion, capital stock tax, or federal income tax. The income reported does not include profit on 1,542,113 pounds of copper produced but not sold. The average net selling price per pound was 9.418 cents.

The Growler mine located 20 miles southwest of Ajo, Arizona, and owned by Bert Long of Ajo, is being operated by L. S. Hart, Box 781, Ajo, and associates. A camp has been established at the mine and the pumping equipment at the Growler shaft is being repaired. Five men are employed with actual mining under way at the Yellowhammer shaft, which is an incline of 270 feet. New timbers and rails have been installed, pipelines have been laid, and the lower levels are being cleaned out. A compressor and hoist have been installed at the collar of the Yellowhammer. The new operators report a showing of 6 per cent copper, \$10 in gold, and \$2.60 in silver in a three-foot vein on the 270-foot level.

Four sets of lessees are working on the property of the Vivian Mining Company, Arthur E. Dirrim, general manager, Box 241, Oatman, Arizona. The ore is being treated in the company's 50-ton cyanide plant, which is also handling custom ore from the McConnico and Cerbat districts and some from Searchlight, Nevada.

Between 100 and 110 men are employed at the property of the Tom Reed Gold Mines Company, Oatman, Arizona, under the direction of Jack Zwinge, general superintendent. The company's 250-ton cyanide plant is treating from 150 to 175 tons of ore per day, including both Tom Reed and Big Jim ore as well as custom ore. The bulk of the mill feed is coming from the seventh, ninth, and eleventh levels in the Tom Reed and the Big Jim.

Ten leasing operations are in progress at the Pioneer mine, Oatman, Arizona, with a total of 40 to 50 men employed. Operations are directed by George F. Moser, manager. Ore from the various leasing operations is shipped to the Tom Reed and the Vivian mills.

Two cars of ore, averaging \$41 and \$35 per ton, respectively, have been shipped to the Tom Reed mill from the Oatman Queen mine, Oatman, Arizona, which is being operated by W. B. Prophet and associates, of Oatman, Arizona. A 50-ton shipment made recently is expected to average \$20. In addition 300 tons of \$18 ore were shipped to the Vivian mill.

Ogden C. Chase, president and general manager of the Arizona Red Cloud Mining Company, 420 Kearns Building, Salt Lake City, Utah, has established headquarters at the company's Red Cloud mine in the Silver district about 30 miles north of Yuma, Arizona, in order to assume personal charge of the work of installing the recently acquired 100-ton selective flo-

tation mill and other work preparatory to placing the property on a producing basis.

The Ray Branch, Nevada Consolidated Copper Corporation, Ray, Arizona, is reported to have almost doubled its output at the Ray mine, thus increasing the operating schedule at the company's Hayden concentrator. Fires were lighted October 17 in the Hayden smelter of the American Smelting and Refining Company at Hayden, Arizona, nearly a month in advance of previous plans, as a result of the increase in production at Ray.

The "94" Mining Company, Inc., R. E. Drannon, president and general manager, Crown King, Arizona, has recently completed installation of a 25-ton milling plant and is now engaged in treating ore from the Union and Eagle claims. The property is a part of the Saratoga group and is being operated under lease and bond from the Phoenix-Saratoga Mining Company. From six to eight men are employed.

The Gladiator Mining Company, E. M. Moores, president Crown King, Arizona, is carrying on development work at the Gladiator mine with a crew of 12 men employed. The company has shipped 4,000 tons of ore to the Clarkdale smelter this year.

The Kanaka Corporation, which recently moved its operations from Kanaka Creek to new ground on Wolf Creek, near



Nevada City, California, has changed its name to the Dakins Company. Ten men are employed under the direction of Robert D. MacAfee, Jr., superintendent, Nevada City. The dredging

unit has been remodeled and jigs are now used in addition to sluicing tables. Black sands are run through a rod mill for brightening, thence over plates, and by this means most of the coated fine gold that is usually lost is saved. Henry L. Day of Wallace, Idaho, is president and manager. The unit handles 1,000 yards in a 20-hour day. As the available yardage on Wolf Creek is limited, the company is testing other ground for future operations.

The Natomas Company, Thomas McCormack, president, Forum Building, Sacramento, California, reports for the third quarter ended September 30, 1938, a net profit of \$257,388 after depreciation, depletion, and federal income taxes, equivalent to 26 cents per share on 980,250 shares of capital stock publicly held. This compares with a net profit of \$395,268 for the quarter ended June 30. For the first nine months of 1938 net profit after depreciation, depletion, and federal income taxes amounted to \$959,320. Natomas operated seven dredges during the greater part of the third quarter. Six had been operating through the first six months and until the latter part of July when the seventh was put into operation. The decrease in the third quarter income is accounted for in part by the receipt of substantial dividends during the second quarter from other companies in which it owns

11-15-38

interests, and by the fact that dredging operations were conducted in poorer areas. Heavier deductions for depreciation, depletion, and miscellaneous expenses were also made. Dredging operations in the Manhattan, Nevada, district, a project in which Natomas owns a one-quarter interest, were scheduled to begin early in November.



Russell J. Wilson, Garden Valley, California, who is preparing to operate the Spanish Oak mine in conjunction with his Black Oak mine, is completing arrangements with the Rosencranz mine for the milling of Spanish Oak ore. Under the arrangement being worked out the Rosencranz will put on three shifts for 10 days of the month to handle its own ore. During the balance of the month the mill will work on a one-shift basis and treat ore from the Spanish Oak. The Rosencranz mill is a 100-ton flotation plant equipped with a Bendelari jig. Earl M. Cooper, superintendent at the Black Oak, is also directing operations at the Spanish Oak, which is located about four miles southeast of the Black Oak and on a different vein. William Bessler is general mine foreman at the Black Oak and Charles Gates is mine foreman at the Spanish Oak.

The main shaft of the Oro Fino mine is 840 feet deep and development both east and west along the ledge is in progress on the 300, 500, and 800-foot levels, with operating stopes on the 200, 300, 500, 700, and 800-foot levels. Recently, connection has been established between the Oro Fino and the Bellevue mine on the 300-foot level and through a raise from the 500 foot level. The Bellevue adjoins the Oro Fino on the west. J. C. KempvanEe, 381 Bush Street, San Francisco, is general manager, and operations at the mine are directed by George Beck, mine superintendent, and B. G. Ford, mill superintendent, Box V, Auburn.

Yellow Aster is equipped with a plant capable of crushing about 2,000 tons of ore per day and milling and treating 500 tons per day. The large tonnage put through the crushers has a reject of approximately 73 per cent. The ore from the pit passes through a 30-inch grizzly and a Sheridan grizzly before going to the jaw crusher. It then passes over a three-inch vibrating screen from which the oversize goes to the dump. The balance passes over a one-inch vibrating screen, the oversize going to the cone crusher and the undersize to another vibrating screen. The mill process includes a jig classifier, ball mill and second jig, Wilfley table, barrel amalgamator, and a cyanide plant which treats 1,200 tons per day, including a percentage from the old tailings. A. W. Frohli, Box A, Randsburg, California, is general manager of the Yellow Aster property. M. J. O'Boyle is mine and mill superintendent, and Glenn L. Allen is superintendent of the cyanide plant.

During the past six months production has been increased from 700 to 2,000 tons per month at the property of the Oro Fino Consolidated Mines, Auburn, California. The milling plant consists of an 8 by 36 Hardinge ball mill, Hardinge classifier, three Wilfley tables, Kraut flotation cells, amalgam barrel, and Oliver filter.

The Macco Construction Company, 815 North Paramount Street, Clearwater, California, which has the contract for excavation of 6,000,000 tons of ore in the extensive open-pit gold mining operations under way at the Yellow Aster mine, Randsburg, California, has added a second shift of nine men to its working crew. The addition of the second crew will increase production from 2,100 tons daily to 4,000 tons. In addition, 60 men are employed by the Anglo American Mining Corporation in recovery operations. The

Chris Lindell and Frank Webb, who are leasing the Old mining property near El Dorado, California, have installed a small test mill and report that the ore body, which is more than eight feet wide, carries a heavy content of sulphides with consistent values.

A black sand plant for the recovery of gold and platinum from placer concentrates has been constructed at Happy Camp, California, by the S and H Mining Company. The company plans the custom treatment of black sand concentrates and the plant is capable of handling a large

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tonnage. Equipment includes an up-to-date assay laboratory. Lee Holt is in charge of operations and Fred Adams is engineer for the company.

The **Last Chance** mine near Washington, Nevada County, California, has been sold to Malcolm H. Carpenter and associates by W. W. Esterly, Grass Valley, California. Carpenter is at present connected with the California Engels Mining Company, 351 California Street, San Francisco, California.

Lewis F. Johnson and associates have secured an option on the **Turner** property near Placerville, California, and will start development soon. A compressor and other equipment are being purchased for this work and a crew of about 12 men will be employed when operations are started. Johnson is also operating the old **Caledonia** mine near La Porte, California. The Caledonia is being rehabilitated preparatory to hydrauliclicking. A new pipe line has been put in, buildings erected, and other necessary equipment installed. A crew of 15 men is employed.

The **K. R. Nutting Company**, dredging firm, headed by K. R. Nutting, Box 728 Salinas, California, is handling approximately 125 cubic yards per hour at its property near LeGrand, California. The company operates a Link-Belt dragline powered by a Caterpillar Diesel engine and is working on a 24-hour basis.

The report of the **Argonaut Mining Company, Ltd.**, Jackson, California, for the month of September shows an operating profit of \$4,148 and other income of \$3,480, making a total of \$7,628. After deducting \$1,217 for fire loss, \$6,411 was added to surplus for the month. No provision is made in the latter figure for depletion, depreciation, or income taxes. Tons mined during the month aggregated 6,600 and 6,200 tons were milled. Receipts were \$60,067 and operating expenses amounted to \$55,454. For the first nine months of 1938 the company reported a loss of \$99,660 before provision for depletion and depreciation. Operating expenses were \$260,310 and receipts totaled \$203,672, leaving an operating loss of \$56,638. After adding interest and deducting other income the loss totaled \$48,734. Addition of \$50,925 for fire loss brings the total for the first three quarters to \$99,660. The property was shut down in February due to the fire and milling was not resumed until July 15. Operations reached approximately a normal rate in mid-August. Alex Ross, Jackson, is general superintendent.

Active preparations are under way for reopening the **Mayflower** mine near Foresthill, California. The mine is at present under lease to the Ish, Trippe and Alegard Company. The old shaft has been retimbered to the level known as the upper streak of the old **Paragon** mine and a pilot mill has been in use for testing purposes during the past three months. These tests have proven satisfactory and a 150-ton mill has been installed and will be placed in operation. The **Mayflower** is owned by the **Mayflower Gravel Mining Company**, Richard Detert, president, Mills Tower, San Francisco.

A shaft at the **Diltz** mine, Mariposa, California, is being deepened to handle another shoot of milling ore which has recently been encountered. A. A. McMillan is superintendent at the property.

The **Big Dyke** mine, Randsburg, California, J. D. Shea, George Benco, and John and George Miller, owners, is being worked under lease by Shea, Herman Anderson, Bill Turnbull and Al Ogle. A new and larger skip has been installed and ore is being treated in a 10-stamp custom mill.

Milling operations have been started at the **Jackson** mine in the Round Mountain district near Nevada City, California. The vein ranges from a few inches to more than a foot in width. The property is being operated under lease by Frank Holbrooke of Nevada City.

Joe Marriott and four associates have secured a lease on the **Black Prince** mine at Nevada City, California, and are preparing to develop the property.

John J. and Thomas E. McSorley of Mokelumne Hill, California, have leased property above **Hogan Dam** from the city of Stockton, California, and are preparing to develop the land, which is said to carry gold values. The tract consists of five miles of river bottom containing 10,000,000 yards of material and will be worked by means of two 2½-yard shovels and a steel boat. The **McSorley Brothers Dredging Company** has been organized to operate the project.

The **Gold Diggers Syndicate**, Sidney B. Wood, Jr., president, which recently consolidated the Dutch, App, Sweeney, and Heslop group of mines near Jamestown, California, has started work on the rehabilitation of the shaft at the Dutch mine. It is planned to build an ore bin and headframe and to recondition the shaft to the fourth level. This will give 4,000 feet of drifts on the Heslop vein and 4,000 feet on the App vein for prospecting. Later development will include dewatering preparatory to milling. The Dutch suffered a surface fire several years ago and operations were never resumed. However, the present work indicates that only the surface equipment and probably 50 feet of shaft were destroyed by the fire. From that point down it is probable that the timbers, track, and six-inch pumping column will be found in good condition. Operations for three years were carried on in only 300 feet of vein area on the second level and 400 feet on the third level of the Heslop, and produced 41,000 tons of ore. It is believed that with the additional vein area available, sufficient ore will be developed to warrant installation of a larger mill. The property is at present equipped with a 50-ton pilot mill. Roy K. Brown, Jamestown, is superintendent.

The new 100-ton mill which is being erected at the **Comanche** mine southeast of Benton, California, is nearing completion and will be placed in operation shortly. The new plant is being built by C. W. Jones and associates and will handle custom ore in addition to that from the mine. Jones was formerly associated with the **Western Graphite Company** at Lake Hughes, California.

Eight men are employed at the Pick and Shovel chrome mine located in the Camp Merriam district near San Luis Obispo, California. The property is owned by Mrs. Fred Thornburgh, San Luis Obispo insurance agent, and is being operated under lease by United States Chrome Mines, Inc., A. H. Wild, president.

Several hundred acres of ground between North Columbia, Cherokee, and Tyler, California, have been leased by B. L. Melville of San Francisco who is employing 16 men in diamond drill test work. Offices have been established in the National Hotel at North San Juan, California, and Melville is making his headquarters there. Four drills are being used in testing the property, which will be worked by dragline if tests prove satisfactory.

The Lava Cap Gold Mining Corporation, Otto E. Schiffner, general manager, Nevada City, California, is now shipping its concentrates to the Selby smelter of the American Smelting and Refining Company at Selby, California, instead of to the Tacoma smelter. This action removes the company from the jurisdiction of the National Labor Relations Board by changing its status from that of an interstate to an intrastate operation. This is in accordance with the ruling recently handed down in the Idaho Maryland case in which the court held that where the gold is marketed within the state the company is not considered as being in interstate business.



A 12-ton mill has been erected in Gold Park Canyon near Twentynine Palms, California, by the Gold Park Mining Company, headed by Harry T. King, president, and Hugh Grant, secretary-treasurer and general manager. The mill is at the Atlanta mine and ore from the North Star and Mildred Ellen mines will also be treated. Offices of the Gold Park company are located in Los Angeles. Mining and milling are now in progress at the property.

The Sisson Gold Mining Company, John E. Sisson, president, 456 Subway Terminal Building, Los Angeles, California, has completed the construction of a three-mile road and telephone line to its property near Sierra City, California. A 30-ton water driven mill with diversion dam and pressure pipe was completed some time ago and a tunnel is now being driven on the vein. Warren E. Sisson is general manager at the mine.

Bruce Minard, Box 414, Mojave, California, who has been working a claim in the Coso Hot Springs district for some

time, has acquired another property in the same district from Ted Sterling of Mojave. Sterling had been operating the property.

Curley Fletcher and Tex Ritter have taken over the Chipmunk tungsten claims eight miles from Bishop, California, and are preparing to sink a shaft at once. Previous work was carried on through a tunnel.

Good recovery is reported being made by the new mill of the Pacific Tungsten Company, Archie Beauregard, superintendent, Bishop, California. Ore is being mined from a 200-foot tunnel and lateral drifts, and from connecting raises. The latter run to the surface and later will be merged into gloryholes to strip the top of the hill, all of which carries values. There are said to be 30,000 tons of ore above the tunnel with an unknown volume below and in ground yet to be explored. The ore is run over grizzlies and then passes through the crusher, ball mill, tables, and finally through the Stolle recovery process. An ample water supply is piped from Pine Creek and power is supplied by the Nevada-California Electric Corporation. Twenty men are employed. S. M. Blackburn, controlling owner of the property, is now making his headquarters at the mine.

The Trebor Corporation, Robert D. Mueller, president, is dredging approximately 1,500 yards of gravel per day on a three-shift basis at its property on Mari-



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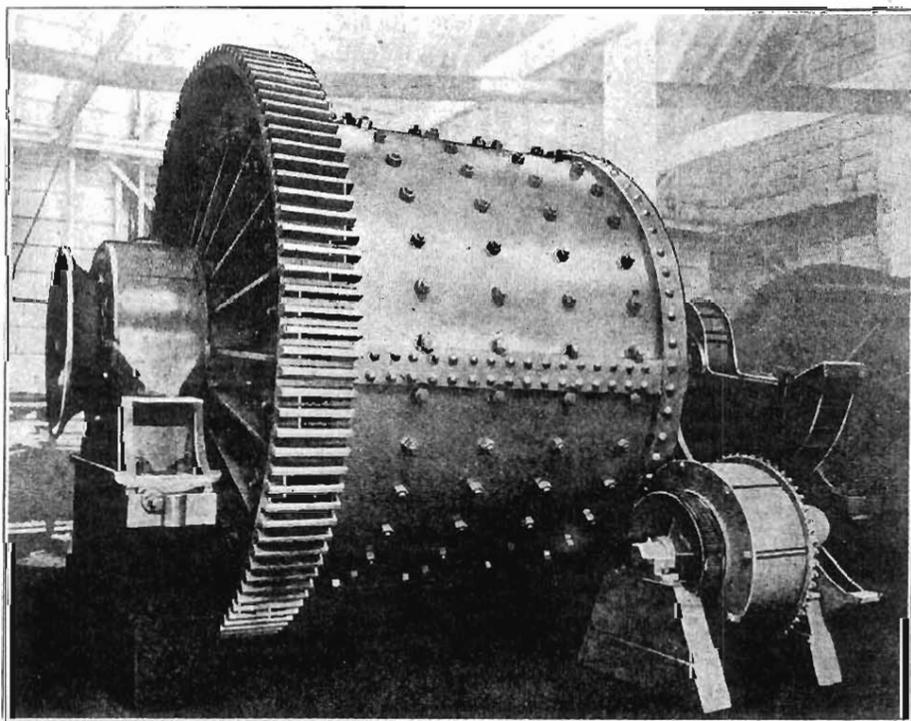
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posa Creek near Mormon Bar, which is being worked under lease from the Mariposa Commercial and Mining Company, Mariposa, California. A crew of 12 men is employed at the dredge and several more are engaged in sampling and other activities. Upon completion of several improvements it is hoped to dredge 2,400 yards in 24 hours. The plant consists of a Bodinson dredge which is fed by a 1 1/4-yard Marion dragline shovel. The one-mile section of the creek from Mormon Bar to the Stockton Creek bridge is expected to be completely worked within six to eight months. Upon completion of work on the Mariposa Creek the company plans to work other creeks in the district.

Ore reported to assay from \$130 to \$300 per ton is said to have been encountered at the Miss Geneve claim in the Sweetwater district near Mariposa, California. The property is being developed by Miss Geneve A. Shaffer, 688 Sutter Street, San Francisco, California, and associates. The mine is equipped with a 24-ton milling plant.

The Wabash silver mine in Spring Valley near Valley Springs, California, which has been a consistent producer of shipping ore since its discovery several months ago, has been equipped with a gasoline hoist and compressor.

Frank Buck, mining engineer, and associates installed a new ball mill and a small hoist at the old Mormon mine near Leach Springs in Death Valley and began operations October 1.

The Alaska Juneau Gold Mining Company, P. R. Bradley, president, 1022 Crocker Building, San Francisco, California, reported an operating profit of \$170,400, including miscellaneous revenue, for the month of September. This compares with \$175,900 for August and \$166,100 in September, 1937.

Fred W. Draper, Bagby, California, who has been developing the Red Banks mine on the Merced River below Bagby for the past two years, has under consideration the erection of a quartz mill. He has developed a large tonnage of commercial ore and has trucked several hundred tons to the Pine Tree mill during the past few months. Development work has been carried on by means of a \$20,000 Class B, RFC development loan.

The Eagle Shawmut mine, W. A. Fealy, general superintendent, Chinese Camp, California, is mining the black slate vein and milling 200 tons of ore per day in its recently enlarged plant. G. F. Williamson has joined the mine staff as consulting engineer. J. S. Prothero is mine superintendent. Mining operations consist of removing the ore by working upward from the tunnel level.

Black Brothers, Black Building, Los Angeles, California, are carrying on development work at the Aura mine, formerly known as the White Mule, located on Frazer Mountain in the Piru mining district.

L. L. Wartes, 451 Skinner Building, Seattle, Washington, consulting engineer for the Desert Gold and Aluminum Corporation, is now at the property in Im-

perial County, California, and has completed preparation of plans for a recovery plant, the initial unit of which will have a minimum capacity of 30 yards per hour. For the time being the plant will be erected in semi-portable form at the well site but at a later date it will be removed to the ground being worked and additional units added.

William Landeis, Mojave, California, is operating under lease the Whitmore mine, owned by Whitmore Mines, Inc., and is shipping ore to the Tropic mill at Rosamond, California.

The new 1,000-ton cyanide plant under construction at the property of the Gertrude Mining Exploration Company near Jamestown, California, is rapidly nearing completion and is expected to be ready for the first run of ore at an early date. The new plant, which is located about a half mile from the mill, consists of six leaching tanks with a capacity of 400 tons each. Behind these are two solution tanks. The Merrill-Crowe precipitation process is to be used for recovery. The company's mill is capable of handling 1,200 tons of ore per day and the crushing unit can handle about 1,000 tons. It is planned to put the mill into operation as soon as possible. A crew of about 20 men is employed under the direction of Joseph S. Cademortari, Columbia, California, superintendent for the company.

Additional milling equipment which will bring the plant's capacity up to about 25 tons per day is being installed at the Hamm and Birney mine located in the Yankee Hill district northeast of Columbia, California. The equipment is being put in by D. B. Woodruff, lessee and operator of the property.

The old Lone Tree Hill mining property in Yuba county southwest of Smartville, California, is to be core-drilled and prospected by a Los Angeles company. The property is owned by the Interstate Land Holding Company, W. G. Allen, superintendent, Smartville. The Los Angeles firm has also obtained leases and options on several pieces of adjoining property.

Robn Brothers are engaged in working the A. E. Day ranch property near Penryn, California, by means of a dragline. They also have leases on other property in the district, including a portion of the Penryn Fruit Company holdings and the Kayo orchard. They are reported to have sufficient ground available to continue operations for four years.

The Oriental mine near Alleghany, California, owned and operated by F. F. Cassidy of Nevada City, California, and the late Ray Hawkins of Alleghany, has been closed down temporarily. According to Cassidy a deal is pending for sale of the property.

It is understood that the Yuba Consolidated Gold Fields, Inc., F. C. Van Deirse, vice-president in charge of operations, 351 California Street, San Francisco, California, is carrying on negotiations for acquisition of the 640-acre William Randolph Hearst ranch near Oroville, California.

Active development work has been started at the Banner Mountain and Clark groups

located in the Grass Valley-Nevada City, California, district, which were recently optioned by H. C. Dudley, 704 Lonsdale Building, Duluth, Minnesota, and associates. George G. Gallagher, Box 810, Grass Valley, California, until recently mine superintendent of the Lava Cap Gold Mining Corporation, has resigned to become superintendent of the Dudley operations. It is reported that Dudley is considering the addition of the 600-acre Penrose tract to his holdings. It is owned by James Penrose, Nevada City, California.

The Independence mine located two miles southwest of El Dorado, California, has been leased by E. R. Harvey and Mike Stephens of El Dorado who are working the property with a small crew of men. It is said that more than \$500,000 in pockets ranging from \$20,000 to \$80,000 each was taken out by the late Seymore Hill and partners. Other ore taken from the mine was piled on the dump and the present operators are confining their milling to this ore of which 2,000 tons are available, much of it said to carry high values. The mine is opened by a 300-foot tunnel and a 60-foot shaft which has been unwatered. Plans call for extensive development of the ore bodies which will be mined and treated in the mill. Considerable ore is blocked out so that mining can start as soon as milling of dump material is completed. The new operators have equipped the plant with a ball mill and a Denver gold pan and concentrating table.

W. E. Wilson of Redding, California, who with associates recently took over the old Paragon mine two miles east of Foresthill, California, is at the property making preparations for winter operations. The new venture will carry out the contract made by King C. Gillette of Hollywood, in which he agreed to pay \$2,500,000 for the Para-



gon. He abandoned the project when his dam went out and a 400-foot bank caved onto his equipment, causing the death of one man. Under the new arrangement the purchase price is to be paid in royalties of 10 per cent, amounting to a perpetual lease. It is planned to sink a shaft at about the center of the great mined out pit in order to reach the sluice tunnel. By means of a pipe down through the 65-foot fill made by the caved bank, the earth will be sluiced out, the pipe being lowered as the fill is decreased. The company will benefit by construction of the North Fork debris dam, now under way, which will make it unnecessary to replace the private dam which went out.

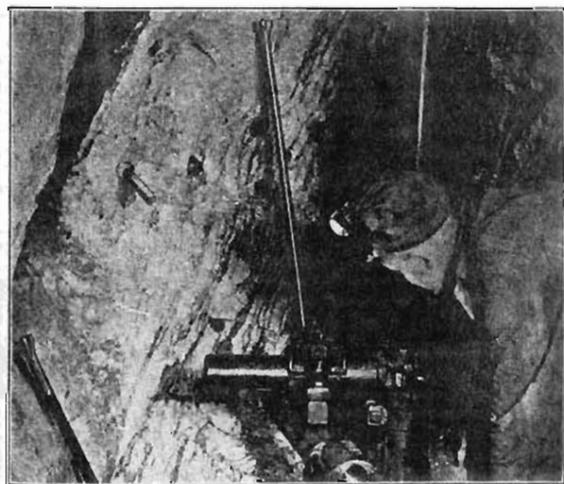
The Table Rock mine near La Porte, California, is being prepared for operation

by the E. A. McKanna interests. Twenty men have been employed during the summer in cleaning ditches, putting in pipe lines, and completing other preparations. Debris will be stored behind the Bullards Bar dam.

The old Providence and Frisco mines located about eight miles east of Kelso, California, were sampled recently by Loyd Meyers of the Western Minerals Exploration Company, 610 South Broadway, Los Angeles, California. The properties are owned by Pete Thebidou of Kelso.

The California Comstock Gold Mines, Ltd., M. H. Collins, general manager, 282 South G Street, San Bernardino, California, is operating the Louisiana mine, formerly known as the Exchequer, located seven miles north of Goffs, California. The property has been completely equipped with modern machinery and an assay outfit, and experimental milling has been in progress for the past two years. A suction method of dry washing has proved impractical and cyanidation is now being tried out. The property is opened by a 900-foot shaft and several having a depth of 150 feet. The company is also operating four claims about three miles northwest of the Louisiana and a patented dry mill at that property produced a 40 per cent tungsten concentrate which was marketed at the Boriana tungsten mill, Yucca, Arizona. F. H. Nett is in charge at the property.

The "49" group of lead-silver claims in the Kingston Mountains three miles north of Horse Thief Springs, San Bernardino County, California, owned by Bob Kincaid, Searchlight, Nevada, and associate, is under lease to Harry Robinson of Goodsprings, Nevada. Smelter returns on ore taken from an eight-foot vein are said to have averaged 17 per cent lead, six ounces silver, and 0.16 ounce gold per ton.



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Mark Bradshaw, Drawer F, Tonopah, Nevada, has secured an option on the Lilly group, a low-grade gold property located five miles southeast of Nipton, California, and owned by Charles Johnson of Searchlight.

The Columbia Star Gold Mines, Inc., backed by Harold A. Wootton, 613 Jackson Building, Buffalo, New York, has been organized by Reno, Nevada, interests to develop the German, Ocean Star, and Columbia groups of claims located near Washington, Nevada County, California. The company, incorporated under the laws of Nevada, has a capitalization of 2,000,000 shares, par value 10 cents. E. R. Berg is president and Leslie E. Johnson, 28 Stack Building, Reno, is secretary-treasurer. A. M. Tweedt, 660 Vernon Street, Oakland, California, is consulting engineer for the company. The first work planned is the opening of known ore bodies at the German mine by the sinking of the present winze to greater depth and the sinking of an additional winze in the ore. It is then proposed to run a tunnel from the Ocean Star tunnel to open the known ore bodies of the German mine at a depth of 250 feet below the present level of the German workings. The Ocean Star shaft, which has been unwatered, is to be sunk to greater depth to open up what is said to be a continuation of an unstopped ore body located between the 300 and 400-foot levels. Initial work will be confined to the German and Ocean Star mines, but later some exploratory work will be done on the Columbia group. The company proposes to construct a small mill for test purposes and later, as the indicated tonnage is definitely proven and developed, a modern mill will be constructed.

A. Calicutt and William Gardner, sub-leasing on the Wade group near Randsburg, California, from Edward Herkelrath, have opened an 18-inch streak of satisfactory ore which shows evidence of increasing in size with additional depth.

Judd Underwood and H. P. McCormack, 337 West Taylor Street, Reno, Nevada, have acquired the gold mining property near Portola, California, owned by Dr. James Dodson and James E. Gray of Portola. The Portola Mines and Milling Company has been organized with Dodson as president, Gray as treasurer, Underwood as secretary, and McCormack as general manager. Installation of a 1,000-ton flotation-cyanide mill is planned to treat the sulphide ores which will be mined by steam shovel operations. The project is backed by eastern capital.

A lease on the Clara B and Austin lode claims of the Commonwealth Tunnel Transportation Company is reported to have

COLORADO

been let to Ernest B. Sperger of Georgetown, Colorado, and associates who plan immediate operation. Development of the Austin claim will be carried on through the Clara B shaft. C. G. Breitenbach of Georgetown is president of the Commonwealth company and O. H. Westbrook, Georgetown, is superintendent. The ore carries values in gold, silver, lead,

and zinc and present development plans call for sinking about 100 feet as values are believed to increase with depth.

Plans are under way to double the capacity of the 125-ton flotation and gravity concentration plant of the Butterfly Consolidated Mining Company. The company employs around 50 men in its mine and mill at Ophir, Colorado, under the general management of Walter E. Binner of Ophir. Development is being carried on in two headings. C. L. Brown is mine and Walter L. Hudson is mill superintendent, both of Ophir. Ore is taken from mine to mill by gravity. The enlarged mill, which will probably be completed some time this winter, will be operated as two separate circuits.

The Climax Molybdenum Company of Climax, Colorado, reports a net profit of \$2,200,349 for the third quarter of 1938. This is after depletion and depreciation and equals 87 cents a share on common stock, comparable to \$1,079,384 or 43 cents a share in the preceding quarter. In the like period of 1937 the company reported a net profit of \$1,313,279 or 52 cents a share. Operations at Climax are under the general superintendency of William J. Coulter.

The Boston mill is being remodeled and electrified and will soon be ready for operation with a capacity of 50 tons of ore daily. The plant is under lease to the Colorado Gold and Silver Trust Company which also holds the Ward group of claims near Ward, Colorado. Walter A. Moore, Gold Hill, is in general charge.

The Bruce Consolidated Mining Company is reported to have completed its financing and to be ready to continue shaft sinking operations. The Bruce shaft is being extended to the upraise from the lower tunnel. This will allow natural ventilation and drainage and make it possible to dump ore through chutes from the upper levels to the ore cars which are trammed by gravity to the company's 150-ton mill. William A. Lamb of Idaho Springs, Colorado, is president and general manager. Charles Casteel, Idaho Springs, is mine superintendent.

Winter operations are planned by the Silver Plume Milling and Mining Company at its Terrible, Mendota, Seven Thirty, and Dives-Pelican groups of claims near Silver Plume, Colorado. Rehabilitation of the 150-ton Terrible mill is completed. John A. Smith of Silver Plume is president and general manager.

A crew of about six men is employed at the Bullion mine near Montezuma, Colorado, by George W. Goodman, Montezuma, who is said to represent California interests. Ore is being trucked to Leadville for smelting.

The Colorado Toledo milling plant at Montezuma, Colorado, will soon be ready to receive custom ore. James Johnson, Montezuma, and associates have remodeled the mill and will operate it.

Between six and 10 carloads of ore monthly are being shipped by the Golden Swan Mining Company from its Gold Bond mine at Cripple Creek, Colorado. Work is being carried on by split-check and com-

Mining Men and Their Activities

About men who are well known and prominent in the mining circles of the western states.

Everette Johnson, formerly of Minneapolis, is now associated with the Kenton mine at Alleghany, California.

W. A. Burton, formerly superintendent of the Ambassador Gold mines at Yerington, Nevada, has gone to Llano, Texas.

Sherwood Roman, who has been field manager for Fort Pierce, Inc., at Cherry Creek, Nevada, has gone to San Francisco.

Frederick V. Hendershot is at Silver Plume, Colorado. He was formerly a student at the New Mexico School of Mines.

J. A. Allred of Jarbidge, Nevada, has gone to the Bluster Consolidated gold-silver mine near Jarbidge where he is employed.

A. A. Fagnant, Clogg Building, Yakima, Washington, is one of the incorporators of the Allie Mining Corporation which was recently organized.

Leon DeBorde of Troy, Montana, is superintendent of the Cruse Gold, Inc., which is reopening the old Belmont mine at Marysville, Montana.

Wayne G. Briggs, formerly a student at the University of Alabama, is employed by the Consolidated Coppermines Corporation at Kimberly, Nevada.

James A. McDonald, until recently foreman for Westvaco Chlorine Products Company at Gustine, California, has gone to Rogue River, Oregon.

Joseph F. Champion, Sr., assayer and metallurgist, is now at 108 Ohio Street, Ashland, Oregon, having moved from Dunsmuir, California.

Harve P. Nelson, mining engineer, has joined the staff of Cia. Metalurgica Mexicana de San Pedro, S. A., at Cerro de San Pedro, San Luis Potosi, Mexico.

Frank Morris has moved from Lansdale, Pennsylvania, to 34 Mase Avenue, Dover, New Jersey, where he is employed as chemist in the Mount Hope iron mine.

Gaifen T. Vandel has returned to Grants Pass, Oregon, from Bolivia, where he was connected with the Bolivia International Mining Company at Playa Verde, Huancabamba.

William McCutcheon, formerly of Gridley, California, sailed recently for Colombia, South America, to accept a position as assistant superintendent on a gold dredge.

John S. Wise, mining engineer and recent graduate from Columbia University, is working for the Sunshine Mining Company at Kellogg and residing at Wallace, Idaho.

Eugene W. Frank has moved from Winnemucca, Nevada, to Glenbrook Heights, Grass Valley, California. He formerly operated claims in the Kennedy district of Nevada.

Kalervo Hyyppa is at Whitehall, Montana, as night foreman at the Golden Sunlight mine which is being operated under

HANSEN TAKES POSITION AS CHIEF GEOLOGIST OF ELIZALDE

MAYER G. HANSEN has been appointed chief geologist for Elizalde and Company, Inc., in the Philippine Islands. Hansen has had wide experience in the Philippines, having served as chief engineer for the Angelo Mining Company and Mineral Enterprises, Inc., as well as chief geologist for Consolidated Mines, Inc., and geologist for Benguet Consolidated Mining Company.



Mayer G. Hansen

Before going to the Islands late in 1935, Hansen was field engineer and geologist for Anglo American Mining Corporation in California, having followed W. Val DeCamp to join that company's staff when the latter took charge of Anglo American's Yellow Aster operations at Randsburg. He had been chief geologist for the United Verde Copper Company at Jerome, Arizona, during the time that DeCamp was general manager.

Hansen's present address is Apartment 403, University Apartments, Manila. Offices of Elizalde and Company are in the Elizalde Building, Manila.

the superintendency of Wayne Fenner, Whitehall.

J. Harry Reynier, Jr., is employed at Kimberly, Nevada, by the Consolidated Coppermines Corporation. He was until recently a student at the University of California.

John Palecek, formerly mill superintendent at the Forbestown, California, operations of the Idaho Maryland Mines Corporation, is residing at Metaline Falls, Washington.

E. W. Stevens of Norris, Montana, has been appointed mine superintendent of the Boaz Lease of which he was assistant mine superintendent. He replaces the late C. A. Drackett.

J. E. McMullen, who has been assistant to the president of the Colorado Fuel and Iron Corporation, Continental Oil Building, Denver, Colorado, has been named controller of the company.

Ralph V. Thurston of Payette, Idaho, recently visited the Gold Cluster mine on Chicken Creek near Huntington, Oregon, accompanied by E. M. Kennedy, a banker of Knoxville, Tennessee.

Ira A. Herbert, who has been directing operations at Cia. Candelaria-Canoas, has been transferred to Fresnillo, Zacatecas, Mexico, as chief engineer of that branch of the Fresnillo Company.

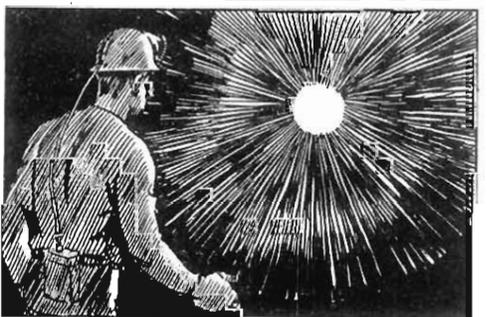
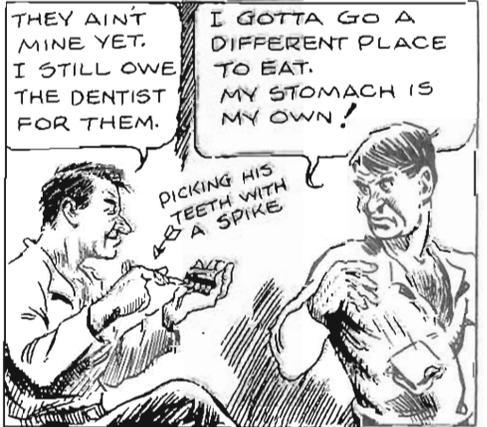
THE LEVITY LODGE

BY JOHN OSWERS



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DON'T WALK AGAINST THE HEADLIGHT GLARE OF AN APPROACHING LOCOMOTIVE - GET IN THE CLEAR!

LORING LEAVES NEVADA; WILL DIRECT CALIFORNIA OPERATION

SEVERAL dragline operations are being started near Oakdale, Stanislaus County, California, by William J. Loring, former president of the Arizona Comstock Corporation at Virginia City, Nevada. One of the operations at Oakdale is now producing and it is expected that others will be shortly.



William J. Loring

Loring was born at Half Moon Bay, San Mateo County, California, and started his career at the age of 12 as a tool boy in a mine in Amador County, California. He learned the fundamentals of mining and milling at the Plymouth Consolidated Mines in California and at the Utica Gold Mining Company at Angels Camp. In 1896 he became assistant general manager of Utica in charge of its 160-stamp mill which for a number of years had an output in excess of \$200,000 monthly.

In 1901 he resigned his position with Utica to become manager of the Melones Gold Mining Company at Melones, California, and directed an extensive construction program. Five years later he joined the staff of Bewick Moering and Company and was appointed general superintendent of the Sons of Gwalia, Ltd., in Western Aus-

tralia. He later was made general manager of the company's Australian operations in charge of 41 mining properties. In 1908 he bought Herbert Hoover's interest in the firm and was transferred to headquarters in London.

For the following 12 years he was chief engineer for Bewick Moering and traveled to mining properties in all parts of the world. In 1914, he returned to the United States.

It was largely through Loring's efforts that the mine of the Carson Hill Gold Mining Corporation was equipped and he also was responsible for the installation of a large amount of additional machinery at the Plymouth Consolidated Mining Company, where he had started his career more than 25 years before.

What is now called the Nevada-Massachusetts tungsten property at Mill City, Nevada, was taken over by Loring during the World War and operated by a company known as the Pacific Tungsten Company. A mill was placed into operation on the property five days after the Armistice was signed and the mine later passed out of his hands.

Other companies with which Loring has been connected, either in a financial or operating capacity, include: Pacific Coast Gold Corporation, Hardenburg Syndicate, Pacific Milling Company, Inc., Humboldt Tungsten Mines Company, Deadshot Mines, Inc., the Golden Daisy Mines Consolidated, Zonia Copper Mining Company, Arizona Metals Company, Hammon Copper Com-

pany, Ltd., and Searchlight Gold Corporation.

Loring has written a number of papers which have been reproduced by technical publications and is a member of many professional societies, both in this country and abroad. Besides being a member of the American Institute of Mining and Metallurgical Engineers, he was president of the American Mining Congress in 1920 and 1921. His hobby is photography.

W. T. BENSON NAMED MINE SUPT. AT SHEEPRANCH MINE

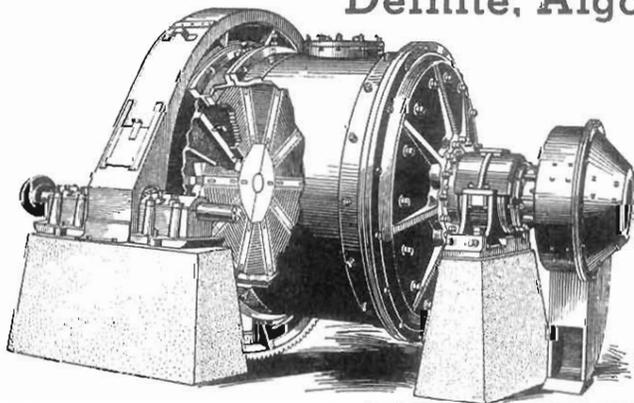
WILLMAR T. Benson has left his job as chief engineer for the Walker Mining Company at Walkermine, California, to accept the position of mine superintendent at the Sheepranch mine of the St. Joseph Lead Company at Sheepranch, California. He had been chief engineer at the Walker mine since 1935.

Benson was born in Helena, Montana, in 1895, and was graduated from the University of Utah, receiving the degree of bachelor of science. He obtained his early experience at the Utah Metal and Tunnel Company in 1915, and at the Walker Mining Company in 1916.

After serving as a lieutenant in the air service during the World War, Benson went back to his native city, Helena, Montana, where he was employed as an assayer by Goodall Bros. for about a year. After that he went to Mackay, Idaho, to become engineer and superintendent of the Em-

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OBITUARIES

G. A. Weldon, who was superintendent of the Western Dredging Company operations at John Day, Oregon, died October 19, 1938, at John Day.

John O. Slaton, 42, mine foreman at the Morenci Branch, Phelps Dodge Corporation, died when on a hunting trip in the mountains about 80 miles north of Morenci, Arizona. Death was caused by a heart attack.

C. A. Drackert, 63, of Norris, Montana, died October 14. At the time of his death he was employed as mine superintendent at the Boaz mine at Norris. He went to Montana 41 years ago and had been active in the Pony district since that time. In early life he also mined in the Goldfield and Tonopah camps in Nevada.

H. C. Gibbs, president of the Arizona Eastern Gold Mines Company, died at Boston, Massachusetts, October 26, following an extended illness. His company is the owner of the Octave mine at Octave, Arizona, which is being operated under a profit-sharing agreement by the American Smelting and Refining Company.

P. A. Larson, 76, well-known mine operator of the Ward district in Colorado, recently died in his home in Denver. Going to Boulder County from Sweden as a child, Larson took up mining and had operated in most of the mines and mills of the district. He organized the Larson Mining and Milling Trust, which formerly operated the Stoughton mine, and with his nephew, Kent Johnson, was operating the B. and M. mine at Ward.

Frederick Lyon, 67, formerly vice-president of the United States Smelting Refining and Mining Company, died October 30, 1938, in New York City. Lyon was born in Czechoslovakia and came to the United States in 1888. After several years in the engineering office of the Union Pacific railroad in Omaha, Nebraska, he moved to Salt Lake City, Utah. There he established a mining and civil engineering partnership with J. Fewson Smith. In 1899 he took a position as engineer with the U. S. Smelting company with which concern he remained until his retirement in 1918.

WILLIAM O. WOODBURY

WILLIAM O. Woodbury, a well-known Arizona mining engineer who was born at Virginia City, Nevada, 56 years ago, died suddenly at San Bernardino, California, October 2. He was stricken with acute appendicitis, which quickly developed into peritonitis, while working on a deal to sell the Grand Reef mine.

Woodbury was graduated from Napa College at Napa, California, and received his technical training at the Mackay School of Mines of the University of Nevada, of which he was also a graduate. He was a captain of infantry during the World War.

During recent years he had been connected with the mercury mines at Payson, Arizona, and with molybdenum mines near Tucson. He was married in 1937 and his widow resides at 385 North Fourth Avenue, Phoenix.

pire Copper Company, and two years later he was on his way to old Mexico as examining engineer for the Nipissing Mining Company.

Benson returned to this country in 1924 and went to Sandy, Utah, as foreman of the Cardiff Mining and Milling Company. In 1927 he went to Bingham, Utah, to become foreman of the Utah Apex Mining Company; from there he went to Park City as superintendent of the Park Galena mine; and then to Rico, Colorado, in 1929, as superintendent of the Rico Argentine Mining Company.

In 1930 he returned to Utah Apex as assistant foreman and a year later was transferred to Walkermine as shift boss. About 1935, he was appointed chief engineer at Walkermine.

**TOLMAN SCHOLARSHIP IS
PRESENTED TO STANFORD**

STANFORD University alumni and students of the department of geology and mining gave a dinner at the San Francisco Commercial Club on November 17 in honor of Cyrus Fisher (Chief) Tolman, who retired last June from the geology department of the university where he had taught for 25 years.

A special feature of the dinner was the presentation to the university of a fund to finance a scholarship, to be known as the "John Tolman Memorial Scholarship in Economic Geology," in memory of Professor Tolman's son who died while managing the Robinson mine in Plumas County, California, in 1937, and in honor of Professor Tolman.

Charles White Merrill, supervising engineer of the United States Bureau of Mines in San Francisco, acted as toastmaster, introducing the following speakers: Dr. Bailey Willis, professor emeritus of the Stanford geology department and world authority on earthquakes; J. R. Pemberton, oil umpire of California, Los Angeles; William Koerner, general manager, Magma Copper Company, Superior, Arizona; L. A. Cranson, secretary, Honolulu Oil Company, San Francisco; Dr. Eliot Blackwelder, head of the geology department, Stanford University; Professor Frederick G. Tickell, head of the mining department, Stanford University; R. R. Porterfield, geologist, Midland Oil Company, Texas; and Professor Tolman.

Dr. Willis made the speech of presentation, requesting Professor Tolman to serve as chairman of the board to select students to receive the scholarship. It is understood that four other men will serve with Professor Tolman.

**MEXICAN MINERS SEEK
EXPORT TAX EXEMPTION**

SMALL-SCALE miners of the Inde district, Durango, Mexico, have petitioned the ministry of finance to exempt them from the 12-per cent tax on exports to the extent of allowing this exemption for all minerals they produce in zones 90 kilometers from railroads and highways.

The miners assert that the current exchange rate of five pesos per dollar, though favorable, is nullified by the export tax and high transportation costs.



I have recently read the story of just an ordinary fellow whose nerve and ambition has carried him through the trying years from 1931 to 1938. He takes the prize for getting around trouble.

Penniless, but not down-hearted, he decided to try his hand at prospecting although he did not have even the vaguest conception of what mining was all about. From Los Angeles he struck out for the hills, following the old established gold trail straight to the Mother Lode country. His first year found him just existing, as it were, but gaining the knowledge and experience that in time to come would stand him in good stead.

Finally, Lady Luck smiled in his direction. A placer site that he had been working proved to be a paying venture, so he turned it over to a partner to continue the work while he exploited new fields. He was soon called back for the men below him had objected because of water conditions. The law told him to cease operations at once. Without water the placer claim was worthless, but this difficulty was solved by digging a well alongside the creek and securing more than enough water for the placer needs.

Not long after this incident he was unfortunate, or perhaps we should say fortunate enough, to be caught in a mountain rain storm. While he stood beneath a tree for shelter, the wind came along and uprooted that very tree. When the rain ceased he noticed the glittering particles of metal in the sand where the tree had stood. These particles proved to be gold. Needless to say, he soon had a pretty good thing in that lucky find.

Within three years' time he owned the controlling interest in six operating placer claims and four quartz claims. Not bad for a newcomer.

However, I do not agree with the idea that this fellow was merely "lucky." As I understand it, the word lucky means that you can sit down and the gods will smile on you, without your exerting yourself a bit. This fellow went out where his fortune lay in the ground in hard metal, not in greenbacks stacked up like cordwood with his name engraved on each one. He carried a miner's pick and shovel, and a couple of blankets wrapped around a sack of beans and a slab of bacon.

Today, this man is somewhat of an idol in the mining district that he calls his home. He is not an expert on mining problems, but his success has produced an effect on the newcomers who have had the good fortune to meet him that is truly amazing.

I cite this fellow's case because of this influence which he has exerted in the mining world. May his ambition continue to be contagious to all newcomers in the field of prospecting.

The company recently resumed production at its holdings near Metaline Falls, Washington, where operations was suspended March 31, 1938. Old equipment was overhauled and additions were made, the schedule calling for production to start November 1.

INSTRUCTIVE MEETING HELD BY ARIZONA SAFETY COUNCIL

AN UNUSUALLY well-attended meeting of the Industrial Division of the Arizona Safety Council was held at the Pioneer Hotel, Tucson, Arizona, on November 1. This is a relatively new organization, the Tucson meeting being its second, but it has made great progress in advancing the cause of industrial safety in Arizona. The morning session was presided over by Paul C. Keefe, safety director, Phelps Dodge Corporation, United Verde Branch, Clarkdale, Arizona, and was attended by safety men from practically all the large mines and industrial establishments.

The morning program included a talk by Dr. A. C. Carlson, United Verde Hospital, on "Industrial Surgery" with especial emphasis being given to the treatment of severe burns. Dr. Carlson brought out forcibly the relationship between injured persons and the industrial surgeon and the psychological factors involved.

Daniel Harrington of the United States Bureau of Mines gave an excellent talk on "Dust Control", bringing out the point that Arizona mines had recognized the problem long ago and have done some excellent work in dust prevention. He showed that the primary necessity was to prevent the dust getting into the air rather than having a means of removing it after it is made.

"Safety in its Relation to Compensation Rates" was ably discussed by Sam W. Proctor of the Industrial Commission of Arizona. An outcome of the talk by Proctor was the recommendation from the group that the Arizona Industrial Commission establish a Policy Holders Accident Prevention Bureau to assist those carrying insurance with the state to lower their accident experience record and thereby get better rates. It was pointed out in the discussion that, while this might add to the administrative costs, it should decrease benefits and make lower total costs aside from the humanitarian aspect of lessening suffering.

The luncheon meeting was presided over by Orr Woodburn, director, Mine Rescue Station, Globe, Arizona. H. D. Collett, supervisor of safety for the Santa Fe Coast Lines, gave an interesting and instructive speech which forcibly brought home the need of increased safety effort, not alone in industrial plants, but everywhere. He pointed out the needless loss of life and suffering and showed statistically what had been accomplished by the railroad companies since their employees became safety-minded.

The meeting was highly successful and it was decided to hold two sessions a year of the group. Those in attendance participated freely in the discussion and many

interesting phases of the work were brought out. Al Zellmer of Phoenix is president of the Arizona Safety Council and Herbert Hodgson, also of Phoenix, is chairman of the executive committee of the Industrial Section.

MEXICO SHOWS INCREASE IN MINERAL PRODUCTION

MEXICO'S mineral production showed a decided upward turn during the first six months of this year over that for the corresponding period of 1937. All major exceptions copper, which continued to drop, were at higher levels as shown by the following comparative tables for the two periods issued by the ministry of national economy. Amounts are in kilograms:

	1938	1937
Gold	14,006	13,418
Silver	1,443,995	1,411,284
Copper	21,963,996	25,162,167
Lead	138,621,039	115,895,049
Zinc	81,702,769	69,583,677
Antimony	3,646,699	4,939,882
Graphite	5,300,072	7,149,195
Mercury	157,798	71,414
Arsenic	4,808,002	6,344,819
Molybdenum	415,665	557,127
Bismuth	101,697	75,549
Cadmium	359,109	199,358
Tin	131,604	187,741
Tungsten	10,893	16,447
Vanadium	68,341	183

NEW DRAGLINE OPERATING ON THE TRINITY RIVER

THE Golden Gravels Mining Company started dredging October 11 on its property on the Trinity River below Junction City, California. G. Warren Hassler, Jr., Junction City, is president and T. Hardwick is secretary-treasurer.

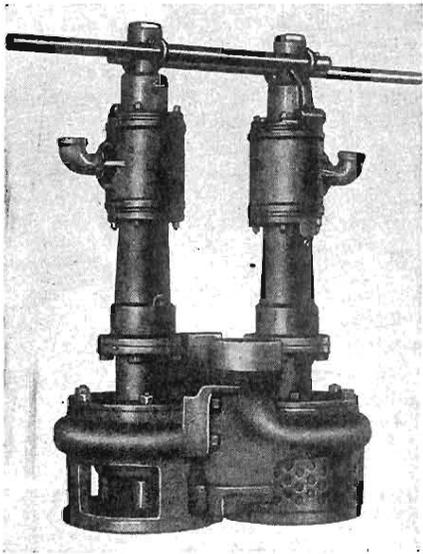
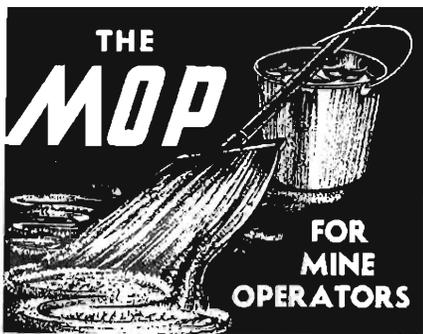
The dragline dredge, built by the Bodinson Manufacturing Company, is rated at a capacity of 3,000 yards and uses jigs developed by H. C. Heath. The modern flow-sheet includes rougher jigs, finisher jigs, Titan amalgamator, and a scavenger jig, but the boat is not equipped with piffles. The dredge appears to be capable of exceeding its 3,000-yard capacity by a wide margin. In fact, it is said to handle 4,000 yards without difficulty.

The gravel is dug by a new Link-Belt K-55 dragline with a two-yard bucket and 65-foot boom. James F. Magee is superintending the operation.

SAYS FEATHER RIVER DREDGING MUDDIES LOWER SACRAMENTO

A PETITION asking investigation of gold dredging operations on the Feather River, to determine the extent of damage being done to farming interests and the possible danger of such operations to the lower Sacramento River, has been filed by the Yolo County Board of Supervisors with the California Reclamation Board and the California Debris Commission.

The instigator of the petition, P. N. Ashley, a Butte County rancher and reclamation engineer, charges that territory out of the control of state and federal regulations is being mined and that unrestrained debris is being washed down the Sacramento.



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Jim Bruce of Needles, California, is engaged in developing the **Lone Willow** silver property located in the Manchester range 21 miles north of Needles.

The **Golden Relief Mining Company**, LeRoy Nichols, president, Aguila, Arizona, is carrying on development work at the Fred Walters property located 10 miles north of Aguila, with a crew of five to 10 men employed. The company also has under lease the Powell property, owned by Dempsey Powell, which is located near the Walters mine, and is equipping it with a compressor and drills preparatory to shipping. Values are in gold, silver, and copper.

Several sets of lessees are working at the **McCracken** mine near Signal, Arizona, owned by H. B. Hurley of Yucca, Arizona. Ore is being shipped from the property.

The **General Dredging Corporation**, Room 505, Bank of America Building, Sacramento, California, is operating a 4,000-yard dredge on ground near Folsom, California. The company was recently incorporated by Wilbur H. Haines, district sales manager of the Standard Oil Company of California, Sacramento;

O. Jack Boucher, also of Sacramento; and J. O. Greenan of Beowawe, Nevada. The company has also set up a dragline dredge and 1 1/2-yard shovel on Redding Creek near Weaverville, California. There is sufficient ground on the creek for a three-year operation.

F. N. Soracco of Sutter Creek, California, has secured an option on the **Matulich** property located two miles east of Drytown, California. The property is owned by A. C. Matulich.

A good body of ore has been opened up in the **Lucky L** mine near Susanville, California, by Bernard Lackey. It has been named the Lackey ledge and has been prospected for a distance of 2,000 feet by numerous open cuts which show it to average six feet in width. The values at the surface are slightly in excess of \$6 per ton, principally in gold. Deeper exploration work is under way now and workings are being extended through the oxide zone and are entering the original sulphide ore. The sulphides are in a blue quartz and the ledge is apparently of deep origin.

The **Anglo American Mining Corporation**, 206 Sansome Street, San Francisco, California, has reported a net profit of \$44,584 before depletion and depreciation for the quarter ended September 30, 1938. This compares with \$31,398 in the second quarter of the year and \$42,347 during the same period last year. Profit during the first nine months of 1938 totaled \$95,413 before depletion and depreciation against \$119,792 a year ago. The gain in profit during the third quarter was occasioned by the declaration of a 2-cent dividend on its common stock by Carson Hill Gold Mining Corporation, of which Anglo American holds 1,407,378 shares. The closing of the

Oceanic quicksilver mine near San Luis Obispo was reflected by the report which showed no revenue from that source in the third quarter against \$19,823 in the quarter ended June 30. Walter Lyman Brown is president.

The **Carson Hill Gold Mining Corporation**, controlled by Anglo American Mining Corporation, has reported an operating profit before depletion, depreciation, provision for federal income and undistributed profits taxes, and miscellaneous expenses of \$160,949 for the fiscal year ended September 30, 1938. The preceding fiscal year's earnings totaled \$57,153 on the same basis and in 1936 a profit of \$76,846 was reported. The independently audited report of the company for the year ended September 30, 1937, showed a net profit of \$4,875 after tax deductions and depletion and depreciation which compared with \$61,617 in the preceding year. During the fiscal year just passed the company milled 376,818 tons, which is about 6,000 tons less than would have been treated had it not been for power interruptions last February and heavy storms in December, 1937, which flooded the company's pumps and washed out sections of the power concern's ditches and flumes. Total production a year ago was 335,180 tons which had a value of \$735,203 in gold and silver. Walter Lyman Brown, 206 Sansome Street, San Francisco, California, is president of the company and John A. Burgess is general superintendent at Melones, California.

Humphreys Gold Corporation started a crawler operation on Butte Creek, east of Chico, California, November 6. The equipment which was used on Clancy Creek near Helena, Montana, has been installed at the new site. It consists of two draglines, one shovel, a crawler mounted washing screen and stacking plant, and a crawler sluicing plant. D. G. Brown, Chico, California, is general superintendent. Headquarters are at 910 First National Bank Building, Denver, Colorado. A. E. Humphreys is president.

The **Gaston** gold mine at Washington, California, has been taken over under bond and lease by the **Oakley Mining Company**, Ray Soles, president, and the company is now offering for sale \$29,000 in stock, the proceeds of which will be used to develop the property. The mine is equipped with a 20-stamp mill and other mining machinery. Improvements planned include moving the camp to a point adjacent to the mill, the construction of a flume to replace the old ditch, and the building of an earth dam as a conservation reservoir for summer water. An electric battery locomotive is to be installed in the drain tunnel. It is proposed to put the property on a production basis of 100 tons per day at the start and increase it to 300 or 400 tons as rapidly as possible.

The **Auburn Chicago** mine at Penryn, California, which has been in continuous operation for the past five years, has been abandoned by the E. L. Cord interests and the dismantling of the mine plant is under way. A. N. Sweet, general manager of the extensive Cord mining operations, was at the mine recently to complete arrangements for transfer of the equipment to the

Cord properties at Silver Peak, Nevada. The decision to abandon the Auburn Chicago property was reached after extensive tests and exploration work in the lower levels of the mine. The mine has employed an average of 50 men for several years and has been operated on a three-shift basis. The property is the deepest in the district, having been opened to the 750-foot level. Dismantling of the machinery is being directed by L. Kenneth Wilson, manager, N. R. Campbell, mine superintendent, and C. F. Johnston, mine foreman.

Lee I. Rowland, Mariposa, California, who with associates holds an option on the Guadalupe and Dunn mines in the Guadalupe district, is installing machinery at the property. It is understood that a mill is contemplated also. The property is a portion of the Fremont Grant held by the Mariposa Commercial and Mining Company, F. T. Maguire, resident manager, Mariposa.

A 40-ton Huntington mill is being placed in operation at the Morris dump of the old Page mine near Columbia, California. T. H. Konrad, Lewis Osburn, and Charles Silva, all of Columbia, are leasing the dump from Miss Rebecca Baer and Miss Irene Duchow.

Narcisso Sanchez and Karl Beinn are operating the St. Gabriel mine near Mariposa, California. They are crushing ore in a small mill on the property.

Plans are under way for construction of a 125-ton mill at the Red Banks mine three miles below Bagby, California, according to Fred W. Draper, Bagby, operator of the



property. The property has been under development for more than two years and a large tonnage of commercial ore is said to have been blocked out.

Production is reported to be satisfactory at the Cotton Creek mine in Hunter's Valley near Hornitos, California, which is being developed by Oakland interests. A crew of 12 men is employed at the property.

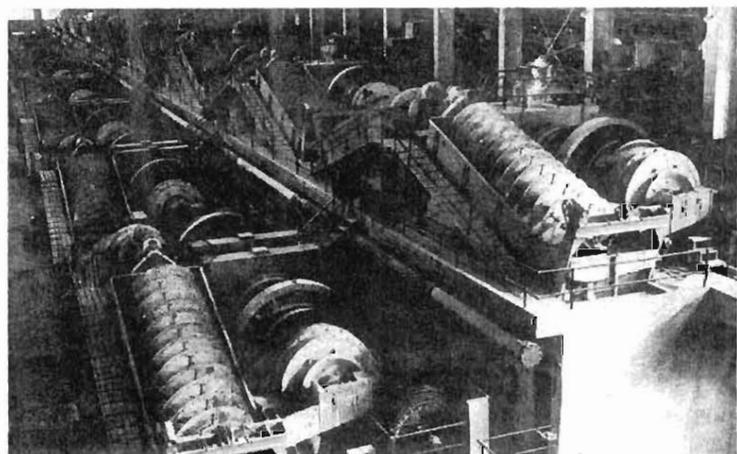
English capital is understood to have been secured to finance additional work at the Three Kings gold mine, formerly known as the Ireland, near Alleghany, California. Supplies and materials are being taken in to the property preparatory to a steady run throughout the winter. Eight men will be employed and the 1,300-foot tunnel will be driven another 1,000 feet to develop ore. An old bunk house is being remodeled to house the men. The mine is being operated under lease by Ted LeMaire and associates of San Francisco and work at the property is being directed by William Morrison, mine foreman.

The Empire Star Mines Company, Grass Valley, California, is transferring operations at the Murchie mine to new ore deposits well below the older workings. Several sections of the upper levels have been

abandoned to permit concentration of effort and workmen in the lower levels. Mill production is reported to average about 300 tons per day. At the company's Pennsylvania mine in Browns Valley satisfactory ore is being mined following two years of exploration work. The mine's payroll has been more than doubled since the first of the year and now numbers in excess of 110. The property is equipped with a 50-ton milling plant which has been used as a pilot plant. It was installed to carry on exploratory work before any important ore bodies had been revealed. Robert Hendricks is manager of the Murchie and the Pennsylvania, and E. R. Bennett is superintendent at the Pennsylvania.

The Alabama mine of the Alabama-California Gold Mines Company, Penryn, California, is expected to go on a full production basis of 300 tons per day before January 1. At present 135 tons are being milled daily. Enlargement of the shaft to three compartments is nearing completion and two new 300-ton ore bins and the new steel headframe are now in place. Values are said to be improving as the lower levels are mined and the vein is also widening as further depth is attained. The company now controls 60 per cent of the Penryn Gold Mines Company, and, with the Alabama Extension and the Butts property, has available more than a mile of mining territory. The mine is understood to have shown an operating profit of \$42,000 since February of this year. At present a crew of approximately 100 men is employed under the direction of William A. Beaudry, gen-

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eral superintendent. Other operating officials include Joseph David, mine superintendent; Tom Blazer, mill superintendent; Fred E. Hansen, assayer and engineer; and George Thompson, master mechanic. The company is headed by Mark Ewald of Olympia, Washington.

Workmen are reported to have started to clean out the old River tunnel which extends from the river at Bagby, California, under the Pine Tree and Josephine mines of the Pacific Mining Company. The tunnel was partly reopened a few years ago but has not been used in mining operations for 50 years. It is said that the tunnel was in good ore in places and that it can be used as a means of operating properties on the mountain at a greatly reduced cost, provided a mill is built on the river at Bagby. Philip R. Bradley, Jr., is manager of the Pacific Mining Company.

A new 15-ton milling plant has been installed at the property of the Deer Creek Mining Company located on the south shore of Lundy Lake near Mono Lake, California, and the plant is now being housed in for the winter. The property, which comprises four claims, is being operated by Gordon Bettles of Winnemucca, Nevada.

An eight by eight compressor has been installed at the Page mine, Sonora, California. The tunnel at the property is now in 850 feet with a winze being sunk at 400 feet and another at the end. The winze at the 400-foot point is following the vein, which varies from two to six inches in width. The mine is being developed by J. N. Byers, Don Coppi, and George Herndon, all of Sonora.

George Betteridge and Jack Munson of Sonora, California, are carrying on development work at the Full Moon claim, which adjoins the Sugarman property. A winze has been sunk 150 feet in from the portal of the tunnel in an attempt to trace a pinched out vein which had been showing good prospects.

A 50-horsepower hoist and a 150-horsepower compressor have been installed at the Maryatt mine, Tuttle town, California, together with a new 70-foot headframe. As yet no underground work has been done aside from timbering the shaft to the 150-foot level. Pumping is on a 24-hour basis. The Maryatt and Gagnere mines comprise the property and they are connected by



an 850-foot tunnel at the 150-foot level of the Maryatt shaft. The old Maryatt shaft has been enlarged to two compartments and present work is being confined to that property. Eight men are employed under the direction of Robert O. Long, one of the owners of the property. Other partners are W. G. Filer and Percy V. Long.

Final installation of machinery is being rushed at the Preston Ranch property near Sonora, California. The mill, trommel, and concentrator jigs have been set in place and the ore bins are nearing completion. The mill, a Jeffrey swinging hammer type, is capable of handling up to 80 yards per hour. The ore will be stripped from the surface with power shovels and taken to the mill by means of a portable conveyor belt system. Tests have proven values to a depth of 30 feet over a large territory. Construction of a check dam to impound mill tailings will be completed soon. The mining rights on the property are owned by the California Liquidation Company of San Francisco. A crew of eight men is employed at the mine under the supervision of Max Proconi and James Stone of Copperopolis, California.

Free milling gold ore is reported to have been encountered in a drift on the 170-foot level of the Alabama Blue Ridge mine near Lone Pine, California, which is being opened up under the direction of James A. Hodgman, president and general manager. The ore was encountered after many months of shaft sinking and drifting to locate ore shoots in the old upper workings of the property which had been idle more than 50 years.

J. M. Hoff, Nevada City, California, is trucking 40 tons of ore per day from the Giant King mine at Washington, California, to the Gracey-Glencoe mill at Nevada City. The property is being developed by Hoff who is employing a crew of 11 men. A road has recently been completed from Quartz Flat to the mine.

Carl A. Baumeister, who is leasing on the Culver Baer quicksilver property near Cloverdale, California, is retorting a small tonnage of selected ore taken from an ore body recently located above the old workings.

At the Esperanza quicksilver mine near Cloverdale, California, A. A. Mead, lessee, is extracting quicksilver ore from the lower levels. He is also concentrating and retorting.

A large surface cinnabar deposit is being mined by steam shovel at the Cloverdale Mining Company property near Cloverdale, California. The material is treated in the new plant recently completed at the property, which includes a 450-ton washing and screening unit and table and flotation concentrating equipment. The concentrates are reduced in a retort. George H. Burr, II, president and general manager, is in charge of work at the mine.

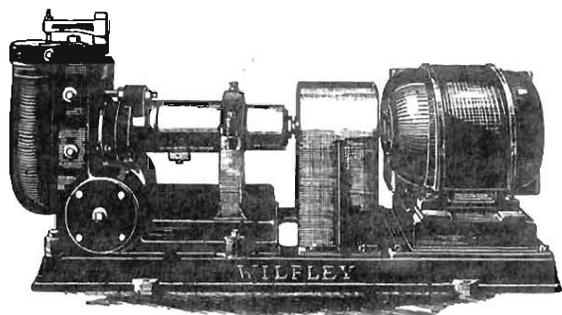
The new Wyatt furnace has been completed at the Contact mine and has been placed in service. It is an inclined, continuous type of circular retort. The Contact is being developed by H. G. Walker, 233 East Plaza Street, Reno, Nevada, and associates. Harry Painter is mine foreman.

Fletcher Walker and W. B. Laughhead, Westwood, California, and Guy Porter of Susanville, California, have leased a large tract of land near Susanville from Robert and Mike Satca. Prospecting of the Satca lease is now in progress and future development will depend upon what values, if any, are discovered. The three men are stockholders in the Solid Silver Mining Company, a Nevada corporation.

The Animas River Corporation has installed over \$200,000 worth of placer machinery on the Animas River near Durango, Colorado, where it holds about 400 acres of river bottom in La Plata County. Operations will start shortly in

a plant capable of handling 1,500 cubic yards daily, which is being assembled, and will be continued throughout the winter. Equipment includes a dragline shovel, washing plant, and a cyanide recovery system. B. E. Barnhill and J. Walters, Jr., are resi-

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ent managers at Durango. This work is understood to be backed by D. C. Shepard, Frank Anderson, and George W. Robinson, all of New York. A crew of 64 men is employed. The project was started by Walters nearly a year ago. Last summer it was found that the amalgamation equipment which had been installed was not practical. The three New York associates then became interested in the work and further tests showed that cyanide would recover the gold values. Eventually the company hopes to expand its mining and milling facilities so as to handle 9,000 cubic yards daily.

According to reports, the Acme Mining and Milling Company is again faced with litigation over property titles. John and William Simson are reported to have filed suit against the company for possession of the Last Chance lode mining claim west of Jamestown, Colorado, and \$1,000 damages for alleged illegal possession of the property by the defendant company. L. E. Klodahl, Box 486, Denver, is president of the Acme company.

After several months of litigation, the Capital Prize mine at Georgetown, Colorado, is being reopened. The mine, owned by O. H. Shoup of Colorado Springs, was operated for a part of 1937 by the Bellville Mines Company under the management of W. E. Walthers of Georgetown. It is understood that the mine is being operated by the Griffith Mining Company.

Construction of a smelter will be started early in December by the Big Horn Mining and Milling Company at Gold Hill, Colorado. The plant will have a capacity of 60 tons of ore per eight-hour shift. About 25 men are now employed by the company at the mines, working three shifts. Operations will continue throughout the winter. To date shipments of gold ore have been sent to the Golden Cycle plant. Robert Kasik of Louisville, Colorado, is foreman.

According to reports, the Gregory-Bob-nail Mining Company has been organized to take over and operate the holdings of the Gregory-Bates Mining Company at Blackhawk, Colorado. The latter company was organized in 1933 and operated until the current season under the presidency and management of Douglas M. Todd of Blackhawk. Robert M. Wheeler has been appointed general superintendent of the present company. A new Marcy mill was installed in the milling plant, replacing old stamp batteries, and other improvements were made in the flow-sheet. A modern 45-foot Gardner-Denver two-stage compressor and drills were also installed and the company expects to be in production shortly.

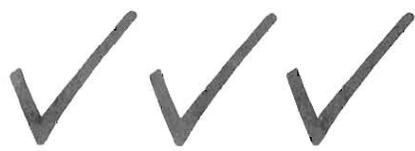
The Gateway Alloys, Inc., was recently incorporated under the laws of Colorado to operate near Gateway where a 20-ton concentrating plant is being erected. The company holds vanadium claims at Gateway and expects to be in production soon and to treat ore from near-by vanadium properties. George W. Bowman of Palisade, Colorado, is president; Harry L. Gardner, Glenwood Springs, Colorado, is vice-president; H. B. Brown of Palisade is treasurer; and Howard W. Balsley, Box

147, Moab, Utah, is secretary. Kelly Young of Grand Junction, Colorado, is an additional director. A. J. Gerber is chief chemist for the company at Gateway. It is understood that another company is to be formed by members of this concern to operate a vanadium property and build a mill in Dry Valley south of Moab, Utah.

For the first time in about two years, the Ajax operations of the Golden Cycle Corporation are reported to show a slight profit. Production is coming from the New Market and Mohican veins at the twenty-fourth level where recent development is said to have opened a good grade of ore. The pumping plant on the twenty-sixth

level has been overhauled and is operating more efficiently. The heavy flow of water makes deep operations in the Ajax mine more expensive. Merrill E. Shoup of Colorado Springs, Colorado, is president and Charles H. Carlton, Cripple Creek, is superintendent.

Lessees of the Homestake-Le Roi Mining Company, working on the Edward claim, are said to have broken into high-grade gold-silver ore. M. E. McDonald of Idaho Springs, one of the lessees, is now considering a second operation on the Homestake-Le Roi property which is located near Idaho Springs. The latter work will be carried on through the Corbett tunnel, per-



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installation of a milling plant. Approximately 50,000 tons of low-grade milling ore are stated to be available.

Exploration work is being sponsored by the American Smelting and Refining Company in the Silver Crown district 22 miles west of Cheyenne, Wyoming. J. Fred Johnson, 609 McCornick Building, Salt Lake City, Utah, is manager of the company at Salt Lake. Core drilling in a gold-copper formation is under way, Boyles Bros. Drilling Company of Salt Lake holding the contract.

BLACK HILLS COMPANY STARTS 65-TON MILL AT DRYTOWN

THE NEW \$22,500 milling plant at the Italian mine of the Black Hills Mining Company, Drytown, California, has been completed and operations have been started. The property was purchased a little over four years ago by a group of Jackson, California, business men led by William Tam, who conducted an extensive development program before mill construction started.

The plant was designed by Richard Krebs, formerly of the Confidence mine, Tuolumne, California, and was constructed by E. E. Hawley, who is remaining as mill superintendent. It consists of a 5 by 5 ball mill, a 3 by 16 Wemco classifier, a jig, four 36-inch Fagergren flotation units, a clean-up barrel, and a five-foot pan filter. The latter, an innovation in that section of the country, is used to draw the moisture from the concentrates and provide a drier and more satisfactory product.

E. E. Hawley, superintendent, reports that recovery has averaged 93 per cent and that it has run as high as 97 per cent. He attributes this good record largely to an exceptionally efficient jig. The new plant handles 65 tons daily with 12 men working three shifts.

The mine is a tunnel property in which two additional stopes are now being opened. No work has been done as yet below the tunnel level which has backs as high as 165 feet. The ledge has been crosscut for a distance of 220 feet and is reported to be the widest on the Mother Lode. Peter Jovich is underground foreman for the company.

CALUMET AND HECLA SHOWS LOSS FOR NINE MONTHS

THE Calumet and Hecla Consolidated Copper Company has issued a statement of consolidated income for the nine months ended September 30, 1938. Revenue from copper sold during this period amounted to \$2,274,557 and the cost of the same totaled \$487,753. Other income, net, was \$27,982, giving a gross income of \$515,736 before depreciation and depletion. These items amounted to \$337,262 and \$258,112, respectively, leaving a net loss for the period of \$79,638.

The company, whose main operations are in Michigan, was active in Goldfield, Nevada, through its two wholly owned subsidiaries, Eastern Exploration Company and Goldfield Mining Company. The former has withdrawn from the district and the latter is not active at this time.

WALKER MINING COMPANY RESUMES OPERATIONS

THE board of directors of the Walker Mining Company, Walkermine, California, has authorized the resumption of operations at the copper property and the mine is being placed in condition under the direction of L. F. Bayer, manager. Preference is to be given to men formerly on the payroll and because of this policy company officials estimate that it will be some time before capacity operations are reached. A crew of approximately 500 men will be employed when operations are in full swing. The mine was closed down last May following the drop in copper prices.

The company, which is a subsidiary of the International Smelting and Refining Company, is California's largest copper producer. Prospected as early as 1903 and controlled since 1922 by Anaconda Copper Mining Company through its subsidiary, International Smelting, the property lies 25 miles northwest of Portola, California, in one of the most isolated and rugged sections along the 6,000-foot contour of the Sierra Nevadas.

Walkermine is a small city set in the heart of a wilderness. It consists of 225 dwelling houses, a high school, grammar school, theater, hospital with resident physician and two nurses, general store, barber shop, beauty parlor, recreation hall, lighted ball park, and bunk houses and boarding house for 275 men, in addition to the extensive mine and mill buildings.

New equipment installed at the mine during 1937 brought the mill up to a maximum capacity of 2,200 tons. The present milling system includes a primary crusher handling from 120 to 130 tons per hour. From the primary crusher the material is sent by conveyor belt to a Symons No. 5 1/2 cone crusher, thence by conveyor belt to a four by eight Allis-Chalmers vibrating screen which is in closed circuit with the Symons crusher. From the vibrating screen ore is transferred to storage bins from which it is fed to four Marcy ball mills, two 75's with 6 by 23 duplex Type D Dorr classifiers, one 77 with 6 by 23 Type D Dorr classifier, and one 86 with an 8 by 28 Type DSFX Dorr classifier.

The four Marcy mills prepare feed for one Fagergren flotation unit of six 56-inch rougher and two 56-inch cleaner cells; and six Callow flotation units of eleven 3-foot by 3-foot rougher cells and four 3-foot by 3-foot cleaner cells.

Concentrates are settled in two 25 by 12 Dorr tanks and dried on an 8 by 12 Oliver drum-type filter, thence to tram bins. The concentrates are hauled in one-third ton buckets over an aerial tram 8.2 miles to Spring Garden on the Western Pacific railroad and from there are shipped



by rail to Tooele, Utah. The ore carries approximately 1.25 per cent copper, 0.8 ounce silver, and 0.045 ounce gold. The concentrates average approximately 25 per cent in copper.

Power is supplied by the Pacific Gas and Electric Company over a 44,000-volt line, transformed to 2,300 volts at the mine, and 250 volts d. c. for underground haulage.

Operating officials at the mine, in addition to L. F. Bayer, manager, include M. R. McKenzie, mill superintendent; Ralph Hayden, assistant mill superintendent; Leonard Cox, tram foreman; S. K. Droubay, geologist and chief engineer, and C. C. Caldart, master mechanic.

MINERAL INDUSTRIES OF MISSOURI HOLD CONFERENCE

THE first Mineral Industries Conference of Missouri was held in Rolla on the campus of the School of Mines and Metallurgy on October 21 and 22, with approximately 200 delegates and guests present. The meeting was called by Dr. William R. Chedsey, director of the School of Mines and Metallurgy, and Dr. H. A. Buehler, head of the Missouri Geological Survey. Its object was to better acquaint the mineral industries of Missouri with the services which these two institutions have to offer, as well as those provided by the United States Bureau of Mines through its Mississippi Valley Experiment Station located on the campus of the school. Technical papers dealing with the various phases of the mineral industry were read.

As an outgrowth of the conference a committee of 30 is to be organized in Missouri for the purpose of bringing about a closer relationship between the mineral industry with the service institutions maintained by the state and the federal government in Missouri for the aid of the mineral industry, and also to secure more adequate support for these service institutions. John Prince, president of the Stewart Sand and Gravel Company in Kansas City, was appointed chairman of a committee of three to bring about the permanent organization of the committee of 30. Prince is to be assisted on the committee by G. C. Smith, assistant to the president of the Missouri-Kansas and Texas Railroad Company in St. Louis, and W. M. Weigel, mineral technologist of the Missouri Pacific Railroad Company in St. Louis. The permanent committee and its organization will be announced later.

Both Dr. Buehler and Dr. Chedsey state that the conference exceeded their greatest expectations.

CARDENAS PROPOSES BILL TO AID MEXICAN COOPERATIVES

PRESIDENT Lazaro Cardenas has presented a new bill to the Mexican Congress designed to further stimulate mining cooperative societies. The measure provides that such associations will be permanently exempted from the income tax and that for a period of five years they will not have to pay federal taxes on mining lands, ore production, use of federal waters, nor pay the federal stamp tax.

galvanized sheeting, sealing it as completely as possible for winter operation.

In addition to the new dredge operation of Winston Bros. Company, a dragline dredge unit, located about three miles downstream from the new dredge, has been in operation since August, 1933. This plant consists of a 3-W Monighan walking dragline and a washing plant designed by the New York Engineering Company. It uses riffle tables as the gold saving device.

Main offices of Winston Bros. Company are located at 1470 Northwestern Bank Building, Minneapolis, Minnesota. L. S. Oakes is president of the company.

STATUS OF PHILIPPINE MINING CLAIMS

(Continued from Page 6)

nary steps had been taken before the granting of a patent. The Salacot case, for example, concerns a claim which had been located before November, 1935, but on which little else had been done. The Balatoc case involves a claim on which part of the steps had been taken, but not all.

The director of the Bureau of Mines, Quirico Abadilla, has taken the stand that the court decision merely establishes a precedent for such claims as fall in the exact technical category as the Nob Fraction claim (Gold Creek case). There are not more than 15 such claims and all others must be judged on their individual merits, according to Abadilla. His interpretation of the court decision, in other words, is simply that with the exception of the few claims that are ready for patent a final decision of the court must be awaited.

H. Foster Bain, adviser on mining to the President, stated that in his opinion Abadilla's stand is correct. A separate decision, therefore, will have to be made in each of the three other test cases pending to cover every phase of the obtaining of a patent, from the mere location of a claim down to the final payment of fees to the government.

Because of the government's stand, it may be fairly predicted that unless all of the test cases now pending are decided in favor of the claim locators, the mining companies will be forced to file more suits and to continue with those already in prog-

ress, in order to establish their rights under the Constitution. Thus, the recent decision of the Supreme Court of the Philippines, instead of settling, once and for all, differences between the government and mining operators, only marks the end of round one.

NEW COMPANY ORGANIZED TO REOPEN OLD BANNER MINE

THE Amosky Banner Consolidated Mines has been organized to resume operation of the Banner mine at Oroville, California, on a large scale. The mine, located five miles from Oroville, has produced \$2,850,000 in gold, according to mint receipts.

The new company was organized by James O. Jensen, 424 Crocker Building, San Francisco, president; Alex E. Wilson, Oroville, vice-president; Ian E. Lang, San Francisco, secretary-treasurer; and Frank O. Edmunds, San Francisco, director. Frank L. Sizer, Hobart Building, San Francisco, has been retained by the company as consulting engineer.

In addition to the Banner the company has taken over the old Bumblebee, a large producer in the early days, and also has options on several properties which are being investigated. The Bumblebee is now known as the Gold Stripe.

Three large parallel veins strike through the Banner properties on which a 1,000-foot shaft and a 600-foot inclined shaft have been sunk. The Amosky inclined shaft is being unwatered and timbered to make ready for the production of ore. This shaft is said to tap a large ore body on the 600-foot level.

A complete plant for mining and milling has been rehabilitated and is now ready for reduction of ore at the rate of 40 tons per day. The operating company, with a capitalization of \$200,000, has as part of its program the eventual rehabilitation of the 1,000-foot Banner vertical shaft, from which \$2,000,000 has been taken. This is said to be the deepest lode shaft in Butte County and is expected to show attractive values at lower depths.

Plans call for connecting the Amosky and Banner shafts on the 400-foot level, which will supply two outlets for the operation. A quantity of ore from the Bumblebee dump is being trucked to the Banner milling plant and returns are said to show

\$12 per ton. A crosscut will be run from the main tunnel of the Gold Stripe to tap a vertical ledge of ore.

The Banner mine was formerly operated by Alex E. Wilson and the late W. P. Hammon, founder of the gold dredging business. It is owned by C. B. Lastreto, 240 California Street, San Francisco, and Mrs. Jennie Livesly, Box 382, Oroville, and has been taken under lease and option for a three-year period by the present company.

DISPUTE INTERPRETATION OF WAGES-AND-HOURS LAW

UNDER the new Wages-and-Hours law salaried workers may be employed for more than 44 hours a week at their existing weekly compensation provided the employer promulgates for them a basic pay rate of not less than 25 cents an hour for the first 44 hours and 37½ cents an hour thereafter, according to an interpretation of the law by counsel for the National Association of Manufacturers. John C. Gall, counsel for the association, said the meaning of section 18 of the act has been the subject of much controversy. It states:

"No provision of this act shall justify any employer in reducing a wage paid by him which is in excess of the applicable minimum wage under this act, or justify any employer in increasing hours of employment maintained by him which are shorter than the maximum hours applicable under this act."

Gall's interpretation of this section reads as follows:

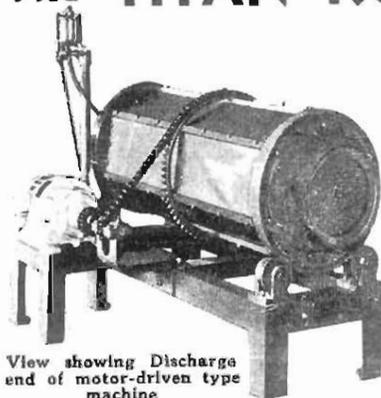
"Having in mind the purpose of the act we are clearly of the opinion that at least so long as the total weekly compensation of an employe is not reduced there can be no violation of the act by a change in his wage rate, provided such change does not carry the regular rate below 25 cents an hour for the first 44 hours and 37½ cents an hour thereafter."

Wages-and-Hours Administrator Andrews immediately issued a statement to the press declaring congress evidently had intended to bring down the customary work week to 44 hours.

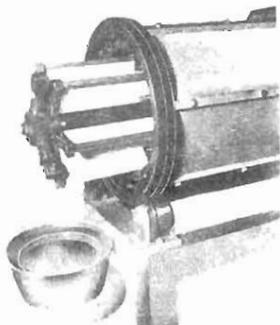
"The question now is whether this expectation can be defeated by various devices, with the probable result that the coming congress will renew consideration of more far-reaching proposals," Andrews said.

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ADDISON N. CLARK* discusses

A New Departure in Placer Gold Dredging

DAWN of the \$35-per-ounce gold era, plus the rising of the sun over the California placer debris situation, inspired Walter W. Bradley, chief of the California State Division of Mines, to sharpen his pencil and figure that better than a billion dollars in new wealth would be unlocked from placer deposits where the Sawyer Injunction (and inter-related causes) had padlocked it back in the eighties. Debris dam plans are moving ahead, drift mining is feeling the impetus, and recovery of those millions is in sight—with perhaps 20 years of intensive mining activity.

That gold, however, is virtually all hydraulic and drift-mine gold.

Without awaiting completion of the gold-production chart and table being made by Bradley's aide, Statistician Henry H. Symons, I feel safe in estimating conservatively that the unlocking of another long-locked treasure-chest by the dragline type of dredging outfit will result, in say 20 years, in adding to that billion-dollar placer total something approaching another two hundred million.

In about four years of evolution, starting with "haywire" outfits slung together out of used mining equipment and idle contracting machinery, and moving ahead through its era of growing pains and improvements in design developed by manufacturers' engineers, the dragline placer dredge of the boat type has come to stay. So has the fixed processing plant with its dragline shovel. George L. Holmes, San Francisco consulting mining engineer, discussed the "diaper days" of such plants very ably in his article in *The Mining Journal* for October 30, 1937.

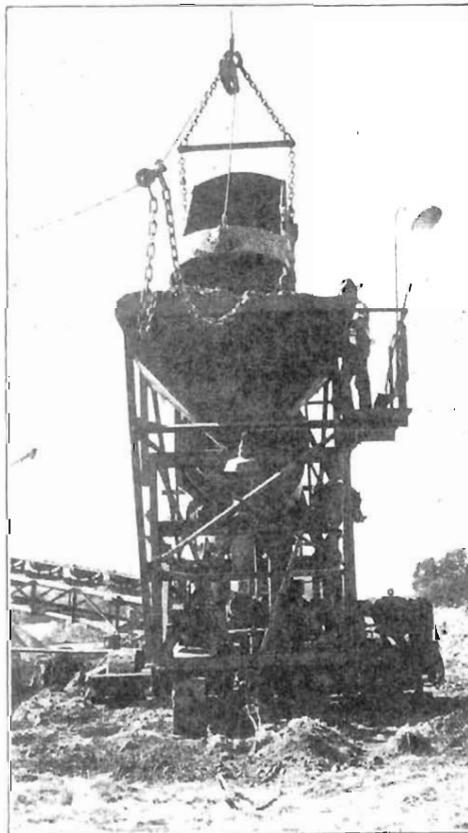
But while the floating type of dredge has been satisfactory in loci where water is plentiful, for both washing and bull-flotation, there has developed a real need for a flexible, mobile, dry-land type of washing plant. That has been true in California's Sierra Nevada foothills, and in her Coast Range and Siskiyou region as well. It is proving true to an even greater degree in the case of gold placer deposits in the semi-arid and arid regions of Nevada and Arizona where, save in exceptional and widely scattered cases, water enough to float even a very small hull simply is not.

Without further allusion to the assorted "dry-placering" machines other than to say that I never yet have met one which was successful, and never expect to, I may say that there is a wide and inviting field open to a well-designed, mobile, wet-washing plant, in localities where a moderate water supply can be developed but not enough for flotation of even a small boat.

*Consulting Mining Engineer, San Francisco

The "dry-land" dredge, operating at Loomis, California, represents a long stride ahead in placer gold dredging outfits. It is mobile, rugged, efficient, and far lower in first cost and operating expenses than the smallest boat-type gold dredge. It makes possible the development of placer deposits too small in extent and depth to be handled by a floating dredge.

SUCH a mobile plant, for dry-land transportation from property to property, has recently been designed and constructed by the Judson-Pacific Company, San Francisco structural steel firm, for the Parob Gold Dredging Company at Loomis, California. It is ruggedly built of structural steel, mounted on wide-tread tracklayer tractor running gear at one end and on wide wheels at the other, and has a weight of but 27 tons. Operations are under the



Feed-hopper end of the Judson-Pacific gold washing plant; shovel just dumping. The 36-inch steel wheels and the hopperman are "yardsticks" for estimation of the size of the plant.

joint management of Walter Pantle of the Lincoln, California, Pantle Brothers, and C. L. O'Brien of Sacramento.

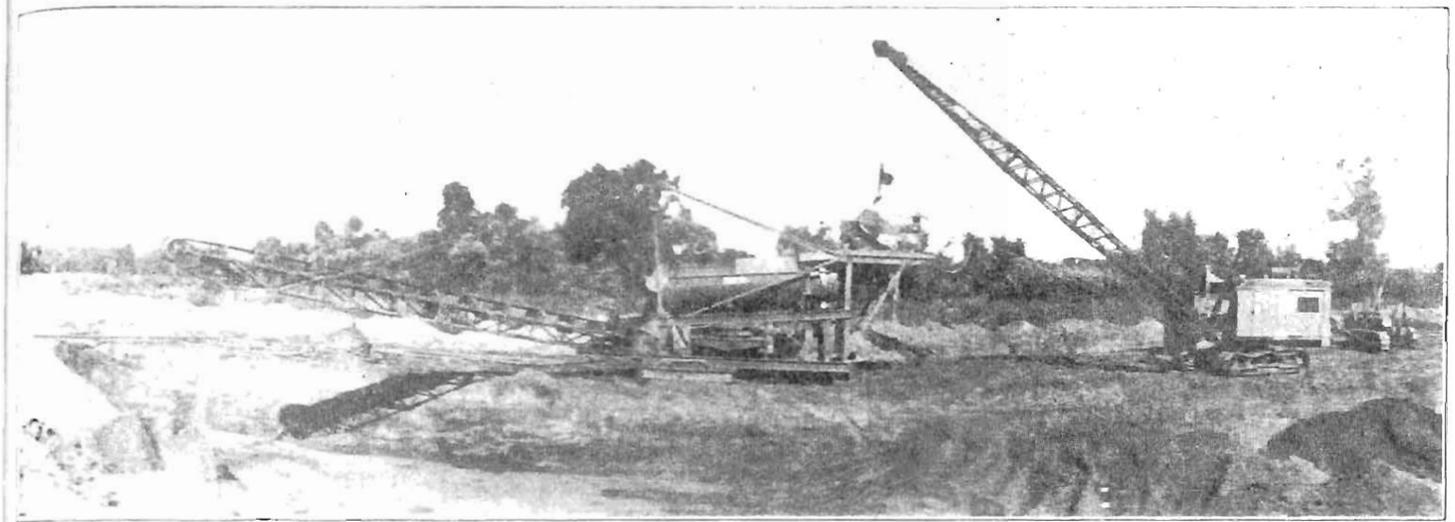
This plant, fed by a 1¼-yard dragline shovel and requiring but 400 gallons of water per minute, has demonstrated far reaching possibilities for development of placer deposits of limited area and depth, and of such topography that even a small boat dredge would be out of the question. Its gravel-handling capacity of 100 cubic yards per hour has reduced the operating overhead to a level permitting satisfactory recovery profits from gravel of fairly low gold content.

The accompanying photographs, taken during an October examination of the plant and property, describe far better than words both the construction and the *modus operandi* of the plant and its accessories. The latter include, besides the dragline shovel, a bulldozer-tractor and the skid-founded office shack. Shovel and tractor are Diesel-powered, while the machinery aboard the "battleship" itself is electrically driven.

The illustrations show how the property is worked in parallel rows and, by variation in shading of the debris piles, how the overburden of rich soil is first stripped and deposited aside. After the underlying auriferous gravel has been put through the plant (along with enough top-bedrock to insure fullest recovery of values), it can be inexpensively restored to its original place, thus leaving the acreage in as tillable a condition as before. That is when the bulldozer comes in.

THE ECONOMIC significance of that phase of the plant's operation cannot be too strongly stressed, when considering such as the rich Sierra foothill lands of California so famous for their deciduous and citrus fruits. On the Louis Kiss property at Loomis, operated by the Parob interests, the overburden of such dark, rich, loamy soil (planted to grapes) is about six feet deep. The illustration shows the line of demarcation between dark soil overburden and lighter auriferous gravel. The economic value of complete restoration of tillability of such land can be visualized by any one who has seen the thousands of acres of tailing piles of "nigger-head" boulders and smaller shore-gravel pebbles left behind in "windrows" after deep gold dredging by California's mammoth bucket-line boat dredges—completely available in the semi-arid and arid regions of Nevada and other desert states that is, of course, not such a vital economic factor.

When each successive local area has been stripped and processed, the tractor first hauls the "shack" a suitable distance ahead, parallel to the operating rows; then hauls the "battleship" along an equal distance in



A panoramic view of the dragline gold-dredging plant of Panob Gold Dredging Company near Loomis, California. Central feature of the view is the washing plant discussed in this article. The tracklayer running gear is under the discharge end of the trommel. Under the other end are 36-inch steel wheels. The bulldozer-tractor (right of shovel) moves the plant and office building along as each section is worked. The work proceeds in parallel rows. The dark piles are replaceable topsoil; light ones are gravel which will be re-buried.

the same direction. The tracklayer shovel, meanwhile, has moved itself along to its new position and, while the dredge is being made ready for its next "take," is stripping the soil overburden from the new section of ground and stacking it for re-deposition later atop the trommel rejects and washed gravel. The 24-inch by 50-foot stacker-boom conveys the latter to the tailing piles.

Washing and gold-recovery equipment on this specific dredge consists of the 54-inch by 20-foot trommel which, with 14 feet of screening surface, gives the capacity stated—100 cubic yards of gravel per hour; the trommel is followed by a battery of four 36-inch rubber-riffle Ainalay centrifugal bowls driven by V-belts. Power consumption is reduced to a minimum by use of roller bearings on all rotating parts.

Because water-feed enters the hopper with the gravel under 50-pound pressure, the gravel is literally hydraulicked before it reaches the trommel. The dredge operator, on his stage beside the hopper, just before each dumping of the shovel, adjusts the water-flow to wash the sloping bottom of the hopper. After each dump he turns it back on the gravel which, therefore, is well washed before it enters the trommel. Within the trommel it is again subjected to heavy washing and scrubbing, as the discharge end view shows. Thus all hand work at the hopper is eliminated.

From the trommel the material goes to the Ainalay bowls—all minus one-fourth inch. Bowl tailings are pumped by a rubber-lined Hydroséal centrifugal sand pump to tail-ponds far enough removed from immediate operations to permit careful scrutiny and manual cleaning up of denuded bedrock. In this respect the plant has a distinct advantage over the floating-hull dragline dredge, with its always-submerged bedrock.

The rigidity of the steel structure on its tracklayers and wheels, as compared with the bobbing about of a small floating hull at every dumping of the shovel into the feed-hopper, is an obvious advantage where centrifugal bowl-type gold-saving equip-

ment is used. The same applies to similar plants equipped with jigs or centrifugal amalgamators.

AFTER THREE months of actual commercial operation of this plant and close study of ratios of recovered gold to tailing gold by Manager Pantle, as well as by engineers of the Judson-Pacific Company and of the Pan-American Engineering Company of Berkeley, California, Judson-Pacific has plans for addition to the line of a plant of the same external design, but equipped with placer-type Pan-American jigs. This type will be available short-



Discharge end of the Judson-Pacific mobile placer-gravel washing plant. The shovel is just dumping. In the foreground is the centrifugal pump that handles the Ainalay bowl tailings. The water supply hose is at the left.

ly for operators whose ground carries a high content of black-sand concentrates, in such degree as to impede free gold recovery by packing riffles. Later, if demand for it arises, and the problem of obtaining adequate sluice-grade can be solved without excessive added feed-hopper height, over-all width, and total weight, a riffle-equipped member may be added.

As to the jig-equipped plant, the evident success of the Pan-American placer jig when installed on gold dredges in lieu of time-honored riffles, as discussed in recently-published technical articles and professional papers by D. N. Vedensky¹, chief metallurgist of Pan-American, P. Malozemoff², metallurgical engineer with Pan-American, and Frank A. Kennedy³, dredge operator of Boise, Idaho, appears to be adequate and sound ground for their application as sole gold-saving equipment aboard such plants as the one under discussion. That, in the writer's opinion, is especially true where placer gold deposits show, under preliminary tests, a high content of black sand; and is doubly true where appreciable platinum content in such sands is disclosed by advance tests.

At the Panob Loomis plant two nine-hour shifts are being worked. The second permits top-soil stripping by the shovel while the day-shift's clean-up and other details of operation of the dredger proper are being attended to. Panob's per-diem recovery, for the 18 hours of operation, has been running, according to Messrs. Pantle and O'Brien, from 10 to 12 ounces. The gold is reported to run around 932 in fineness.

Of similar type to the Judson-Pacific-built Panob plant is the smaller plant designed by and built under the direction of the Pantle brothers. Like the Panob dredge, it is equipped with a trommel, four Ainalay bowls, and a belt-conveyor stacker-boom for tailings. With it the Pantles have successfully worked placer ground near Lincoln, California, it was stated to the writer, of gold content per yard such that per-

(Continued on Page 36)

A. E. FERGUSON* stresses

Value of Wood Preservation in Mine Operation

THE FUNCTION of wood preservatives in extending the life of mine timber is well known to engineers and operators. It may be that the limited use of pressure-treated timbers is due, in a measure, to an oversight of the economic factors which make mine-timber preservation practical today. Certain it is that no mine which is operated on a permanent or semi-permanent basis can fail to profit from the use of treated timber. The effectiveness of preservatives, of proven methods of treatment, forcefully call for a close study. Few operators have given the problem as much consideration as it deserves.

To examine the value of treatment for mine timber solely in the light of saving of replacement expense is to overlook some of the most important benefits of this investment. In the matter of safety alone, treatment of mine timber becomes a considerable factor. Dependable strength, and maintenance of that strength, means standard sizes of timber. Bracing and shoring are not needed to reinforce slowly decaying members when timber is treated. Haulageways are kept clear, and danger of fire is reduced. Oversize timbers to allow for weakening by decay are unnecessary. Treated timbers save that extra space in shafts and drifts that is needed for safest operation.

The operation of mines frequently becomes unprofitable due to market fluctuations. This does not make unprofitable the use of treated timber. To the contrary, one of the strongest reasons for using treated timber in mines which are likely to be shut down for varying periods of time, for one cause or another, is the fact that reopening does not entail heavy expenses for retimbering to put the mine in shape. It is well known that timber in a closed mine decays faster than timber in an active one, and that when the property is not under supervision, rock falls and slides occur because of weakened timber.

Economical use of treated wood is not confined to the sub-surface workings. Headframes and similar surface structures directly connected with the mine are considered part of the mine proper. There are, however, scores of applications on the surface where treated lumber and timber should be used. Platforms, sheds, general mill uses where wood is exposed to termites and other destructive agencies, railroad ties and culverts, are but a few of the services cited as economically treatable.

In approaching the problem of wood preservation as applied to mine operation, the question arises as to the more economical way of obtaining treated material: op-

Many advantages are secured by the mine operators who are using modern methods of wood preservation. The one most commonly known is that of extending the life of the mine timbers, but the question of added safety is also of vital importance.

eration of a private plant, or purchase of treated timber from commercial wood-preserving firms. The private plant, when operated to serve a large mine or group of mines, the timber requirements of which are sufficient to permit continuous or nearly continuous plant production, will prove highly satisfactory. On the other hand, the buyer of commercially treated timber is not bound by an investment in plant and operating personnel. The choice depends entirely on the individual mine management.

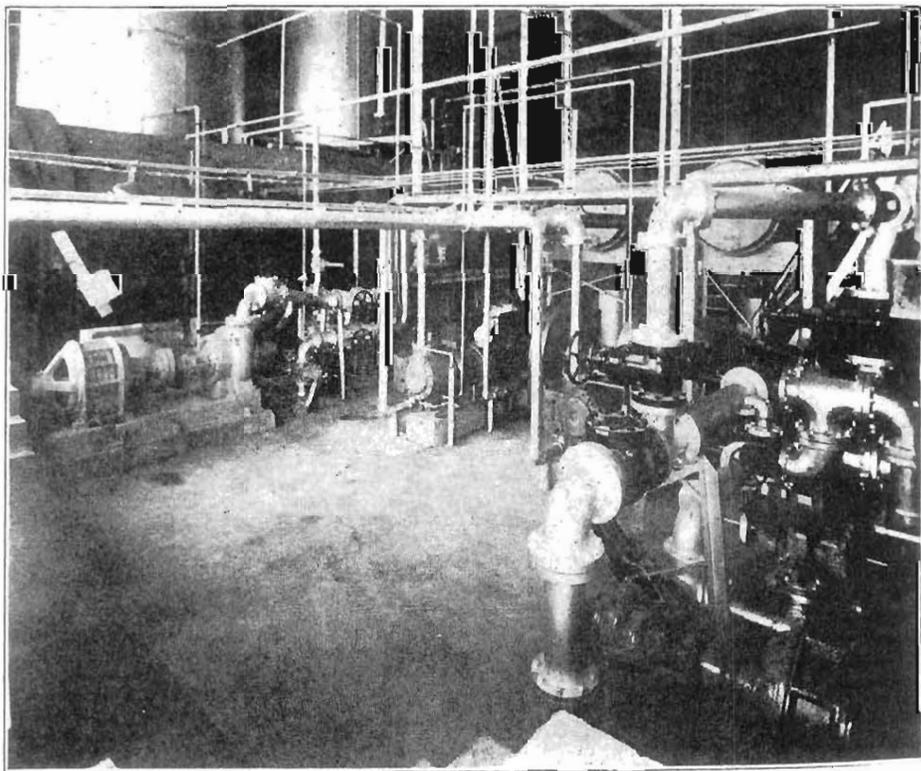
The science of wood preservation has taken great strides since the early attempts at lengthening the life of mine timber by dipping it in bichloride of mercury. Modern timber-treating plants impregnate the wood by vacuum and pressure in closed cylinders, achieving satisfactory penetration into the fibres in even the refractory species of wood.

The recognized preservatives today have more to recommend them than simple toxicity (the old bichloride had nothing else!), and the best of them are obtainable through plants in every part of the country. Modern preservatives are quite stable, since resistance to leaching (washing out) is an important characteristic in preservatives for mine use.

PROPOSED treatment of all mine timber, or even the greater part of it, is not a proper approach to the subject. All the timber in a mine does not need preservative treatment. In any form of economy there is a point at which we encounter the law of diminishing return. The intelligent use of treated mine timber is carried on with that point in mind.

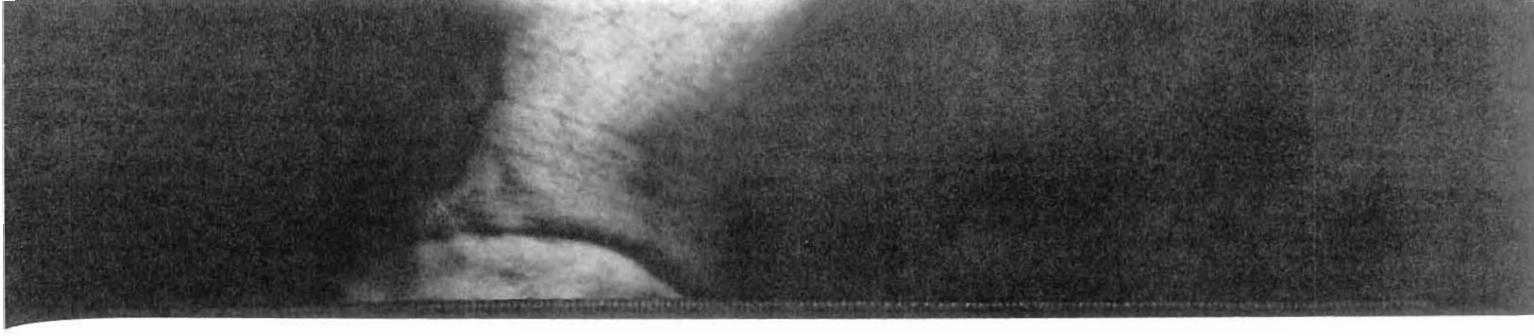
Timber confined to short service does not warrant treatment. Temporary timber which is not salvageable to the point where its useful life is beyond that of raw timber is not in the class of treatable timber. Stope timbering, which is comparatively temporary in nature, including stalls, square sets, chutes, cribbing and manways, usually cannot be considered treatable.

It will be observed that timber in openings where air currents are intakes does not decay to the extent that timber in exhaust openings does. In main headings and primary workings, however, whether



Operating room of a modern commercial treating plant. This plant belongs to American Lumber and Treating Company at El Paso, Texas, and is a far cry from the dipping vats of the early days.

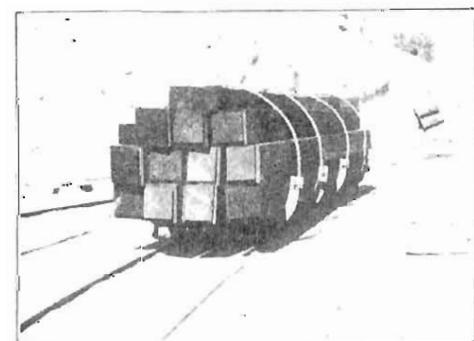
*District Manager, American Lumber & Treating Company, Los Angeles



the air currents are intakes or exhausts, timber should be treated to insure against failure which would paralyze comparative large sections of the mine.

Where the life of timber is short because of breakage due to extraordinary stresses, treatment effects only small savings because the timber fails before decay has become a factor. It must be remembered, however, that timber weakened by decay will fail under lighter loads than sound timber, and much loss attributed to "overload" has been due to incipient rot. Decay in its early stages can reduce the strength of timber before evidence of the infection is perceptible to an untrained inspector.

Several first-rate preservatives offered mine operators by commercial plants are found in the fields of oil and water borne preservatives. Wolman Salts preservative (water borne) is highly toxic, and about as permanent as a preservative can be. Creosote, (oil borne), is a very efficient preservative, but is not as satisfactory underground as it is on the surface. It does an excellent job of preserving the wood, but its odor, increased inflammability, and its tendency to set up skin burns on miners coming in contact with it, limit its use. The strongly odorous vapors of creosote are hazardous under certain conditions in the mine.



Wolmanized timbers on cylinder car after treatment at the pressure treating plant of Inspiration Consolidated Copper Company, Inspiration, Arizona.

Wolman Salts preservative has enjoyed increasing popularity in this country during the past 10 years, and it has been used extensively for over 30 years in European mines. Wolmanized timber is clean and odorless, and does not affect miners engaged in erection of timber or in working where they brush against it. The chemicals in Wolman Salts preservative are designed to fix themselves in the wood after impregnation, and are practically non-leachable. Acid mine water has no effect on the preservative value of the salts.

All salt (water borne) preservatives have a slightly fire-retardant effect. This is due more to the fact that the wood is sound than to any fire-resistance afforded by the chemicals themselves. The impregnated salts are of too low a concentration to be measurably effective in themselves, but there is no added combustible chemical present and the treated timber will not burn as readily as raw

timber. Freedom from decay serves as a protection against mine conflagration, because sound timber ignites with difficulty as compared to the rapid ignition of decayed wood.

With many commercial wood preserving plants in the western states, the mine operator today can well afford to investigate the economical advantages of treated timber . . . for every place in his mine or in his surface structures where decay or termites make timber replacement an expense of primary importance.

BIDS OPENED ON UPPER NARROWS DEBRIS DAM

AT THE opening of bids November 29 for construction of the Upper Narrows debris dam on the Yuba River near Smartville, California, the low figure was submitted by the Arundel Corporation of Baltimore, Maryland, and the L. E. Dixon Company, 609 South Grand Avenue, Los Angeles, California, who made a joint bid of \$2,175,271. Ten other firms submitted bids on the project.

Construction work on the dam, which it is estimated will cost a total of \$4,500,000, is scheduled to get under way about February 1. The new structure is to be of the concrete arch type rising 265 feet above the foundation and it will be approximately 1,200 feet long at the crest. It is the second of four such projects planned for California under the direction of the U. S. Army Engineers. Work is already under way on another debris dam located on the North Fork of the American River near Auburn, California.

A third dam is proposed for the Middle Fork of the American River, 22 miles above Auburn, and the fourth reservoir will be located on the Bear River.

ANNUAL MINING INSTITUTE SCHEDULED IN SEATTLE

DURING the week of January 16 to 21, 1939, the College of Mines, University of Washington at Seattle, will sponsor the twelfth annual mining institute.

Meetings are scheduled at mines laboratory on the university campus each day except Saturday, when a field trip will be taken to some point of mining or metallurgical interest. Lectures and laboratory demonstrations dealing with mining, metallurgy, ceramics, and related fields will be

given by members of the staff of the College of Mines. Operators and engineers prominent in the industry will present subjects dealing directly with operation; representatives of leading manufacturers will display and demonstrate new equipment and machinery. Motion pictures are to be shown to illustrate current operations.

The various sessions are open to all interested persons and no fees are charged. Requests for preliminary information should be addressed to Milnor Roberts, Dean, College of Mines, Seattle, Washington.

NEW SURFACE PLANT IN OPERATION AT PIONEER

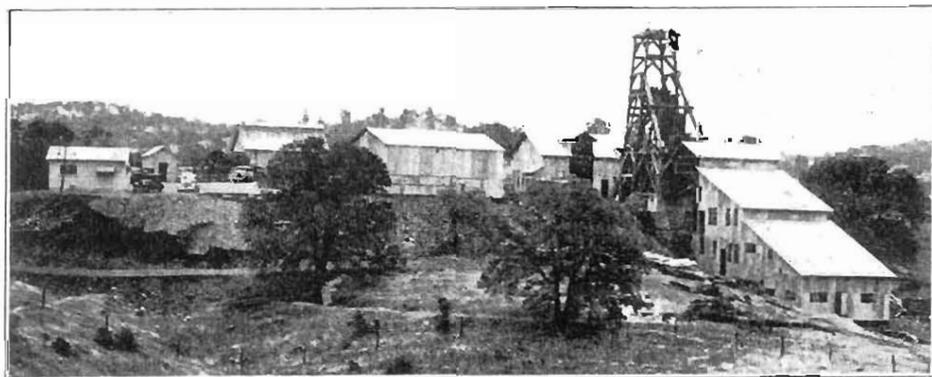
A COMPLETE new surface plant has been placed in operation at the Pioneer mine, Plymouth, California, by the Associated Mining Company, B. C. Clark, superintendent, Sutter Creek, California. The new plant, which is working one shift per day, includes a mill, headframe, hoist house, machine shop, saw mill, office, and change house.

The headframe is 60 feet high and holds a waste bin, main ore bin, rock breaker, and another bin into which the ore goes before it is carried to the mill on a belt conveyor. The milling plant includes two batteries of five stamps each, four amalgamation tables, and four concentration tables. The headframe, hoist house, and mill are built in a continuous line to simplify operations.

The 550-foot double-compartment shaft is equipped with a double-drum hoist and a 675-foot compressor. A 5,000-foot five-inch pipe line from the Plymouth ditch furnishes the water for the mill.

Two shifts are employed underground at present, but as soon as additional development work has been completed the mine will go on a three-shift basis. Twenty men are employed.

Reopening of the Pioneer is declared to be one of the largest underground mining operations inaugurated in that area in many years and tests are reported to indicate an excellent opportunity to make the mine one of the leading producers in the county. The venture is financed by Amador County and San Francisco Bay area business men and the company is headed by W. R. Griswold of Oakland.



Installation of new surface equipment at the Pioneer mine, Plymouth, California, has been completed by Associated Mining Company. The Pioneer is one of the old producers of the district.

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Claude R. Kingsbury is taking over the territory for Ohio Brass Company, Mansfield, Ohio, which was formerly handled by J. W. Watkins of Seattle, Washington, who is leaving the employ of the company. Kingsbury has been with the concern since 1927, first at the Barberton insulator plant where he was in charge of the electrical laboratory. More recently he was at the Mansfield plant on street railway and trolley coach engineering. The Ohio Brass Company has district offices in the Northern Life Tower Building, Seattle.

Howard I. Young, 943 Paul Brown Building, St. Louis, Missouri, was recently reelected president of the Metaline Mining and Leasing Company, control of which is held by the American Zinc Lead and Smelting Company of which Young is also president. D. I. Hayes, Old National Building, Spokane, Washington, chief mine engineer and western manager of American Zinc Lead, was reelected vice-president and general manager. W. N. Payne of St. Louis was elected secretary-treasurer, the position he also holds with the controlling company.

L. S. Breckon, of Bingham Canyon, Utah, is president of the Rip Van Winkle Mining Company and J. D. Carter of the same address is vice-president. George S. Great-house of Elko, Nevada, is secretary-treasurer. Offices of the company are in the Kearns Building, Salt Lake. Holdings consist of 17 unpatented claims in the Merrimac district, 17 miles northwest of Elko, where four men will be employed throughout the winter. Mill construction will depend upon the winter's work. Breckon and Carter are both employes of the Utah Copper Company.

F. M. Handy, 603 West Fourteenth Street, Spokane, Washington, has been engaged to direct production of hard metals by the Beryl Metals Company at its plant at North 515 Rebecca Street, Spokane. The company is increasing its laboratory equipment and the scope of its operations. Handy will also conduct tests by mill and furnace processes under his own name, thus meeting demands of the custom trade. He is a graduate of Chicago University and was on the faculty of the Washington State College of Mines and Geology from 1912 to 1916. Since that time he has done private consulting work.

A.I.M.E. PUBLISHES BOOK ON FUTURE MINERAL VALUATIONS

A BOOK of value to those interested in the economics of mineral resources has just been published for the See'ey W. Mudd Memorial by the American Institute of Mining and Metallurgical Engineers. The name of the book is "Mineral Valuations of the Future," and it was written by C. K. Leith, professor of geology at the University of Wisconsin.

The volume is readable and is written in a manner that should make it readily understandable to a beginner. It treats the significance of mineral values, new conditions affecting mineral values, methods of mineral valuation, tonnage and quantity estimates, future annual production, the time element—life and deferment cost,

CARL G. HUGHES RETURNS TO UNITED STATES FROM JAPAN

CARL GARRISON HUGHES, who recently returned from Japan, is engaged in contract mining for the Idaho Maryland



Carl G. Hughes

Mines Company. Hughes was employed by the Rosa Kogyo Company at Miyako, Japan, to introduce top-slicing and sub-level caving methods at its property.

He is particularly interested in mine rescue and mine safety, one of his hobbies being the

study of more efficient methods for safe mining. He is also actively interested in caving methods, and has had more than 16 years' experience underground.

Hughes was born in Colorado Springs in 1901 and began his mining career with the American Smelting and Refining Company at Durango, Colorado, where he was employed for five years as fire boss in the San Juan mine. He then went to Inspiration, Arizona, where he worked as a miner and shift boss from September, 1935, to February, 1937.

This work was followed by six months as shift boss at the Sacramento shaft of the Phelps Dodge Corporation, Bisbee, Arizona, and in October, 1937, he went to Japan.

selling prices, profit, rate of return in a mining investment, scarcity values, and conclusion as to the future of mineral values.

The price of the new book is \$1.50 to non-members and \$1.00 to members of the A.I.M.E. A copy has been presented free to each junior member of the institute with the compliments of the Seeley W. Mudd Memorial Fund.

DR. ANDREW COWPER LAWSON IS AWARDED PENROSE MEDAL

DR. ANDREW Cowper Lawson, professor emeritus of geology and mineralogy at the University of California, has been awarded the Penrose Medal, highest honor of the Geological Society of America. "for eminent research in pure geology, and outstanding original contributions and achievements which mark a decided advance in the science of geology."

Dr. Lawson, an authority on earthquake phenomena and continental border movements, is the tenth recipient of the medal since its founding in 1927 by the late Dr. R. A. F. Penrose, Jr., of Philadelphia.

Lawson has engaged in many different phases of research in geology since 1882 and has studied and published reports on numerous regions of the United States and Canada. After the great California earthquake in 1906 he organized and directed investigations in seismology, advancing the science of predicting earthquakes.

He was born in Anstruther, Scotland, July 25, 1861, and was graduated from the University of Toronto in 1883. He re-

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cars a week to the Hayden smelter of the American Smelting and Refining Company. About 10,000 tons of ore are broken in stopes. The company is also operating the Orizaba group of 24 claims where a 200-ton blast furnace is being installed and is expected to be in operation by January 1. A power line is being extended to the Orizaba, and crushing, compressing, and other necessary equipment is being added. David Fuer of Long Beach, California, is president of the company; J. Ben Ross, Phoenix, is vice president; and H. D. Mollahan, Phoenix, formerly with the American Smelting and Refining Company in Mexico, is general manager. The Tonopah Belmont property is located at Palo Verde, Maricopa County, and the Orizaba is in the Moon Gulch mining district five miles east of the Black Canyon road and 40 miles north of Glendale.

E. P. Greenwood of Dallas, Texas, is now president of the Santa Maria Mining Company with property near Congress Junction, Arizona, where a 1,000-foot shaft is being sunk. This company has been shipping ore for about a year and placed a 75-ton mill in operation late last spring. A larger plant may be installed at a later date. Walter F. Larssen, 208 North Twelfth Avenue, Phoenix, Arizona, is mine superintendent and S. J. Clausen, Jr., 302 Subway Terminal Building, Los Angeles, California, is consulting engineer. J. Ben Ross, 726 Heard Building, Phoenix, is vice-president and general manager.

The crawler type plant of the Humphreys Gold Corporation on Butte Creek east of Chico, California, is handling approximately 5,500 cubic yards of material per day and a crew of 30 men is employed on a three-shift basis. The equipment was formerly used by the company on Clancy Creek near Helena,

Montana, and has only been in operation at this location since November 6. The plant consists of two draglines, one shovel, a crawler-mounted washing screen and stacking plant, and a crawler sluicing plant. D. G. Brown, Box 528, Chico, is general superintendent.

Operations are getting under way on several placer projects along the Yuba River near Downieville, California, which are being worked by the Caledonia Development Company. The work is being directed by John Daniell, Los Angeles mining engineer, who has been superintending installation of flumes and other equipment. The company will develop the D. A. Hatfield property on the South Fork of the Yuba River. It is estimated that there are approximately one million yards of gravel available and it is understood that operations will be on a 16-hour basis. Water for hydraulicking will be pumped from the South Fork.

The Shadow Mountain Tungsten Mines, Inc., Fay L. Wright, general manager, 811 West Seventh Street, Los Angeles, California, is making plans for installation of

a 300-ton milling plant at its property near Adelanto, California. A 60-ton pilot plant has been in operation for the past month, treating from 30 to 40 tons per day with satisfactory results, according to Wright.

A Christmas distribution to employees has been authorized by the Central Eureka Mining Company, James Spiers, superintendent, Sutter Creek, California. Those employed one year or longer will receive \$60 and those employed less than a year will receive a proportionate amount, based on the term of service.

C. Means and Company, Weldon, California, have uncovered a deposit of lead and zinc ore in an old shaft near Walker's Pass. The vein is approximately four feet wide and carries about equal values in lead and zinc.

James Curran, Mojave, California, has resumed work at his property using hand drills. Work was discontinued following a breakdown of the compressor, but it has been decided to proceed with the hand drills instead of waiting for repair work on the compressor. A drift is being run to connect with a shaft previously sunk by Curran. The property is located on the west slope of Yellow Dog Hill.

George W. Hallock, Alleghany, California, is making the necessary installations preparatory to carrying on hydraulicking operations at his American Hill property upon completion of the new Narrows debris dam. The property comprises about 150 acres.

The General Dredging Corporation, 505 Bank of America Building, Sacramento, California, is placing in operation a third dredge on another property near Folsom, California. At present the dragline dredge in service on the Mississippi Bar near Folsom is handling 5,000 cubic yards per day. The dredge on Redding Creek near Weaverville is treating 2,000 yards per day. Wilbur H. Haines, district sales manager for the Standard Oil Company with headquarters at Sacramento; O. Jack Boucher, also of Sacramento; and J. O. Greenan of Beowawe, Nevada, are associated in the corporation.

A crew of 18 men is employed at the Alhambra mine, Kelsey, California, and a two-compartment, inclined shaft is being sunk. Work is on a two-shift basis and the shaft has reached a depth of 130 feet. A development program is also in progress. Plans are being made for installation of a 25-ton ball mill, hydraulic jigs, and concentration tables. Work on the new plant is to begin soon and it is planned to have the new unit in operation by February 1. The vein is seven feet wide and has a slate footwall and a diorite hanging wall. R. H. McGuire of Fresno is superintendent.

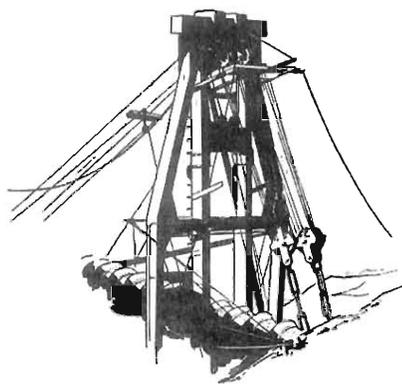
E. P. Biggs, state forest ranger for Yuba County, and M. B. Corbett, Dobbins, California, who are reopening the old California Mother Lode mine near Dobbins on a small scale, have 50 tons of concentrates ready for processing. If the returns prove satisfactory it is planned to install a cyanide plant. The mine has been equipped with a small ball mill and a concentrating table but for the next few months only

the tailings from the old mine will be worked. From five to 10 tons per day will be handled. When mining is started, Corbett and Biggs plan to concentrate on shallow mining and deep operations will not be started until next year. The property is equipped with a 10-stamp mill, installed in 1885, and five of these stamps may be placed in operation. There is also a 100-ton ore bin at the mill. The old shaft, now filled, went down to the 300-foot level, following a pay shoot. The old mill was originally operated by steam from a separate plant, but electrical equipment has since been installed. The property is being worked under lease from Mrs. W. C. Wilkins and the Imperial Mines Company of Denver, owners.

Supplies are being transported to the Lucky Gold Hill mine, a drift placer near La Porte, California, preparatory to winter operations. The mine has been shut down for the past two months pending refinancing. The property has been operated for the past nine years by Stanley W. Cummings, La Porte.

The Central Eureka Mining Company, C. C. Prior, president, 2012 Hunter Dulin Building, San Francisco, California, will pay a special dividend of 8 cents per share December 15 to stock of record November 30. The dividend applies to both preferred and common stock. The company operates at Sutter Creek, California.

Charles H. Topping, Las Vegas, Nevada, and associates have organized the Trinity Gold Mining Company for the purpose of developing a property on Bear Wallow



Creek near Big Flat, California, in Trinity County. The company has a lease on a 200-acre tract and an option on an adjoining 200 acres and it is planned to work the property by hydraulic methods.

Operations have been discontinued altogether at the Norambagua mine of the Campbell Grass Valley Mining Company, Grass Valley, California. Some weeks ago most of the crew was dismissed with only a few men remaining for development work. The remainder of the crew has now been released. The property was recently re-examined by a prominent geologist who has returned to New York to report to the R. Potter Campbell Company and the future policy will depend on his report.

The old Santa Maria mine located between Jamestown and Groveland, California, is being reopened by Miller and Company with a crew of five men employed. The work is down more than 40 feet. The

property, a good producer years ago, is owned by Raymond White and John R. Gray.

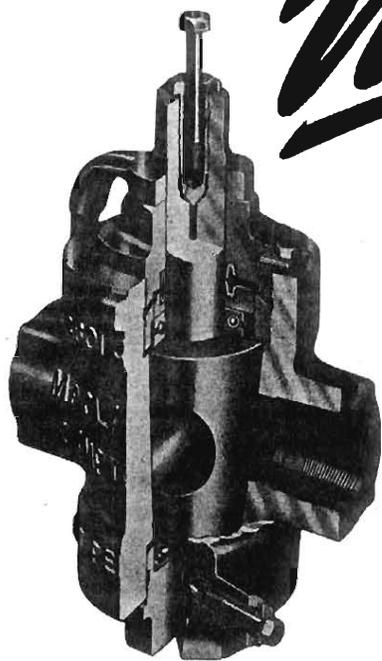
The dredge of the River Pines Mining Company located about 12 miles north of Plymouth, California, was damaged by fire with the loss set at \$15,000, covered by insurance. The fire is believed to have started in the living quarters of the night watchman, who was burned to death in the blaze. Frank C. Cuffe is manager of the company.

Henry and Herbert Paine, Nevada City, California, continue mining in the 300-foot tunnel at the Kennebec Consolidated mine. They are preparing to make another run of ore through the mill located on the property. The vein is five feet wide in the portion now being mined.

The Pacific Placers Engineering Company, Valley Springs, California, is operating a dredge on the Robbins property near Valley Springs. The company is working 22 hours a day and is employing two Caterpillar Diesel tractors with LeTourneau bulldozers in building dikes and in moving the pay dirt up to the dredge.

E. N. Costello, E. Moomey, and Carl Trevethick, operating the Ace in the Hole claim near Nevada City, California, are reported to have encountered a small high-grade pocket on the property.

Edward Herkelrath, Randsburg, California, is maintaining an average of \$25 per ton in free milling ore from his properties in the recently opened gold district near Randsburg. Herkelrath is also the owner



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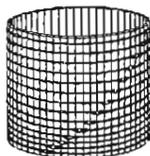
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of the Master Key and Wade claims which are being developed by lessees. A headframe and hoist are being installed and the collar set is being raised to permit additional capacity for mined ore. Due to the soft character of the ore, air compressors will not be installed for some time as augers are said to allow equal speed with greater economy. One ton of ore per foot was maintained for the first 25 feet in sinking a 3½ by 5-foot prospect shaft, according to Herkelrath. At the Hatton-Peterson lease on the Wade group preparations are being made to sink a shaft and install an air compressor and air drills.

The first shipment of gold sponge was made the middle of October from the Big Dyke mine, Randsburg, California, and it is said to have exceeded \$5,500 in value. The property has only been developed along one large vein which shows commercial values on the three mine levels as well as in all drift faces. The property is being worked under lease by J. D. Shea, Herman Anderson, Bill Turnbull, and Al Ogle. Shea is one of the owners of the mine.

The Grannis Land mines west of Johannesburg, California, are being worked under lease by Al G. Sigler and S. B. (Swannie) Moore. The first milling carried values averaging \$31 per ton. Ore extraction has been temporarily suspended due to shaft work, required in order to economically mine the ore.

The Governor Mine Company, Francis Gage, manager, Acton, California, is preparing to reopen the old Red River property, owned by the company. The mine was unwatered early in October and a program of mapping and inspection is under way preliminary to retimbering it. This work will be followed by active development. The mine has not been worked for a number of years.

Henry J. Garibaldi, Amador City, California, has been authorized to divert 25 cubic feet of water per second from Sopiago and Clear Creeks for mining and domestic purposes and 30 cubic feet per second from the Middle Fork of the Cosumnes River.

T. L. Copening, 1411 Oak Street, South Pasadena, California, has applied for permission to divert 40 cubic feet of water per second from the South Fork of the North Fork of the Yuba River, at an estimated cost of \$10,000.

Application for a permit to divert 10 cubic feet of water per second from Granite Creek has been filed by Glen A. Oakes, Forks of Salmon, California. Estimated cost of the diversion is \$2,000.

Nancy C. Smith, Box 139, Etna, California, has filed an application for a permit to divert 10 cubic feet per second from Nordheimer Creek at an estimated cost of \$1,000. The water will be used for operation of the Nordheimer mine, Forks of Salmon, California.

Operations at the mine and flotation mill of the Cardinal Gold Mining Company, Victor Bongard, general manager, Bishop, California, have been discontinued. The

available ore supply has been exhausted and it is understood that the mill will be dismantled. The company is looking for a new property and has several under consideration.

The ball mill at the Bondurant mine, Coulterville, California, which has a capacity of 30 to 40 tons, is being operated 16 hours a day on satisfactory ore. A crew of 15 men is employed at the property. The mill is equipped with a flotation plant and concentrates are shipped to the smelter. W. T. Nicholson is operating the property.

A hearing was held recently before the California Debris Commission, Room 208, New Postoffice Building, Sacramento, California, on the application of M. G. Henness and John C. Ralls to mine by the hydraulic process at the Riverside mine near Downieville, California. The mining operation will drain into the Yuba River and the tailings will be deposited behind the Bullards Bar dam. It is planned to use a No. 2 monitor under a 110-foot head of water. A new type of a sluice box is planned which will be 350 feet long with a 24-inch drop between each 24 feet of box. The sluice will contain six of these drops with a five-inch grade increasing two inches in each 12 feet of box. There will be four-inch steel plate riffles in the first 60 feet of the box, and in the remainder Hungarian and wedge riffles will be used with pole and wedge riffles on each drop. Marion G. Henness will be manager at the property. Both men are of Whittier, California.

The tunnel being driven at the Golden Gate mine near Volcano, California, is now in more than 90 feet and is expected to encounter the ledge at 150 feet. Construction of a mill is planned for the property by A. A. Moffat, owner. The tunneling work is progressing with two shifts of two men each.

Quail Gold Mines, Inc., H. B. King, president and manager, Coulterville, California, has placed in operation its new 125-ton capacity milling plant. The new plant was constructed under the direction of Otto D. Rohlf, who is superintendent of operations at the property.

Tungstar, Inc., Tracy Pierce, superintendent, Bishop, California, is engaged in developing under lease a property on the west side of Mt. Tom owned by Bill Wasso. A crew of 20 men is employed and work is under way on construction of a pilot mill. A pack trail and aerial tram are also under construction to handle transportation of ore. Two buildings have been moved to the new property from the old Cardinal mine, recently closed down.

The Alaska-Juneau Gold Mining Company, P. R. Bradley, president, 1022 Crocker Building, San Francisco, California, is reported to have taken over the Harvard gold mine at Jamestown, California. A crew of nine men is engaged in exploratory work under the direction of Robert Duncan. An assay office is under construction and preparations are being made for installation of a 600-foot compressor to be used in diamond drilling. The property, which has been mined to a depth of 1,850 feet, is unwatered to the 500-foot

level. Alaska Juneau reported an estimated profit of \$195,400 for October, compared with \$170,400 for September and \$173,700 for October, 1937.

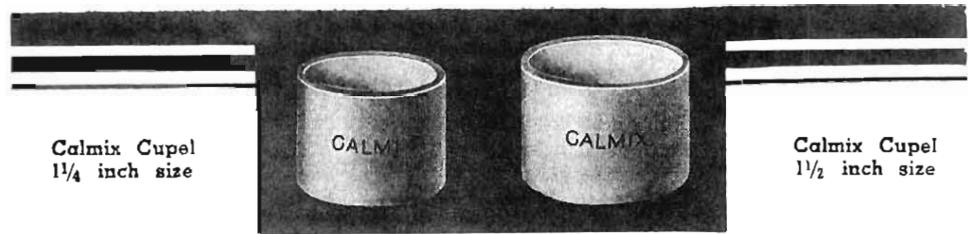
The new 150-ton mill at the Scotia shaft of the Golden Center mine, Grass Valley, California, is operating at capacity on ore from the Scotia and Golden Center properties. About 150 men are employed. The property is owned by Cooley Butler, 745 Rowan Building, Los Angeles, California.

Installation of equipment for the Fiori Mining Corporation is now 80 per cent completed and work is progressing rapidly under Edward R. Dathe, general superintendent, Route 1, Box 62, Placerville, California. A 600-foot pipe line with two monitors has been completed, together with an intake dam, and work has been started on the rehabilitation of the old six-mile Steadman ditch. The ditch will be widened to carry 500 inches of water and 800 feet of flume will be replaced. A 30-foot dirt fill dam is to be constructed to back up approximately 17 million gallons of water. A two-year extension has been secured on the company's lease and an option has been secured on an additional 140 acres, making a total of 232 acres now controlled by the Fiori group. Drifting operations are to begin in May. The company is being incorporated with Edward R. Dathe, Placerville; Mathilda Herren, 39 Holly Park Circle, San Francisco; and A. P. and C. P. Smith, Thirty-second and Folsom Boulevard, Sacramento, California, as incorporators.

Operations at the property of the Operator Consolidated Mines Company near Johannesburg, California, are now being directed by Harold G. Hunt, secretary, following the resignation of Major J. Paul Jones as manager of the property. The company is at present working on an eight-hour shift.

A crew of three men is carrying on exploration and development work at the Atlanta mine near Kelsey, California, under the direction of Wilbur Timm, owner and manager. The two-compartment shaft is now down more than 135 feet and will be continued to the 160-foot level where drifting will be done and raises put up to the 107-foot level. The property was first worked prior to the 1860's but was abandoned because of inability to handle the water in the shaft. In addition to the present shaft development, approximately 260 feet of drifts have been run.

The Oriental mine near Alleghany, California, has been sub-leased to Florence V. V. Dickey, Twin Peaks Ranch, Ojai, California, by F. F. Cassidy of Grass Valley, California. The mine has been operated under lease for some time by Cassidy and the late Ray Hawkins of Alleghany. The new lease runs until 1944 and carries an option to purchase the property for \$800,000 on a royalty basis. It is planned to operate the mine on a large tonnage scale handling low-grade ore. High-grade pockets when found will add to the profits. The Oriental is owned by Louise Kleinsorge, Monterey; H. B. Drescher, Sacramento; George Gamble, Pasadena; and W. P. Walworth, New York. Operations at the property will be



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directed by Charles B. Foster, Alleghany, who is also directing work at the Dreadnaught mine, another property operated by Mrs. Dickey.

A new program to open ore bodies by running drifts at lower elevations and shaft sinking at a new point on the vein will get under way shortly at the Diltz Mines on Saxon Creek near Mariposa, California. The operators were compelled to cease operations through the present main shaft when ground conditions made it impossible to continue with safety. The developed section of the mine north of the old shaft will be opened by the new shaft.

The Shaffer Gold Mines, Seneca, California, has completed construction of an all-metal change room, a cap house, and a primer room. Six men are employed and underground work is being concentrated on pushing the new work tunnel into the old Van Winkle vein. Work at the property is being directed by B. F. Barbee, superintendent, and the company is headed by C. B. Shaffer, 33 South Clark Street, Chicago, Illinois.

Winter supplies are being taken to the Molas mine in San Juan County near Silverton, Colorado, by the Mogul Gold Mining Association of New Bloomfield, Pennsylvania. Charles E. Fetterhoff is president and general manager at Silverton. The Mogul concern recently leased the mine and built a new shaft house and installed a hoist and compressor. Seven men are employed at present. The mine is composed of five claims four miles south of Silverton and is owned by William Hansberger of Durango. For the past few years the property was worked by Fred Olsen of Silverton.

Kissell and Company, Colorado Springs, Colorado, and Cripple Creek mine operators, are reported to have taken over the B. and M. mine at Ward in Boulder County. A development campaign is being started immediately. The property has been in steady production during the past year under lease to Gus Larson and Kent Johnson.

Ray J. Betasso, 1027 Penn Avenue, Boulder, Colorado, and associates recently

completed the installation of a small concentrating plant for tungsten ore at the Lucky Two mine. The mine is owned by Gold, Silver, and Tungsten, Inc., of which J. G. Clark of Boulder is president and general manager, and was reopened by Betasso over a year ago.

Sinking the main Squaw Gulch shaft an additional 200 feet is proposed by officials of the Squaw Gulch Gold Mining Company at Cripple Creek, Colorado. This will form the main part of a development program recently outlined. The company, headed by C. F. Clay, 1130 First National Bank Building, Denver, holds the Dolly

Varden, Morning Star, Christie, and Squaw Gulch claims. J. O. A. Carper, Boston Building, Denver, is vice-president and general manager and A. F. Carper, Box 229, Victor, is general superintendent.

The Magnolia Gold Mines, Inc., at Fairplay, Colorado, has resumed operation in its property on North Star Mountain. Four men are employed under W. E. Van Cooten, mine superintendent, and the company's milling plant is being put into working condition. C. H. Wilson of Michigan, president of the company, intends to remain in Fairplay several months.

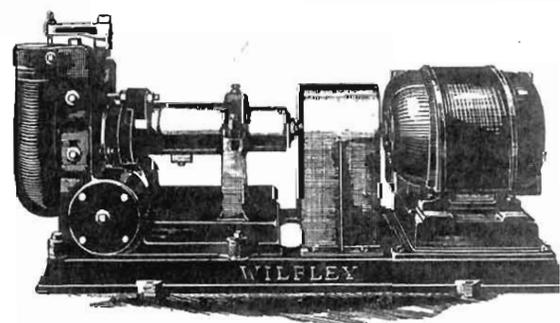
The Cashin Montrose Mining Company, John Bowman of Beaver, Utah, president, is planning construction of a 50-ton flotation plant on the Cashin mine at Paradox in Montrose County, Colorado, which is held under bond and lease. This mine and the Cliffdweller property were located by J. P. Galloway, James Huff, and Charles Wilkerson in 1898. The Cashin has been practically idle for the past few years, having been worked by the LaSal Copper Mining Company in 1926. It is located on LaSal Creek near the Utah line and comprises 12 claims and three millsites, all patented. Three fault fissures cross the property, the Red Chief, the Horseshoe, and the Maude veins. Values are in gold, silver, lead, copper, and zinc. The main Cashin tunnel is 1,540 feet long.

The Metals Recovery Company is employing 19 men in its mill at Aspen, Colorado, where work will be carried on throughout the winter months. The company is operating the 200-ton Hunter Creek mill on the old Johnson and Franklin dumps on Smuggler Mountain under the management of Frank J. Kealy of Aspen. The county is rebuilding the road to the dumps, using its own equipment. Excavating machinery belonging to the milling company is being used elsewhere by the county, thus allowing uninterrupted work in both projects.

It is reported that H. G. Venable, Georgetown, Colorado, has transferred the milling operations from his Pulaski mine at Silver Plume to the Watrous mill, also located at Silver Plume. Soon after acquiring the Pulaski gold-silver property this fall, Venable took over the Commonwealth mill at Georgetown to treat Pulaski ore. It is understood that the change was made be-

AVERAGE PRICES OF METALS
(Figures by American Metal Market)

	Copper Per Lb. Conn. Valley	Lead Per Lb. New York	Zinc Per Lb. St. Louis	Silver Per Oz. New York
1924	13.024	8.097	6.844	66.781
1925	14.042	9.020	7.622	69.066
1926	13.795	8.417	7.887	62.107
1927	12.920	6.755	6.242	66.370
1928	14.570	6.305	6.027	58.176
1929	18.107	6.833	6.512	52.993
1930	12.982	5.517	4.856	88.154
1931	8.869	4.244	3.638	28.701
1932	5.792	8.181	2.881	27.892
1933	7.276	3.870	4.031	34.728
1934	8.658	3.8596	4.162	47.973
1935	8.880	4.0648	4.331	64.273
1936	9.710	4.7081	4.903	45.088
1937	13.391	6.0085	6.517	44.806
1938				
Jan.	9.250	4.500	4.850	47.250
Feb.	9.250	4.5152	4.861	44.750
Mar.	9.250	4.600	4.900	44.750
Apr.	9.400	4.600	4.900	44.900
May	9.500	4.600	4.900	44.869
June	9.500	4.600	4.883	44.750
July	9.596	4.600	4.787	44.750
Aug.	9.750	4.600	4.801	44.750
Sept.	9.750	4.600	4.850	44.750
Oct.	9.846	4.6308	4.850	44.750
Nov.	10.432	5.1136	4.988	45.431
Dec.	10.905	5.55	5.277	45.352
Ave. 1936	9.710	4.7091	4.903	45.088
1937				
Jan.	12.660	6.00	5.86	44.912
Feb.	18.60	6.2356	6.435	44.75
Mar.	15.990	7.1889	7.377	45.130
Apr.	15.346	6.175	6.989	45.460
May	14.00	6.00	6.75	45.025
June	14.00	6.00	6.75	44.818
July	14.00	6.00	6.929	44.750
Aug.	14.00	6.4519	7.205	44.75
Sept.	13.780	6.400	7.179	44.75
Oct.	12.060	5.740	6.087	44.75
Nov.	11.022	5.0326	5.632	44.75
Dec.	10.236	4.875	5.011	43.810
Ave. 1937	13.391	6.0085	6.517	44.806
1938				
Jan.	10.425	4.870	5.00	44.714
Feb.	10.50	4.6318	4.816	44.75
Mar.	10.80	4.50	4.413	44.446
Apr.	10.00	4.50	4.155	42.75
May	9.50	4.40	4.048	42.75
June	9.50	4.1481	4.143	42.75
July	9.310	4.882	4.75	42.75
Aug.	10.125	4.90	4.75	42.75
Sept.	10.255	5.00	4.856	42.75
Oct.	10.981	6.10	5.015	42.75
Nov.	11.25	5.0913	4.918	42.75



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A NEW DEPARTURE IN PLACER GOLD DREDGING

(Continued from page 5)

diem clean-ups as high as 25 ounces have been made.

A significant reply was made to the writer's query as to "time out" for repairs and replacements: "In the three months we've operated here," was the response, "we've been shut down less than an hour all told." Something worth thinking about, by prospective operators in regions remote from repair shops and lines of ready communication. Of parallel significance is the fact that these plants can be shipped "knocked-down" and assembled on the job in such remote spots.

DATA GAINED and lessons learned from actual commercial operation of both these dry-land dredgers will be incorporated by the engineers of the Judson-Pacific Company and the Pan-American Engineering Company—"working in closed circuit" as it were—and by the Pantles as well, in the design and construction of future plants of this type.

It is probable that future plants will have more floor area. To insure full mobility along highways and tributary roads of customary width, it is obvious that that must be gained by increased length, not by added width. Nor can the factor of total weight be ignored, because of danger of highway damage.

The added floor space is desired so as to provide for insertion of auxiliary gold-saving equipment in the flow-sheet when and as necessary or advisable. Since such auxiliaries would follow the jigs, the material in process would be fines, and could be lifted with an intermediate sand pump. Hence, the height and grade so necessary in gravel-washing operations aboard dredges where sluices are used would not be essential. And . . . the lower the overall hopper height, the lower the lift of the power shovel, which spells economy of both time and power and speeds up raw material delivery.

The engineering departments of the Judson-Pacific Company and the Pan-American Engineering Company, in their pioneering of this new type of dredge, are proceeding cautiously and without haste. The writer, therefore, has no hesitancy in predicting that such dredging plants on wheels will establish a solid, roomy place for themselves in the business of recovery of placer gold values out of deposits from which large boat-type dredges and small floating hull dragline plants have been barred by first-cost and operating-cost considerations. Especially will this be true as per-yard recovery percentages are in-

creased by application of tested and proved equipment. Small placer gravel deposits, long known but thus far passed up for the reasons discussed, can then be made to add their quota to the total of our national wealth.

Millions of dollars worth of placer gold deposits await application of efficient plants of this type, with their surprisingly small water requirements—and it must not be overlooked that in many cases a slim water-supply can be re-settled, conserved, and used over and over, making nominal replacement the only requisite.

It may be added in closing that while the principal business of Judson-Pacific Company is in steel building and bridge fabrication, it is no neophyte in the manufacture of placer dredging equipment. It has built many structural steel bucket-line and debris-stacking booms for California's Yuba dredging interests, also for the Walter W. Johnson Company. Its latest job was for the La Grange, California, dredge of the latter.

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¹"The Application of Jigs in Placer Mining Operations"—professional paper by D. N. Vedensky presented at 11th Ann. Mining Inst., Coll. of Mines, Univ. of Wash., Jan. 19, 1938.

²"Jigging Applied to Gold Dredging"—article by P. Malozemoff, E. & M. J., September, 1937.

³"Where Jigs Replaced Sluice Boxes"—article by Frank A. Kennedy, 710 North 19th St., Boise, Idaho, E. & M. J., July, 1938.

ourselves. On the other hand, our own engineers and those collaborating with them are now convinced to their own satisfaction that this type of gold dredge is being placed where no other type of dredge, large or small, ever has been able to go."

This completely mobile plant, one such as the Panob job, can be delivered at a cost in the neighborhood of \$14,000 to \$15,000, a figure well under that for the boat-type dragline dredges, and a mere fraction of the \$75,000 to \$100,000 for a bucket-line boat dredge. These figures give the astute placer operators, present and prospective, something to think about.

INCREASED FACILITIES FOR MOUNTAIN CITY CONSOLIDATED

HIGH-GRADE copper ore is said to have been opened in a winze from the main tunnel of the Mountain City Consolidated Copper Company at Rio Tinto, Nevada. The copper occurred in sulphides and was encountered earlier than expected. The property which is being developed by Mountain City Consolidated is known as the Columbine mine and was located several years ago by Jack Sund and Eddie Crossman.

The Mountain City Consolidated organization has purchased, for the reported sum of \$250,000, all equipment of the Fulton Quicksilver Mines, Inc., in the Bottle Creek area in the Jackson Mountains, Humboldt county, Nevada. This machinery, which is being moved and installed at the Rio Tinto holdings, includes compressors, drilling equipment, two Diesel engines, blowers, and a 5,000-gallon oil tank. The company recently completed installation of a 110-volt lighting plant.

M. E. Bohannan, Rio Tinto, is general manager. George B. Thatcher, Reno National Bank Building, Reno, is president.

S. CHROME MINES WILL INCREASE MILL CAPACITY

THE UNITED States Chrome Mines, Inc., A. H. Wild, president, 2238 Hyde Street, San Francisco, California, has made application for a permit to divert 200 gallons of water per minute from the North Fork of the American River at an estimated cost of \$10,000.

The water is required for use in a 100-ton chrome concentrating plant recently completed on the company's properties extending over 2,500 acres in El Dorado county, California.

The concentrating mill will be enlarged to a capacity of 150 tons daily immediately following the installation of a river pump and one mile of six-inch pipe line connecting the river with a new 30,000 gallon storage tank which feeds the mill.

The company has contracts for several years ahead for the entire output of its present mill and installation of additional plants on its numerous other properties in California and Oregon is planned. Mines are located in El Dorado, Glenn, Shasta, Trinity, San Luis Obispo, Del Norte, and Mendocino counties, California, and in Grant and Josephine counties in Oregon.

"Merry Christmas"
And
*"A Happy and Prosperous New Year,
for 1939"*

To All of our Good Friends and Customers.

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BAGS ORE - SAMPLE
PRECIPITATION
FILTER - TAMPING

Plummer Bag Mfg. Co. 748 So. San Pedro
Los Angeles, Calif.

J. R. KUENEMAN* describes

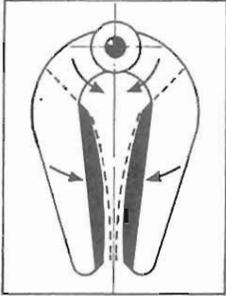
The Kue-Ken Balanced Crusher

THE MILL operator has always been faced with the great difficulty of getting a finely crushed mill feed, at the same time preserving a simple flow-sheet without two or three crushers or rolls to do the crushing operation. Designs of 1870 have proved inadequate for today's needs.

The Kue-Ken balanced crusher was designed to meet the need for a jaw crusher with the ability to receive large rocks and reduce them at a single pass to a mill feed containing the maximum percentage of fines. At the same time it was considered necessary that the crushing be done with the least possible abrasion and wear on the jaw plates. A further and very important point was that great capacity and low power requirements were essential.

Perfect mechanical balance to avoid large foundations, small floor space, low head room, ease of feeding, cleaning out, or changing jaw plates were points that required consideration from the practical operator's point of view.

Instead of having the conventional stationary jaw and one moving jaw, the Kue-Ken balanced crusher operates on a new and entirely different principle or process of crushing. The crushing members of this machine really consist of two pendulum-like jaws swinging freely on a pivot shaft located near their upper ends. Reference to the arrows on the outline drawing will readily show how every part



of the opposing jaws always moves in unison with the other. Rocks fed between these jaws are not only carried downward by the crushing motion, but are carried down and crushed without abrasion because there is no relative movement between the rocks and the jaw plates. A study of other commonly accepted crusher designs will show that they all have rubbing or abrasive actions, some types rubbing rocks upwards, some downwards, and some both up and down. The Kue-Ken jaw plates are long and have their greatest leverage at the upper end so as to easily crush large pieces of hard material. The longest motion or travel at the lower end of the jaw plates permits finished material to rapidly discharge from the crushing zone without packing or choking.

The mechanism to operate the two balanced jaws is exceedingly simple, consisting of a single large diameter precision ground shaft turning freely in renewable bearing shells. The pitmans to operate the jaws are mounted on eccentric portions of this shaft at 180 degrees and impart movement to the jaws through a simple toggle motion. The shaft eccentrics, the pendulum jaws, and the toggle motion are all in perfect balance to permit advantage to be taken of greater leverages than are possible in any other crusher mechanism. This is reflected by the fact that practically no flywheels are used on these machines. Bearing in mind that a crusher must of necessity be operated in a dusty, gritty atmosphere, every effort has been made to follow modern engineering practice by enclosing the entire mechanism in a sealed oil bath. This prevents the entrance of grit, or the escape of lubricant. Abundant lubrication is furnished by means of a positive gear-type submerged pump, with a further refinement that an oil filter of ample size is installed in the oil circuit.

Naturally, the machine is of all-steel construction and manganese fitted. The smooth balanced features of this machine permit it to operate at much higher speeds than is possible with other designs. At the same time, rubbing speeds and bearing pressures are exceedingly low. Indicating the lack of vibration, the larger illustration shows a No. 50 Kue-Ken crusher reducing 90 pound chunks of quartz to $\frac{1}{8}$ -inch jaw setting at a single pass and at the rate of 13 tons per hour. This same machine, receiving a mixed feed ranging from 4 inches to $9\frac{1}{2}$ inches and without any "fines," can crush 55 tons per hour to 3-inch jaw setting. At this coarse setting 15 horsepower is required. The smoother operation is well indicated by the photo. This unretouched photograph clearly shows the lack of vibration in the crusher or the temporary steel frame on which it is mounted. This frame is not bolted down to the floor.

These Kue-Ken balanced crushers are available in many different sizes covering both mining and industrial needs.

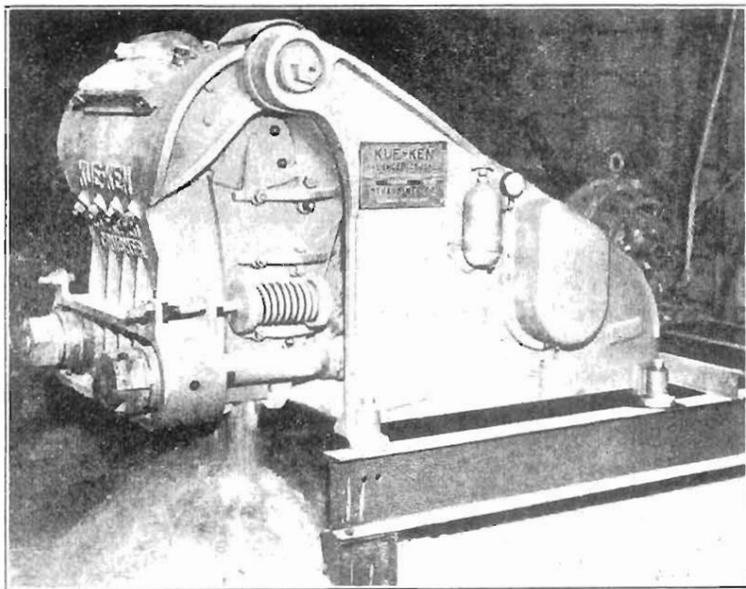
PERSONNEL CHANGES BY WESTERN MACHINERY CO.

A NUMBER of personnel changes of interest to mining machinery circles have been announced recently by the Western Machinery Company. S. I. Bousman has been appointed chief engineer of the company's plant at Sacramento, California. Until recently he held a similar position with the Colorado Iron Works from which he resigned to accept his present post. Previously, for 14 years, Bousman was chief mechanical engineer for the Dorr Company.

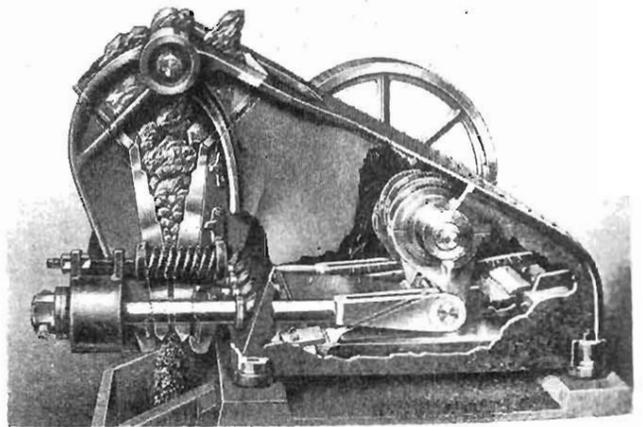
Herbert J. Mayer, formerly manager of the company's Sacramento office, has been appointed manager of the Los Angeles office, effective December 1. He succeeds W. S. Cooper who remains with the company in another capacity.

Paul Ransom, formerly master mechanic for the Mountain Copper Company, Ltd., at its Big Canyon plant, is now in charge of the company's shop at Sacramento.

*General Manager, Straub Manufacturing Co., Oakland, California.



Left—An unretouched photograph of the No. 50 Kue-Ken crusher on a temporary steel frame which is not bolted to the floor. The machine is reducing 90-pound chunks of quartz to $\frac{1}{8}$ -inch at a single pass. Below—A cut-away view of the Kue-Ken crusher.





Butte, Montana

My dear Mr. Willis:

My most sincere congratulations to you and Hoagland on your edition of November 15. Besides the report of the Los Angeles meeting, your editorial on the subject was a literary "knock-out." Hoagland had by far the best description of the meeting that I have seen and I think I have seen them all.

Will Rogers could not have written a better editorial than your "Tailings Analysis." It had all the facts, was philosophical, and the constructive criticism was exactly right, according to my opinion. The humor with which you spiced it was immense, especially the Barbecue, wherein your added figures show you left 5 cents for the meal.

In regard to the little fellows being given greater recognition there is a lot to be said, but we still have to realize that it is the big fellows who pay the expense of running the American Mining Congress. Some of the so-called little fellows could pay a lot more than they are doing, but they are too tight to do so. I find this especially so in the state organizations. In this phase I differ with you a bit in your editorial.

Sincerely,

(Signed) CARL J. TRAUERMAN,
President
Mining Association of Montana

SAN FRANCISCO MINING EXCHANGE IN NEW QUARTERS.

THE SAN FRANCISCO Mining Exchange has moved into new quarters at 130 Sutter Street, San Francisco, California. Headquarters of the exchange have been located at 327 Bush Street for more than 32 years of the organization's 76 years of existence.

Expiration of the lease on the former quarters, together with a need for more adequate facilities, was responsible for the move.

MINERS CALL STRIKE AT REAL DEL MONTE MINE

THE MINERS' union called a strike of 5,000 workers at the property of Cia. de Real del Monte y Pachuca, Pachuca, Hidalgo, Mexico, effective December 7. The strike was ordered after futile efforts by the treasury department to effect a compromise between the union and the company.

The union has insisted on its wage demands, which the treasury department itself believed were exorbitant, and negotiations were broken off when the company refused to grant them. Legal 10-day notice of the walkout was immediately served on the company by the union.

A shutdown of the mine will seriously affect the treasuries of the federal government and the state of Hidalgo, which receive huge sums in taxes from the company. Real del Monte is a subsidiary of the United States Smelting Refining and Mining Company.

PLANS BEING FORMULATED TO DEVELOP NICKEL CLAIMS

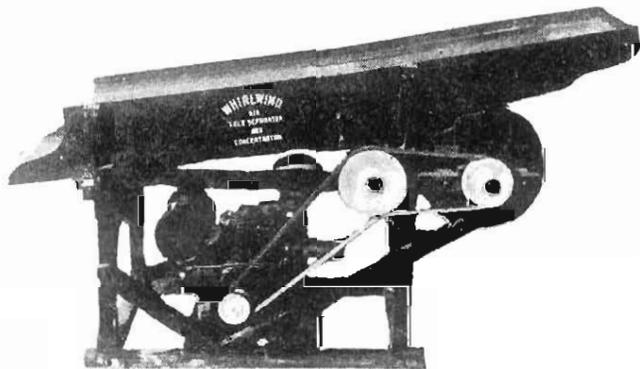
A COMPANY is to be formed to carry on the development of the nickel dike near Querida, Colorado. Fred Mang, 1140 Berkeley Street, Pueblo, is associated with Glen Huffman, Dr. D. E. Johnson, and George Opincar of Blanca, in the project. Core drilling will be started immediately

to determine the quality and quantity of the dike.

The dike may be traced on the surface for over half a mile in length, and for an average width of 200 feet. The property consists of 380 acres of ground on which eruptive outcroppings containing nickel can be found. The character of the ore, according to R. S. Haddank, chemist and assayer of Pueblo, Colorado, who made the first determinations, is mostly a double sulphide of iron and nickel with a little nickel-bearing chalcopyrite in a silicified hypersthene andesite rock. Mang reports ample ore in sight for commercial production and says surface rocks yield from a fraction of 1 per cent to over 2 per cent nickel.

Announcement

THE DRY PLACER MACHINE COMPANY announces to the gold mining industry its NEW "WHIRLWIND AIR GOLD SEPARATOR AND CONCENTRATOR," which is now, for the first time, available for inspection and demonstration in the great Southwest.



WITH THE INTRODUCTION of this dry placer machine to the mining industry, an unlimited and untouched source of new wealth becomes available.

THE DRY PLACER MACHINE COMPANY is prepared to make delivery of plants of various capacities, from the portable "Prospector" model, having a capacity of two and one-half yards per hour, to plants with capacities of fifty yards per hour, AND with recoveries in excess of 90%.

OUR REPRESENTATIVE, MR. J. C. O'CONNOR, will demonstrate this dry placer machine in Phoenix, Arizona, within the next thirty days. Dates and locations of demonstrations will be advertised in leading daily newspapers.

LET US PROVE to you in a personal demonstration on your own ground that the "WHIRLWIND GOLD SEPARATOR" is the only successful dry placer machine built today.

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THE DRY PLACER MACHINE CO.

DEER LODGE, MONTANA

CONRAD K. WARREN, President and Manager

human resistance, even for the regular mine-worker who is tied, hand and foot, by the famous "clause of exclusion" in the labor agreements; the protesting workman is expelled by the leaders from the labor unions and, thereupon, he is fired by his employer on the petition of the union.

Aside from that, the mining industry has been burdened by the heaviest fiscal and legislative measures on record; further operation becomes prohibitive. The enterprises are thus compelled to turn their plants and mines over to the corresponding labor unions, previously organized in the form of cooperative societies. Automatically, these cooperative organizations, by the operation of recent government enactments, are made to enjoy certain privileges whereby they will be relieved of the very fiscal and legislative burdens that caused the death of the displaced enterprises. How could any "constructive capital" operate under such aggregate of detrimental circumstances? Is President Cardenas beating his own constructive policy, or is he assisting the labor unions in defeating his policy?

Labor leaders and international agitators, on the other hand, have been doing their best every day to counteract the government's constructive plan as vouchsafed by President Cardenas. The propaganda against Mexico does not need to be conducted by the enemies of our country, suffice it to see the daily accounts of the Mexican newspapers dealing on such utopian conceptions as are uttered by the official and unofficial leaders in regard to the "dictatorship of proletariat," "labor democracy," "displacement of capitalistic regime," "collectivism," etc., and the daily descriptions of "sit-down" and political strikes in which the official political leaders have openly joined hands with the representatives of Stalin in Mexico.

Such communistic commonplaces are heard in every demagogic public meeting, and even constitute the main topic in the school text-books. Children are being bred under an atmosphere of hatred. A transcript from one of those text-books appeared on the front-page of one of the leading semi-official communistic publications, used as a caption for a scene representing a lean mine-worker shooting at the paunch of a well-fed mine-owner, as follows: "MINE-WORKER: Through the sight of thy rifle seek thy freedom, thou shouldst find it at the flash of the shot."

Really, under these circumstances there is no place for the "constructive capital" on which President Cardenas is calling "to open up new sources of production." No one would dare to build up new industrial units, knowing that once under profitable production the "howling wolves of communism" would be ready to pounce upon them and eat up even the amortization and depletion items. Right now, those wolves are ready to tear up whatever meager remains are left of the Mexican national economy. It is "constructive" Cardenas against the "shattering strategics" of Soviet Russia.

OREGON MINING ASSOCIATION FORMED AT PORTLAND MEETING

OPERATORS in the rapidly growing Oregon mining industry met Wednesday, December 7, in the Hotel Portland in Portland, Oregon, and banded together in the first state-wide organization the industry has had. Wasting no time in formalities, the group at once elected Leverett Davis, vice-president and managing director of the Cornucopia Gold Mines, Cornucopia, Oregon, temporary chairman.

The meeting was actually called by Davis, but the turnout of more than 50 operators was inspired by a law passed by the voters at the November 8 election which the mining men believe may threaten their very existence. This was called an anti-stream pollution measure, but its provisions are so drastic that Davis in his opening statement declared his belief that it could close "every mining operation in the state if drastically enforced."

As the anti-pollution measure was the core of the session, Davis called first on F. H. Young, one of the drafters of the form placed on the ballot, to explain it to the group. Young, as he explained, represented industry in the parleys and strove to protect industrial interests, but was simply outvoted.

Reminding his listeners that Governor-elect Charles A. Sprague has promised a "reasonable" enforcement of the law, Young said he felt that the law actually will not embarrass mining operations as much as the operators fear. He added that in his opinion the law seems not so stringent as interpretations offered at this meeting would indicate. The bill is essentially, he said, a conflict between the fish and game interests on the one hand and industry on the other, with the voters at present siding with the conservationists.

State Senator W. H. Strayer of Baker, closely identified with mining interests during most of his long career, later took the

floor and gave an opposite view to that of Young. He advised the association to immediately employ legal talent to investigate fully the potentialities of the measure.

"It is my unqualified opinion as a lawyer," he said, "that Oregon's stream purification measure, if strictly enforced, will put all the mines in the state and one-third of the irrigated farms out of business. If the law is not strictly enforced it should be abolished."

Other views expressed at the session ranged between these two, but the consensus of opinion of the meeting was that the mining industry had been caught asleep, almost hamstrung by a measure about which it had not been consulted, and that it was high time Oregon operators joined hands for their mutual protection. As a result they established, after some debate as to the name, the Oregon Mining Association.

Membership in the new-born organization was not strictly limited, but was left open to anyone interested in any phase of mining. The organizers expressed a hope the membership might before long total 2,000 persons. The discussions over, the group elected a commission to draw up by-laws for the organization.

The commission's recommendations, which were accepted with minor amendments, provided for selection of a seven-man board of directors, one director to come from each of the state's three congressional districts and four to be elected at large, and for the directors to elect officers. Purpose of the organization, it was stated, is to protect the interests of the mine operators and the industry in Oregon, and to sponsor favorable, and combat unfavorable, legislation.

The directors elected are:

D. Ford McCormick of Medford, manager of the Sterling Mines, Inc., representative of District No. 1; Leverett Davis, representative of District No. 2; F. Whalley Watson of Portland, a consulting engineer with interests in Baker County, representative of District No. 3; S. H. Williston, vice-president of the Horseheaven Mines; R. B. Porter, of Porter Brothers, co-owner and operator of the new dredge near Granite; W. H. Cullers of the Sumpter Valley Gold Dredging Company; and Lawrence C. Newlands, president of the Oregon-Portland Cement Company, directors-at-large. The last four live in Portland.

The election over, the meeting adjourned until the last Tuesday in November, 1939, or such time as the directors shall call a meeting. This date, the last Tuesday in November, was judged an auspicious time for the annual meeting as it but shortly precedes the opening of the legislature.

The directors immediately held a meeting of their own and named Davis president, McCormick vice-president, and Watson, secretary-treasurer pro tem.

Encouraged by the unanimity of those in attendance and promises by members of the state board of geology and mineral industries present of its full support, the new-born Oregon Mining Association was convinced that the mining industry in Oregon would not again go unheard.



The Oregon Mining Association elected these men for its first officers. Left to right: D. Ford McCormick, Medford, vice-president; Leverett Davis, Cornucopia, president; and F. Whalley Watson, Portland, secretary-treasurer pro tem.

Lawrence L. Kelling, who recently subleased his Barrel Springs placers and sold control of his Placeritos placer claims to L. W. Hayes of Bethany, Missouri, has moved from Lovelock to Yerington, Nevada. The property which he developed and sold is located near Lovelock. Kelling is now interested in other mining projects.

Quintin Conklin, who has been associated with the Lodestar Mining Company at Mojave, California, for the past year, has accepted a position with the Mauricio Hochschild interests in Bolivia and will go by Pan-American Air Lines to Oruro, Bolivia, to assume his new duties. Conklin was formerly active in Colorado and other western mining districts.

W. L. DuMoulin, manager of the Morenci Water and Light Company, Morenci, Arizona, was seriously injured when his automobile left the highway and crashed into an embankment. His injuries consist of a fracture of one leg, fracture of the foot on the other leg, fracture of one arm, fracture of both lower and upper jawbones, and severe lacerations about the face and body.

George W. Hezzelwood has joined the staff of the Balatoc Mining Company at Baguio, Mountain Province, Philippine Islands. He has been in the Philippines for a number of years. At one time he was connected with the Benguet Consolidated Mining Company and more recently has been associated with the Angelo Mining Company and with Mineral Enterprises, Inc., as assistant chief engineer.

Arthur F. Johnson of Idaho Springs, Colorado, has left for Australia where he will be connected with mining property of the American Smelting and Refining Company. Johnson is general manager of the Porphyry Mines, Inc., which holds the Alice mine near Idaho Springs, and was in charge of the property during the American Smelting and Refining Company's leasehold. The smelting company operated the Alice claims for several years, giving them up last fall.

F. Victor Schneider of Denver, Colorado, has gone to Johannesburg, South Africa, as a representative of the Denver Equipment Company in the Union of South Africa. Schneider has been employed by the Denver Equipment Company for several years, both in El Paso and in Denver. The Denver offices are at 1400 Seventeenth Street. In Johannesburg his address will be in care of Denver Equipment Company, 18 Bow Accord House, Harrison Street.

Fred E. Johnson is continuing his work as general superintendent of the Lepanto Consolidated Mining Company, Box 246, Baguio, Mountain Province, Philippine Islands. It was erroneously reported about two months ago that he had gone to Paracale to make an examination of the Potot mines. Franklin E. Johnson, general superintendent of the Quartz Hill Mining Company of Baguio, who has no connection with Lepanto Consolidated, is the man who made the trip.

R. D. Gardner, who recently assumed his new duties as vice-president and mine

manager for the Consolidated Sierra Mining and Milling Corporation, is making his headquarters at 2740 Tenth Avenue, Sacramento, California. The company holds a purchase contract on the Greenhorn mine at Redding, California, and an option on the Oceanic quicksilver mine at Cambria, California. The Arizona Comstock properties at Virginia City, Nevada, have also been optioned by the company. Gardner will direct mine work.

MINING ASSOCIATION

OFFICERS REELECTED

ALL officers of the Mining Association of the Southwest were reelected at the annual meeting held recently at Los Angeles, California. The officials of the mining association for the coming year will be Howard Kegley, president; G. A. Joslin, first vice-president; John Herman second vice-president; and Victor J. Hayek, secretary-treasurer.

In addition to the officers, who also serve as directors, the following directors were chosen: Ralph Baverstock, H. Clifford Burton, O. H. Griggs, T. M. Hamilton, B. W. Holeman, George I. Holmes, Milton J. Holmes, Julian Itter, George Pierson, Charles H. Segerstrom, and George Trent.

Secretary Hayek reported that in the last 23 months the membership of the association has grown from 198 to 612.

Among the subjects discussed at the meeting were the question of a severance tax on natural resources; reduction of compensation insurance rates; and the withdrawal of public lands from mineral entry.

NO not 65 - Only 22 PARTS, and a better Diaphragm Pump



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We Also Make:

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Roasters, Ball, Rod and
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A SIMPLEX UNIT of the COLORADO Diaphragm Pump has only 22 parts (not including motor), as compared with other simplex pumps using as high as 63 parts. By simplifying design, the weight of COLORADO pumps has been greatly reduced without sacrifice of essential ruggedness. Likewise, cost to the user has been lowered substantially. The yoke to which the diaphragm is bolted is welded steel, to facilitate changing diaphragms and to lessen un-

balanced weight. Fewer parts mean less lubrication and less lost motion with consequent improvement in efficiency. The Colorado IS a better diaphragm pump.

For thick pulps and sewage—applied for neutral, acid or alkaline solutions. Stroke quickly and easily adjustable. Capacity up to 500 G. P. M. in the Quadruple.

STANDARD SIZES: 2" Simplex and Duplex; 4" and 5" Simplex, Duplex, Triplex and Quadruplex in fact, any size to order. Motor or belt drive.

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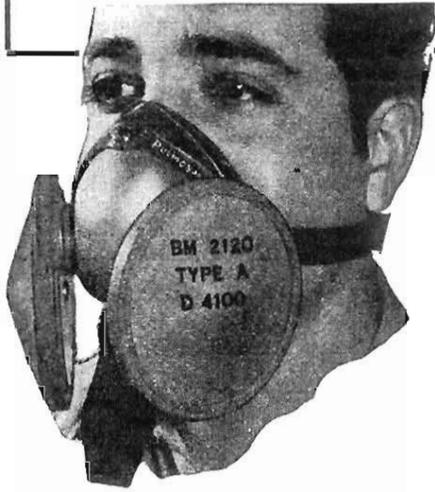
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RESPIRATORS

Safety Hats Safety Gloves
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Everything for Industrial Safety



PULMOSAN D-4100

Duo-Filter

DUST RESPIRATOR

Approval BM-2120 of
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Add this efficient duo-filter dust respirator to your safety program, to protect workers against Type "A" dusts. The D-4100 has everything: safety, comfort, lightness, easy breathing, serviceability and official approval. Try it. Order several or write for details and prices.

WRITE for information and prices on any Safety items shown. Let us advise you on any safety problems.

PULMOSAN

SAFETY EQUIPMENT CORP.

Dept. MJ, 176 Johnson St., Brooklyn, N.Y.

ment of the price of silver. Veta Mines is also operating under lease the Carlisle mine 16 miles east of Duncan in New Mexico, and a program of diamond drilling has been under way at that property for the past three months with results reported satisfactory. A crew of 10 men is employed under the direction of L. J. Unteriser, Duncan, mine superintendent of the Carlisle property.

A dredge with a capacity of 30 cubic yards per hour is in operation at the Baxter placers near Diamond Springs, California.



The plant, which is mounted on skids, consists of a bucket line with two pumps, powered by a gasoline engine, and is equipped with a C type, Ainlay bowl and a sluice system. The machine was built by the Capital Machine and Welding Works, Sacramento. Gravel beds available are said to be sufficient to permit continuous operation for several years. Work at the mine is being directed by Everett F. Colridge, who is an active partner in the operating company, the Pambac Mining Company. William F. Baxter, Box 377 Diamond Springs, heads the organization.

The California-Utah Mining and Milling Company has completed installation of a new milling plant at its mine located in the Middle Buttes district near Rosamond, California. The new mill is of the jig type and is treating approximately 40 tons per day of ore which is said to average from \$10 to \$18 per ton. At present water is being hauled for operation of the mill but it is planned to run a pipe line in the near future. A crew of six men is employed at the property.

A crew of approximately 90 men is employed at the Cactus Queen mine of Cactus Mines Company, Rosamond, California, and the milling plant is treating 125 tons of ore per day. The property is being worked six days a week. George I. Barnett is general superintendent. R. W. Moore, 1206 Pacific Mutual Building, Los Angeles, is general manager.

Raymond and Clarence Dondero, Columbia, California, and William Colley have placed in operation a new plant at the Hard Gravel claim near Saw Mill Flat. The new plant is capable of handling from 750 to 1,000 tons of gravel daily. The ground is to be stripped by power shovel and trucked to the recovery plant. Water will be pumped from an old hydraulic pit which will also receive the runoff from the sluice boxes.

The Hector shaft on the King Solomon property, Randsburg, California, is being prepared for operation by Joe Courson and James Martin, lessees. A headframe, hoist, and shaft skidway have been installed preparatory to mining some 500 tons of high-grade stope fill. Samplings have indicated that the ore will average in excess of \$12 per ton. The Courson-Martin lease agreement has resulted in the abandonment of plans by the operators of the King Solomon mill. Max Hess, superintendent, is

handling some custom ore in addition to mine production.

The Simpson mine, Leevining, California, which has been shut down for several months, has been reopened with a crew of approximately 20 men under the direction of James Sturgeon, foreman. Continued operations during the winter will depend upon whether supplies can be brought in before the first heavy snow storm. A severe storm would also make it impossible to complete the laying of a pipe line which is under way. The new pipe line will be used to divert mill tailings around the side of the mountain. The Simpson property is operated by the Mutual Gold Corporation, 401 Fernwell Building, Spokane, Washington.

Under the terms of the option held by the Alaska Juneau Gold Mining Company on the Harvard gold mine at Jamestown, California, all expenses of development and installation of equipment are to apply on the purchase price and are to be paid for only from mine earnings. Development work, as now planned, probably will require the better part of a year, after which, if results are considered satisfactory, mine and mill equipment will be installed. A crew of nine men is employed at the mine at present under the direction of Robert Duncan, superintendent. P. R. Bradley, 1022 Crocker Building, San Francisco, California, president of Alaska Juneau, is reported to have characterized the property as "having possibilities of developing into a large-tonnage, low-grade producer." The Harvard has been mined to a depth of 1,850 feet and at present is unwatered to the 500-foot level. Alaska Juneau's operating profit for November, including miscellaneous revenue but before provision for depreciation, depletion, and income taxes totaled \$173,000, which compares with \$195,400 in October and \$113,500 in November of last year. Cumulative operating profits on the same basis for the 11 months ended November 30 amounted to \$1,907,500, which compares with \$2,307,500 in the like 1937 period.

Elmer W. Olson, Happy Camp, California, has recently taken over the Stewart claims located six miles above Somes Bar, California, and has installed a 24 by 24-inch jig on the property.

A test run was made recently at the new mill installed by the Western Knapp Engineering Company for the Humming Bug Mines Company, Yreka, California. The new cyanide plant is equipped for flotation and gravity concentration. It includes a 50-ton ball mill, seven leaching tanks, and three auxiliary tanks, and is powered by two Diesels of 35 and 10 horsepower capacities, respectively. The plant was built under the direction of Eric Freitag, construction superintendent. Water for the mill is pumped from a spring to a 5,500-gallon storage tank. Joseph T. Buell is to be mine superintendent with A. A. Worth as assistant superintendent and Bert Brown as mill foreman. The company, which was recently incorporated with a capitalization of 400 shares, par value \$125, is headed by Charles S. Haley, 1947 Yosemite Road, Berkeley, California. It is planned to carry on operations throughout the winter, using

a Caterpillar to keep the roads clear in case of snow.

The **Harms and Larsen Construction Company**, Yreka, California, is installing a bucket-line dredge at the mouth of Horse Creek on the Coffin property.

D. A. Hatfield has made application to the Marysville, California, city council for a lease and option on two city lots on which he proposes to erect a custom mill for reduction of ore and treatment of black sand. His plant will be equipped with a ball mill and a Huntington roller mill, and he plans to use his own chemical processes for treating the ore and black sand.

J. W. McKay, Meadow Valley, California, owner of the **La Honda** mine near Meadow Valley, is operating a 24-ton stamp mill on his property. He is working the mine alone and blocks and mines his ore, hauls it to the mill, and there handles the reduction process.

R. C. Zaring is preparing to drain a portion of the Yuba River about six miles west of Downieville, California, and is already engaged in pumping operations. He proposes to explore a deep hole in the channel in the hope of recovering gold believed to have been missed by early day river miners. The entire flow of the stream has been diverted through a 300-foot flume and the water is being pumped from the depression which is more than 20 feet in depth. He hopes to complete exploitation of the hole before high water destroys the flume.

The shaft of the **Redman** mine near Julian, California, is being unwatered at the rate of three to four feet a day by Carsten and Dewey S. Truelsen, Julian, who are leasing the property from the **Moro Bay Copper Company** of Salt Lake City. An ejector is being used at present and it is planned to augment this soon with a pump which is expected to speed the unwatering.

A newly discovered ore body is being explored at the Rawhide mine of the **Canyon Mines Corporation**, Baxter, California. The ledge is said to average 40 feet in width and ore values run approximately \$8 per ton. The geological studies which are credited with the discovery of the ore body were instituted recently when the company took an option on the Pioneer mine in the same district. Frank B. Keever, Baxter, is general manager of the corporation. A. L. McFarland is mill superintendent and S. T. Hilberg is engineer.

Al Swinburn, Box 106, Station A, Auburn, California, is employing a crew of six men at his gravel property on the Rattlesnake Road southwest of Auburn. The property is operated through a 100-foot shaft and the gravel is run through a trommel and sluice boxes. Work is now well into the channel, which is nearly 300 feet wide, with values increasing.

Juan Quinienterz is leasing the South Bitterwater claim of the **Bitterwater** quicksilver group, owned by H. V. Underwood and E. A. Matthews, both of Hollister, California. The property is located near Llanada and equipment is being moved to the property preparatory to operation.

The **Alpine** quicksilver mine near Hollister is reported to have been leased to M.

G. Ramirez of Hernandez, California. The property, which is owned by the Harry Leonard estate, is said to be equipped with retorts and surface buildings.

H. H. Smith, Placerville, California, owner of the **Funny Bug** mine in the Gold Hill district about six miles northwest of Placerville, is preparing to launch a new development program. The 25-ton ball mill now on the property will be removed and a stamp mill installed in its place. Present development consists of a 200-foot two-compartment shaft on a 73-degree incline and 1,200 feet of drift, 600 feet of which is on the 200-foot level. There are said to be approximately 50,000 tons of ore blocked out, some of which runs as high as 32 per cent copper. Development and exploration work has been under way at the property for the past several years.

A Greenfield and McSpadden mill is reported to have been installed at the **Red Ledge** mine, Washington, California. The property is under development by the **Gold Zone Mining Company**, R. L. Schneider, executive vice-president, 1407 Francisco Street, San Francisco, California.

Sacramento, California, interests have installed a three-eighths-yard power shovel and hydraulic washing plant and have completed other work preparatory to the resumption of operations at the old **Blue Lead** gravel mine, covering some 80 acres along the old channel of Indian Creek near Dobbins, California. A small earth dam has been erected at the creek and according

to E. H. Greening, one of the operators, it is estimated that there are 300,000 cubic yards of gravel available for treatment. The plant will have an average daily capacity of 200 cubic yards. Associated with Greening are R. A. Dodge, R. C. Blanchard, and D. L. Blanchard, all of Sacramento.

Active work is under way at the **Banner Mountain**, **Clark**, and **Penrose** groups, located in the Grass Valley-Nevada City, California, district, under the direction of George G. Gallagher, superintendent, Box 810, Grass Valley, California. The property was taken over recently by H. C. Dudley, 704 Lonsdale Building, Duluth, Minnesota, and associates.

Production of milling ore has been started at the **Daisy Blue** mine about four miles northwest of Nevada City, California, under the management of James Kistle of Nevada City. The ore is being taken from the ledge at depths ranging from 100 to 200 feet. The mine is equipped with a 10-stamp mill which has been placed in operation.

The **Carrie Mines Corporation**, C. R. Murdoch, manager, Pine Grove, California, reports that it has cut the Grand Prize vein, toward which development work has been directed for several months. An assay of heavy sulphide ore taken from the vein is said to have given a return of \$101 in gold together with some copper. It is planned to drift on the vein for the deeper development of ore bodies known to be profitable on the surface.

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A crew of seven men, under the direction of R. E. McCarthy, superintendent, is engaged in dredging operations at the old Cosgrave place near Angels Camp, California. The operation, which covers three-fourths of a mile of creek channel on San Domingo Creek, is equipped with a dredge, fitted with a 36 by 5-foot trommel and standard riffles. A Northwest dragline powered by a Diesel engine is used to handle the gravel.

The Carson Hill Gold Mining Corporation, 206 Sansome Street, San Francisco, California, paid a special dividend of 1½ cents a share on December 20 to capital stock of record December 13. The company paid a dividend of 2 cents a share September 20. The total disbursement amounted to approximately \$36,000, of which about \$21,100 was paid to Anglo American Mining Corporation, the parent company. Carson Hill listed a \$43,679 operating profit before deductions for depreciation, depletion, etc., for the quarter ended September 30, 1938. The company milled 97,740 tons of ore during the quarter and the revenue from sale of bullion totaled \$213,612. Operating costs amounted to \$170,109, which included all expenditures for development, repairs, and renewals. The company's properties are located at Melones, California, where operations are directed by John A. Burgess, general superintendent.

A large ore bin has been completed at the Patten shaft of the Keystone Mine Syndicate, Amador City, California. A similar ore bin has also been installed and is in use at the South Spring Hill shaft of the syndicate. Both shafts are working full crews of men and ore is being hauled to the mill at the Original Amador mine for crushing. T. S. O'Brien is superintendent of the Keystone Mine Syndicate.

A new strike of \$68 ore in a vein averaging 12 inches in width, has been made at the Miss Geneve mine in the Sweetwater district near Mariposa, California. Another vein being worked has returned values ranging from \$130 to \$300 in mill tests. The latter vein lies from two to four feet below the surface and ranges in width from 12 to 24 inches. It has been developed for a distance of 100 feet and indications are that it will be at least 300 feet long. The property is being developed by Miss Geneve A. Shaffer and Cleve F. Shaffer, 688 Sutter Street, San Francisco, California, and associates. The mine is equipped with a 24-ton milling plant.

The W and W Gold Dredging Company is operating a dry-land dredge on the Burt Moulton ranch between Loomis, California, and Rocklin. The material being mined is a cement type gravel and a scrubber has been installed in one end of the trommel to break down the gravel. The plant is mounted on a caterpillar track and is moved forward by the power shovel. Due to the type of gravel being mined the regular dragline shovel has been replaced by a dipper stick type to obtain more digging power. This necessitates the operation of both dredge and shovel in a pit created by the shovel. A set of jigs will be installed at the end of the hose which carries the

sand and fines from the dredge to prevent any loss of gold through these fines. The company has sufficient material available to warrant operations for about 18 months. H. Bert Walton, Paradise Camp Ground, Roseville, California, is president of the company and in charge of operations. Associated with him are Arnold Mos and C. B. Wooster, both of San Jose, California.

A. A. Turner, president and general manager of the American Gold and Tungsten Corporation, Box 287, Randsburg, California, has announced the purchase of the Master Key claims at Randsburg for an eastern mining syndicate. Price and terms were not announced. The group is owned by Edward Herkelrath of Randsburg. An active development program is planned and as soon as details are completed a working shaft will be started. Included with the Master Key option was an optional transfer of lease rights on the Wade claims, also owned by Herkelrath. Three lessees are now producing ore on the Wade claims.

The Johnson Lindley Gold Mining Company, Yreka, California, is installing a 24-ton mill at its property located five miles up Horse Creek from the Klamath River. The operation is financed by a group of Fresno, California, business men.

Approximately 2,000 cubic yards of gravel per day are being treated by E. A. Kent, Inc., operating a dredge and dragline outfit at the Mangante placers on Curtis Creek near Stent. The deposits are expected to keep the plant running steadily for several years. Sixteen men are employed. Joe Rice, Sonora, California, is general superintendent for the company. Joseph A. Keyes, Box 525, Jamestown, California, is field superintendent and purchasing agent.

The Fort Anne Mining Company, Volcano, California, has recently completed the reconstruction of the mill at the property. The new building replaces a much smaller structure and houses a 75-ton plant. The old units had a capacity of 25 tons per day. The new mill equipment includes a 75-ton ball mill, clarifier, two concentrating tables, a jig, and amalgamating barrels. Above the mill is an ore bin equipped with a crushing plant. A four-mile electric power line was run to the mine to furnish electricity for the plant. J. C. Nimmo, mine superintendent, F. W. Kent, mill superintendent, and William Anderson, San Diego, California, are co-owners of the property. The mine shaft is down and present work includes the cleaning out of two stopes at the 40-foot level. This work is reported to have opened up a 12-foot vein intersecting the seven-foot vein which the miners have been working. The new vein carries values in gold but it has not been determined whether it is of milling grade.

The property of the Trinity Dredging Company, Lewiston, California, is being operated under lease by C. R. Harris, who has been dredge superintendent for several years, and T. D. Harris, as a partnership. They took over the operation under the new arrangement on November 1 and will dredge some of the land owned by the company together with other properties up the river. It is estimated that there is sufficient yardage for two years' work.

Trinity Dredging has operated on the Trinity River for the past 25 years and was established by the late Edward L. Smith who was president until his death in 1923. For the past 12 years the company has been operated by his daughter, Miss Mary E. Smith, who is now retiring from active mining work.

Chez Martin, Plymouth, California, who is operating under lease the Union mine located 12 miles from Plymouth, is preparing to place in operation a 20-stamp mill on the property. Assays of dump material are reported to have indicated satisfactory values. Several men are employed at the mine.

An extra year-end dividend of \$1 a share in addition to the regular quarterly disbursement of 30 cents a share was paid

COLORADO by the Climax Molybdenum Company on December 23, 1938, to common stockholders of record December 16.

Last year the company paid an extra of 50 cents a share, besides the regular 30-cent quarterly. Operations are at Climax, Colorado, and are under the general management of William J. Coulter of Climax.

The Federated Metals of Colorado has been organized to take over and operate the Mattie Consolidated mine and mill in Clear Creek County near Idaho Springs, Colorado. It is stated that the new owners of the property will assume the indebtedness against the old company to take it out of receivership. Work will be started in early spring and will entail the expenditure of about \$75,000 to rehabilitate the mine and do some development work. Repairs and additions will also be made to the 50-ton mill, bringing the daily milling capacity to 100 tons. The property has been worked under the management of R. R. Mitchell, 1700 Hudson Street, Denver, receiver, and reported intermittent production during 1937. Values are in gold and silver.

Mining will be resumed at the Stella-Independence group of claims in Clear Creek County near Dumont, Colorado, by Dr. H. E. Mantor of Idaho Springs, owner. A ventilating system will be installed immediately, the lack of which was one of the principal reasons work had been suspended. Mine development includes a shaft on the vein from which drifts have been run.

The Colorado Silver Mines, Inc., Eugene Perley of Blackhawk, Colorado, is reported to have taken over the Bald Eagle mine at the head of Virginia Canyon about nine miles from the company's 100-ton flotation mill. The mill has been idle for several months, reportedly because of an insufficient supply of ore. With the acquisition of the Bald Eagle mine the company expects to resume milling. Some equipment has been moved from the Wheeler to the Bald Eagle mine which will be put into production as soon as possible.

Fire which caused an explosion of about 300 pounds of dynamite and about 1,000

detonators did several thousands of dollars worth of damage at the Baxter and Brock No. 5 properties at Ward, Colorado. F. L. Peart and E. P. Swerdfeger, both of Ward, are operating the mines under lease from L. S. Brock, Ward. Property loss was in the destruction of machinery, tools, and buildings. The property has been operated steadily by Swerdfeger and associates for the past three years and has been a regular shipper. Origin of the fire is undetermined. No one was reported injured.

The Gregory-Bobtail Mining Company is operating two shifts in the mine and mill at Central City, Colorado. Robert M. Wheeler is general superintendent and A. G. Van Eman is mill superintendent, both of Central City. The Fifty Gold Mines

mill which the company uses has been rehabilitated and new equipment added.

The Jo Dandy mine on Raven Hill at Cripple Creek, Colorado, is reported to have been leased by the Gold Producers, Inc., A. F. Woodward of Cripple Creek, general manager. The lease is said to provide for giving split-check leases to the fifth level and a right to prospect from the fifth to the eighth level. A. F. Lundgren, 520 U. S. National Bank Building, Denver, is president of the Gold Producers concern, which holds the El Paso and Victor mines at Cripple Creek. Hildreth Frost, Box 36, Colorado Springs, is president of the Jo Dandy company.

December 30 payment of a dividend of 1/4 cent a share has been announced by the



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