ducted by Lester Fernstrom, Box 51, Ruby Star Route, Tucson.

Development operations are being carried on by A. R. Byrd, Jr., Box 5226, Tucson, Arizona, at the **Duquesne** mine in the Washington Camp district of Santa Cruz County, Arizona. Byrd recently moved in a compressor, hoist, and other equipment. The Duquesne formerly was operated by the Callahan Zinc-Lead Company, but labor problems, ore conditions, and high taxes are reported to have caused a shutdown this summer. Callahan Zinc-Lead later dismantled the mill and power plant and the machinery was moved to company holdings in Nevada. The company had been working the mine since 1940 and also had accepted custom ores at the Duquesne mill. Duquesne values are principally in copper, lead, and zinc.

Grady Wilson, 102 West Lincoln Street, Tucson, Arizona, is continuing a development program at the **Old Yuma** mine. The property is located in the Amole district in the Tucson Mountains, Pima County, Arizona. Values are in lead, molybdenum, and vanadium.

A. B. Peach, Box 38, Clarkdale, Arizona, is making regular shipments of 4 to 5 per cent copper ore to the Clarkdale smelter, the ore coming from the **Daisy Lease** near Jerome, Arizona. A crew of six or eight men is employed at the open-pit operation. R. L. D'Arcy, also of Clarkdale, is associated with Peach in the project.

H. A. Snyder, Cleator, Arizona, is maintaining a shipping schedule of a carload of ore a month from the **Peck** mine. Values are in silver and the property is situated about three miles west of Cleator in the Peck mining district of Arizona.

CALIFORNIA

The Pine Creek Tungsten Unit of the **United States Vanadium Corporation,** Bishop, California, is engaged in a mine development program in preparation for the reopening of its mining operations next spring if sufficient manpower is obtained. The company now is running its chemical plant, treating low-grade tungsten concentrates. J. R. Van Fleet is president and Blair Burwell is vice-president of U. S. Vanadium, with offices at 30 East Forty-second Street, New York 17, New York. M. N. Shaw, Bishop, is general superintendent; A. F. Boyd, assistant superintendent; W. R. Jones, mine superintendent; and J. V. Galloway, mill superintendent at the Pine Creek Unit.

An 85-foot winze has been sunk from the 400-foot level and drifting is under way north and south of the vein at the **Newton** copper property located about seven miles from Jackson, Amador County, California. It is understood that the operator, the Pacific Mining Company, plans to maintain a shipping schedule of a carload of ore daily in the future. The Pacific concern recently gave a contract to the Stillwell-Rell Company, Los Angeles, California, for recovery of copper values from the mine water. Stillwell-Rell has installed flumes and other equipment for its operations and work is directed by Fred Reel. The Pacific Mining Company has a contract agreement with the Winston Copper Company, which holds a lease from Fred DuFrene and associates. P. R. Bradley, Jr., Jamestown, California, is president of Pacific Mining, and Wayne Loel, 417 South Hill Street, Los Angeles 19, California, is president and consulting engineer for the Winston company.

The **Golden Queen Mining Company** reports that it is employing a total of 12 men to carry on maintenance work at its property at Mohave, California. The Golden Queen mine, a gold-silver producer, was shut down in 1942 but the concern plans to reopen after the war. The company's home offices are located at 70 Pine Street, New York 5, New York, and Carl O. Lindberg is president. W. C. Browning, 1211 Pacific Mutual Building, Los Angeles 14, California, is vice-president and general manager of Golden Queen. Purchasing agent for the company is J. R. Nicholas, Mohave, California.

The **International Metals Development Company** is reported to have discovered several additional cinnabar deposits at the old **Abbott** quicksilver mine, which is near Wilbur Springs in Lake County, California. Recent development work included sinking the main shaft another 100 feet with lateral work still in progress. The Gould furnace, installed in 1940, is running at capacity. International Metals has been working the Abbott holdings since 1940, but formerly was engaged in operating the Alabama gold mine, Penryn, California.

Robert Lytell of Seattle, Washington, is president, and C. O. Reed, assistant general manager, Williams, California, is in charge of work at the mine.

Tyson Chrome Mines, Ltd., is employing a crew of 26 men at its French Hill operation. Eighteen of the employes are working in the mine, which is located about 22 miles northeast of Crescent City, California. Benjamin C. Mickle, 406 Montgomery Street, San Francisco, California, is general manager and purchasing agent for the company and John Noce, Crescent City, is general superintendent and employment agent. Other operating officials include Delbert Faulkner, assistant mine superintendent and Roger L. Beals, chief mine engineer. H. L. Pomeroy, 155 Sansome Street, San Francisco, California, is chief clerk.

The **Idaho Maryland Mines Corporation**, which operates at Grass Valley, California, is milling approximately 150 tons of gold ore daily at its 1,200-ton milling plant. The company is operating under recent authorization by the War Production Board for limited work, and reports that it is employing 75 men in the mine, 10 in the mill, and 25 in surface positions. Neil O'Donnell is general manager of Idaho Maryland; Rollin Farmin, assistant general manager; Richard Krebs, mill superintendent; B. F. Wright, purchasing agent; and Charles Allan, chief clerk. All may be addressed at Box 1028, Grass Valley. E. L. Oliver, 368 Russ Building, San Francisco 4, California, is president.

Jack Simas, 2232 Eleventh Avenue, Oakland 6, California, is reported to be proceeding with plant construction at his asbestos property located in the Hernandez district of California. The new plant will clean crude material and separate the fibers into five grades of commercial asbestos, and it is expected that the unit will be in operation before spring. Simas has been developing the deposit in Hernandez Valley since the fall of 1943 and examination of the property has proved it extensive enough to warrant operations on a larger scale.

An examination of the **McCormick** chromite mine recently was completed by the U. S. Geological Survey and geologic maps and sections, together with descriptive text, now may be obtained upon request to the Director, Geological Survey, Washington 25, D. C. The maps and sections show in detail the geology of the mine, as well as the locations of Bureau of Mines drill holes and underground exploratory work. The McCormick, a producer of metallurgical-grade lump chromite ore, is located in Tuolumne County about 10 miles from Sonora, California. Some production by an English company is reported as far back as 1870. About 700 tons were shipped during the first World War; 1,328 tons between 1931 and 1934; and 200 tons since the mine was reopened in 1942. Latest operations had been conducted by the Trebor Corporation, Robert Mueller, Mariposa, California, president, but that company has reported that its operations are closed down for the duration.

A new 1,200 cubic foot compressor recently was installed at the **Penn Mine Division** of the Eagle Shawmut Mine, located in Calaveras County, about two miles from Campo Seco, California. The Penn mine is a copper-zinc property and regular shipments are being made to the Eagle Shawmut 500-ton flotation mill located approximately 65 miles from the Penn. D. C. Peacock, Chinese Camp, California, is general manager at the Penn and the Eagle Shawmut gold mine, which the concern also controls. John P. Lowe of Campo Seco has been directing the Penn operations.

JEWELRY VS. AMMUNITION

WPB officials announced recently that 45,000 workers are engaged in the manufacture of costume jewelry in the New England area where, at the same time, brass strip mills are seeking to recruit 13,000 workers for the critical small arms ammunition program. All measures so far authorized, it was stated, have been inadequate to divert labor from such production to vital war needs.

Perhaps we could ship some of this costume jewelry to our boys in Belgium and on Mindoro. We've heard it said that Manhattan was bought from the Indians for a handful of trinkets, and maybe some believe we can buy off the Germans and the Japs in the same way.

Sometimes we wonder if a few well-placed "buzz" bombs might help to give us a more "patriotic" spirit.

The **Oroville Gold Dredging Company** is reported to have discontinued its bucket-line dredging operations for the winter season. The concern had been conducting limited operations on the Feather River in Butte County, California, under the permission of the War Production Board, but has been forced to shut down temporarily because of machinery breakdown. Before the gold closing order Oroville Gold handled about 250,000 yards of gold-bearing gravel monthly, and employed some 35 men. W. H. W. Wandesford, 2052 Bird Street, Oroville, California, is general manager of operations.

A crew of four men is employed at the **Big Dipper** mine, a Del Norte County chrome property. The Big Dipper is owned and operated by Charles Bennett and James K. Remsen, 1726 North Flint Avenue, Portland, Oregon. Shipments are being made to the Grants Pass, Oregon, stockpile, a distance of 86 miles. Bennett and Remsen also are operating under lease the Camp 8, High Dome, and Muzzle Loader claims in Del Norte County, California. Ore is being shipped from both the Camp 8 and the High Dome, but ore is being stockpiled at the Muzzle Loader pending completion of road work.

Eugene Brown, O'Brien, Oregon, is reported to be working a crew of nine men at the **High Plateau** mine situated in Del Norte County, California, and to be making regular shipments of chrome ore to the stockpile at Grants Pass, Oregon. The ore contains some iron values as well as chrome.

The **Natomas Company** recently reported a net loss of $56,284 for the third-quarter

period and a net income of $35,493 for the first nine months of 1944. These figures compared with a third-quarter net profit of $22,601 and a net loss of $23,-251 for the first nine months of the previous year. The company further reported that the net loss for the third quarter of 1944 resulted from a $150,000 loss on land sales. Natomas has been employing a crew of 40 men at its dredging operations in the Folsom district of California under special War Production Board permit. R. G. Smith, Natoma, California, is mine superintendent. All operations are under the direction of Thomas McCormack, 607 Forum Building, Sacramento, California, president and general manager.

The Ruth-Bobby Mining Company is reported to be proceeding with drifting on a vein which is said to average about $30 per ton at the **Nelly-Kayo** mine, and other limited development is being carried on. The mine, located about two miles from Bear Valley in Mariposa County, California, recently was acquired under lease and option, with the sale price set at $40,-000. Shaft sinking was started immediately and some high-grade ore was reported in the footwall of the main ledge. The company is planning development at lower depths in the near future. The Ruth-Bobby is a limited partnership comprised of Louis R. Lurie and Felix Kahn of San Francisco, California. Seven men are employed under the direction of R. B. Lamb, Mariposa, manager.

COLORADO

Fire is reported to have destroyed all the equipment at the portal to the Columbus mine of the **Foursome Mining Company** in the Animas Fork district north of Silverton, Colorado. Lloyd E. Jones and William O. Erickson of Silverton, are two of the partners of the company. The fire started in the compressor house. Jones and Erickson shipped a considerable amount of ore last summer and were planning to continue operation of the mine throughout the winter. Resumption of work will depend entirely upon the operators' ability to replace the necessary equipment and supplies.

The **Vanadium Corporation of America,** 420 Lexington Avenue, New York, New York, declared a dividend of 25 cents a share, payable December 29 to stockholders of record December 22, 1944. This is the second disbursement made by the company in 1944, the first one having been paid in October. During 1943 the company made four payments of 25 cents each. Western operations are in Colorado, Utah, and Arizona, the principal ones at present being in the Naturita and Placerville areas of Colorado.

It is reported that the **Alma Mill, Inc.,** has completed all clean-up activities at Alma, Colorado, and has suspended operations for the winter. Officials expect to resume work as early in the spring as the weather allows and a repair crew will be retained throughout the winter.

Business interests in Ouray County, Colorado, are protesting the **Idarado Mining Company's** use of trucks to transport its ore to Montrose where the ore will be loaded directly into broad gauge cars. Such a move, they predict, will bring the abandonment of the local narrow gauge branch of the Rio Grande railroad and that would reflect seriously on the business interests in the district. The mining company has changed to trucks in order to avoid the necessity of loading the ore on the narrow gauge cars at Ouray and reloading to standard cars at Montrose. Efforts now are being made to have the standard gauge tracks extended into Ouray.

According to reports, the **Jewell Company** is continuing operation of the zinc-lead mine on Taylor Mountain near Ga field in Chaffee County, Colorado, whic it has been working since September 1 of this year. The 12,100-foot main tu nel is being cleaned out and retimbere Frank Gloyd of Salida, Colorado, is age for the company.

W. H. Knapp of Marble, via Carbondal Colorado, reports that he intends to pu chase a bulldozer, air compressor, and dia mond drilling equipment in order to ex pand the scope of work on his lead-zinc copper property in the Crystal district Knapp has worked his mine at Crystal sinc 1936, but says he has reached the poin where machinery is essential.

The **Silica Production Company** is re ported to be installing equipment i

PITTSBURGH PLATE GLASS BUYS PACIFIC ALKALI PLANT

THE Pacific Alkali Company of Lone Pine, California, has announced the sale of its 200-acre plant on the west shore of Owens Lake, eight miles south of Lone Pine, to the Columbia Chemical Division of the Pittsburgh Plate Glass Company, Pittsburgh, Pennsylvania. The unit has been operating on a three-shift daily basis, with a payroll of 45 men. It produces soda ash, laundry soda, and sesquicarbonate, and has been operated by Pacific Alkali since 1926, when the concern was formed by Harvey S. Mudd, the late Seeley Mudd, Philip Wiseman, and W. L. Honnold, all of Los Angeles, California.

The site of the plant, said to be one of the richest natural deposits of alkali in the United States, formerly was a 100-square-mile lake, containing a very strong alkaline brine, and which had been formed at the dead end of the Owens River. However, in 1912 the city of Los Angeles, California, diverted most of the water from Owens River around Owens Lake by a dam and aqueduct. The lake had dried up by 1925, leaving a layer of white crystalline material about 16 miles square and as deep as eight feet in some places.

Columbia Chemical reports that, in line with the company's Pacific Coast expansion, a district sales office will be opened in San Francisco, California, after the first of the year. This will be in addition to the Pacific Alkali Company's Los Angeles office. The present personnel of Pacific Alkali, including George D. Dub, supervisor of the plant, will be retained under the new management.

STOCKS OF ZINC CONTINUE TO INCREASE IN NOVEMBER

PRODUCTION of slab zinc during November amounted to 67,432 tons, according to the report of the American Zinc Institute. This gave a daily average production of 2,248 tons, a slight increase from the 2,219 tons daily average reported for October. Due to the longer month, production in October amounted to 68,781 tons.

Stocks at the end of November showed a slight increase over those at the beginning of the month, 246,172 tons against 244,344 tons. Thus the trend in zinc stocks started many months ago, continued for another month, the increase amounting to 1,828 tons. The stocks at the end of December last year were only 173,510 tons, and at the end of 1942, amounted to 62,268 tons.

NEVADA PUBLISHES REPORT OF ITS MINING INDUSTRY

A REPORT covering the fiscal years ended June 30, 1943, and June 30, 1944, has been published by the inspector of mines of the State of Nevada, Matt Murphy. Because it covers a crucial period in Nevada mining, one which saw the closing of the gold mines and the opening of a number of strategic metal properties, the report lists those which were working and those which had been closed as of June 1944. Reports on fatal and non-fatal accidents and safety inspections of the properties in the state during this two-year period also are given.

ducted by Carl T. McClendon, Box 483, Wickenburg, and he had shipped a considerable amount of siliceous gold ore from the old mill tailings to the Clarkdale smelter. McClendon operated under lease agreement with the East Vulture Mining Company. Ernest Dickie, president and general manager of the firm, operated the Vulture milling plant and, in addition, furnished the necessary equipment for the tailings project under contract with McClendon.

An average of 50 tons of copper ore is being shipped daily by the **Van Dyke Copper Company,** which operates property near Miami in Gila County, Arizona. The ore runs from 7 to 8 per cent copper and the company's entire production is sold to the Metals Reserve Company. The Van Dyke ore is treated at the International Smelter, Miami. It is reported that principal mining operations of the Van Dyke company are being conducted on the 1,400-foot level, and work is directed by Ira C. Wagnon, Box 1334, Miami. The Van Dyke mine was reopened in 1942 by means of Defense Plant Corporation funds, after a long shutdown. Cleve Van Dyke, Miami, is president of the copper mining concern.

Development operations have been started at the **Blue Heaven** mine by A. Lofton, General Delivery, Nogales, Arizona. The mine, located near Ruby and south of Arivaca, Arizona, has principal values in lead and copper.

Some necessary changes in the grinding units of the new 300-ton leaching plant of the **Emerald Isle Copper Company** are said to have kept the company from operating at capacity recently. According to reports, the trommel has been found to be unsatisfactory and crushers will be substituted. In addition, heavy rains in the area caused mining operations to be suspended temporarily. The mine is located about 15 miles north of Kingman, Mohave County, Arizona, and C. F. Weeks is general superintendent.

CALIFORNIA

A 250-ton flotation mill to serve the Lilyama copper-gold mine recently was completed and put into operation by the **Pioneer-Lilyama Mines.** The mine is located in the Pilot Hill district of El Dorado County, California. and is operated under lease from the Volo Mining Company. Pioneer-Lilyama Mines formerly operated under the name of the Volo Associates, and the owners of the concern are Mrs. Freda McGill, E. L. Reeves, and O. H. Griggs, general manager, all of Placerville, California. H. Rosborough of Columa, California, is general superintendent, and Reeves serves as chief mining engineer and geologist.

It is reported that reopening of the **Ford** and **Bob** mining properties is being considered. The mines are owned by W. Charles Donaldson, and are located in Eldorado County near Georgetown, California. Values are in copper and gold and considerable development work had been done by Donaldson previously.

Development of the **Brush Creek** mine on the North Fork of the Yuba River near Goodyears Bar, California, is said to be proceeding. Alfred L. Merritt, 3015 Garber Road, Berkeley, California, is preparing the property for an extensive gold mining program as soon as possible. A crew of three men is being employed regularly, and principal development work has consisted of tunneling. The Brush Creek was acquired by Merritt under lease last fall from Fred F. Cassidy, president and manager of the Alpha Hardware and Supply Company, Nevada City, California.

The **Western Metals Company,** which formerly operated manganese property near Ruth in the Mad River mining district, Trinity County, California, is said to have investigated gold and rhodonite properties in Placer County, California, recently. The work was directed by W. H. Snider, 326 Treat Avenue, San Francisco 10, California, general partner and superintendent of the Western Metals Company.

The **Golden Feather Dredging Company** is planning to start dredging operations on a new location on the Middle Fork of the American River in Placer County, California. It is understood that the property has been under lease to the Golden Feather interests for some time. The company recently completed its contract to dredge county land in the Feather River near Oroville, California, a project which was being conducted under special permission from the War Production Board as a flood control program as well as a mining operation. The company has been

employing about 23 men. E. A. Wiltsee, Room 1002, Wells Fargo Bank Building, San Francisco, California, is general manager and S. J. Norris, Jr., is mine superintendent. A. B. Johnsen is assistant mine superintendent.

A portion of the holdings of the **Gold Meadows Mining and Milling Company, Ltd.**, is reported to have been acquired by A. T. Russell, Box 192, Nogales, Arizona. The mine is located in Butte County in the Berry Creek district of California. Russell has been engaged in copper mining in Arizona. The Gold Meadows concern, headed by John W. Ross, 2210 I Street, Sacramento 16, California, formerly conducted extensive gold mining operations in Butte County, but more recently has engaged in asbestos mining in Placer County near Auburn, California.

The **Marsman Company of California** has taken over a copper and zinc deposit located in Hoopa Valley, Siskiyou County, California, from the Scott interests and George Russell, Alameda, California. It is expected that the Marsman concern will operate its new holdings immediately and may install a 100-ton milling plant. Marsman has been engaged in operating the Altoona quicksilver mine near Weaverville, California, under the direction of C. W. Erickson, general manager. J. H. Marsman, Russ Building, San Francisco 4, California, is president.

A lead-silver property located some six miles northeast of Darwin, California, is being developed by Andrew Sundberg, Darwin. The Inyo County deposit is expected to average about $40-per-ton ore, and it is reported that there is approximately $3,000 worth of ore on the dump.

THE OLDTIMERS HAD SOMETHING

The tang of the old frontier is in an incident which recently took place at Fairbanks, Alaska. Ed Hess, 75-year-old Fairbanks miner, who was convicted of second degree murder and given a 15-year sentence, deeded his three lode and two placer mining claims to the University of Alaska. The property is on the ridge between Ester and Cripple Creek in the Fairbanks district, where Hess has worked since 1909. He told college authorities that he always intended to leave his property to the school when he died, but because of present circumstances he is turning it over to them now.

The murder incident involved alleged claim hopping and the ensuing quarrel between two old cronies.

J. B. Girdner, Arcata, California, is continuing operations at two mining properties and is shipping manganese ore regularly to the government stockpile at Arcata. One mine, comprising nine claims, is situated on Post Mountain in Trinity County, California, while the other is on Horse Ridge, also in Trinity County. Girdner is employing a total of 19 men in the mines.

The **American Smelting and Refining Company** is starting a drilling program at the old **Williams** mine in Nevada County about six miles southwest of Grass Valley, California. The Sullivan Machinery Company holds the drilling contract. The Williams mine, comprising some 600 acres, has principal values in lead and silver. The mine was first opened by George H. Hook, Auburn, California, and Thomas E. Farley, Hollywood, California, last year and considerable development work was completed. Workings include a 150-foot tunnel, and an access road to the property recently was completed. J. D. MacKenzie, 405 Montgomery Street, San Francisco 4, California, is general manager of the California operations of American Smelting and Refining, and company headquarters are maintained at 120 Broadway, New York 5, New York.

The **Associated Metals, Inc.**, 611 American Building, Seattle, Washington, has acquired the Pine Grove mine east of Jackson, Amador County, California, and it is expected that gold mining operations will be started as soon as possible. The Pine Grove comprises about 160 slightly developed acres, from which 40 to 50 tons of ore running as high as $80 per ton have been shipped. The property formerly was controlled by Wendall M. Miller and associates. Associated Metals also controls the Oro gold mine near Downieville, California; the Gem of Sparta, Oregon; Lackey quicksilver, Idaho; and the Buena Vista, Oregon. Ira Mahon is manager of operations for the company. E. H. Utter, Columbia Building, Portland, Oregon, is president.

Only maintenance work is being done at the **Farnsworth** hydraulic mine, but it

is expected that regular operations will be resumed as soon as an adequate water supply is available. The mine is owned and operated by Ed McBroom, Cecilville, California. The property is situated in Siskiyou County on the South Fork of the Salmon River near Cecilville.

Huntley Mines of Big Pine, California, is completing work on the mine camp in southern Mono County about 20 miles north of Bishop in the White Mountains of California, and reports that its four-mile access road has been finished. A reduction plant for the treatment of both pyrophyllite and talc will be erected soon. Mining is conducted by open-pit methods at the aluminum silicate deposit, which is said to contain approximately 1,000,000 tons. In addition to the new operation, Huntley Mines also operates the White Eagle talc mine in Saline Valley, California. The company is controlled by Wright H. Huntley, Box 714, Big Pine.

W. W. Williams, mining engineer of Oakland, California, is reported to be planning some prospecting work at the old **Alhambra-Shumway** mine if it is possible to obtain labor. Williams recently took over the property from the Alhambra-Shumway Mines Corporation, which had to suspend mining because of the gold closing order issued by the War Production Board. He expects to make his home at the mine near El Dorado, Eldorado County.

The United States Geological Survey recently released a preliminary report with geologic maps and sections describing the quicksilver deposits in the Harry area of the **New Almaden** mine, located about 13 miles southwest of San Jose, Santa Clara County, California. The preliminary report is only a part of the entire USGS project, as the government agency plans on making a complete survey of the mining district. The survey of the Harry area, which is credited with a production of some 20,000 flasks of quicksilver, was prepared by G. Donald Eberlein and Robert G. Yates, geologists with the survey. Copies of the report may be obtained at a cost of $1.50 per set, upon application to the Director, U. S. Geological Survey, Washington 25, D. C. The mine has been operated for years by the New Almaden Corporation, F. Eugene Newbold, 1515 Locust Street, Philadelphia, Pennsylvania, president. C. N. Schuette, Sharon Building, San Francisco 5, California, is general manager of the company.

COLORADO

During the last six months of 1944 the **California Gulch Milling Company** of Leadville, Colorado, operated its No. 2 plant, a 500-ton mill, but shut down the No. 1 100-ton mill because of the shortage of labor and trucking facilities. During the first half of the year both units were in continuous operation. The company, which is headed by Fred H. Rice of Leadville, produced a lead-copper concentrate, which is sent to the Arkansas Valley smelter, and a zinc concentrate which is shipped to Utah for smelting. Mill feed comes from the Colonel Sellers and Ibex dumps. The staff at Leadville includes S. L. Harner, general manager; L. S. Harner, chief engineer; Pete Kaufman, mill superintendent; and Lon Ledford, master mechanic.

An average of 50 tons of lead-zinc ore daily is being taken out during development work at the **Lucky Strike** and other properties near Kokomo, Colorado, by the **American Smelting and Refining Company.** A crew of 14 men is employed, with Richard E. Mackey of Kokomo as superintendent. Mason W. Rankin, Box 332, Leadville, is company geologist. R. R. Raynolds of 607 First National Bank Building, Denver, is manager of A. S. & R.'s Colorado Department.

A successful year is reported by the operators of the **Fortune** mine four miles east of Leadville, Colorado, during which the deficit resulting from the mine fire late in 1942 was cleared, the RFC loan was repaid, and a margin of profit was reported. An average of 20 men was employed throughout the year and development work was started in August. From January 1, 1944, to November 30, the mine produced 15,250 dry tons from which were recovered 2,061,000 pounds of zinc; 1,132,000 pounds of lead; $29,300 worth of gold; and $3,750 worth of silver. Paul R. Clark is manager and Floyd L. Heggie is chief clerk, both of Leadville. Ar-

BUREAU OF MINES* releases

Metal Production Figures for 1944

Preliminary figures indicate that the mine production of gold, silver, copper, lead, and zinc, in the Western United States and Alaska in 1944 had a total value of $407,816,036, compared to $448,630,530 in 1943. The shortage of skilled labor for mines and reduction plants was the major factor in the decline in output of all five metals. Arizona continued as the leading copper producing state; Utah ranked first in gold output; and Idaho lead all of the western states in the production of silver, lead, and zinc.

ARIZONA

ARIZONA ores and gravels in 1944 yielded gold, silver, copper, lead, and zinc valued at $112,209,100, a 7 per cent loss from 1943. The output of gold, silver, and copper decreased, but that of lead and zinc increased.

The outstanding features of the year in metal mining in Arizona were the completion in January of the work of increasing the capacity (from 25 000 to 45,000 tons of ore a day) of the copper concentrator and smelter at the Morenci property of the Phelps Dodge Corporation; the large production of zinc-lead ore from the Copper Queen mine at Bisbee and the San Xavier mine south of Tucson; the loss of about 4,000,000 pounds of copper a month during the last quarter of the year from the Inspiration Consolidated Copper Company property at Inspiration, caused by a fire in October which destroyed the electrolytic plant; the fire on Labor Day which destroyed the shaft, ore bins, primary crushing unit, etc., at the zinc-lead property of the Mammoth-St. Anthony, Limited, at Tiger; the suspension of operations in July at the Duquesne zinc-lead mine near Patagonia by the Callahan Zinc-Lead Company; and the closing in October of the zinc-lead property of the Tennessee-Schuylkill Corporation at Chloride.

The primary obstacle in the mining industry in the western states in 1944 was the continued shortage of labor. It was especially acute in Arizona due to the fact that the state has seven large copper-producing districts and six copper smelters. Copper production in Arizona reached the highest rate of about 72,500,000 pounds in March and dropped to the lowest rate of about 45,700,000 pounds in November.

Six copper smelters were active in 1944 —at Clarkdale, Douglas, Hayden, Miami, Morenci, and Superior; the total rated capacity of these smelters is about 4,750,000 tons of charge per year, but the charge in 1944 was much less than that in 1943. The Mammoth-St. Anthony, Limited, closed its 20-ton lead smelter at Tiger in July as the company decided to suspend the mining of oxide ore and confine its entire operations to the mining and milling of sulphide zinc-lead ore. The lead concentrate produced from oxide ore is treated in the company smelter, and the lead concentrate produced from sulphide ore is shipped to a lead smelter at El Paso, Texas. Zinc concentrates produced at mills in Arizona in 1944 were shipped to smelters at Amarillo, Dumas, and Corpus Christi, Texas, and Bartlesville and Henryetta, Oklahoma.

Production in 1944 (in terms of recoverable metals) was 116,500 fine ounces of gold, 4,464,000 fine ounces of silver, 716,500,000 pounds of copper, 33,000,000 pounds of lead, and 56,600,000 pounds of zinc. These figures compare with an output in 1943 of 171,810 ounces of gold, 5,713,889 ounces of silver, 806,362,000 pounds of copper, 27,454,000 pounds of lead, and 39 354,000 pounds of zinc, indicating decreases in 1944 of 55 310 ounces in gold, (32 per cent), 1,249 889 ounces in silver (22 per cent), and 89,862,000 pounds in copper (11 per cent), but increases of 5,546,000 pounds in lead (20 per cent), and 17,246,000 pounds in zinc (44 per cent). The preliminary figures for 1944 are based on actual mine production reported by operators and receipts at smelters and the United States mints covering 10 months, with November and December production calculated from other sources of information.

At the average prices used by the Bureau of Mines, the gross calculated value of the output of these metals in Arizona in 1944, with comparative figures for 1943 in parentheses, was: Gold, $4,077,500 ($6,013,350); silver, $3,174,400 ($4,063,210); copper, $96,011,000 ($104,827,060); lead, $2,607,000 ($2,059,050); and zinc $6,339 200 ($4,250,232)—a total of $112,209,100 in 1944 compared with $121,212,902 in 1943.

The price of gold ($35 per ounce) and silver ($0.711+ per ounce), fixed by the United States Government, remained the same throughout 1944. The average weighted yearly price of copper was $0.134 in 1944 compared with $0.13 in 1943, lead $0.079 compared with $0.075, and zinc $0.112 compared with $0.108. The average weighted price of copper, lead, and zinc in 1944 includes that portion of total sales paid for at premium rates.

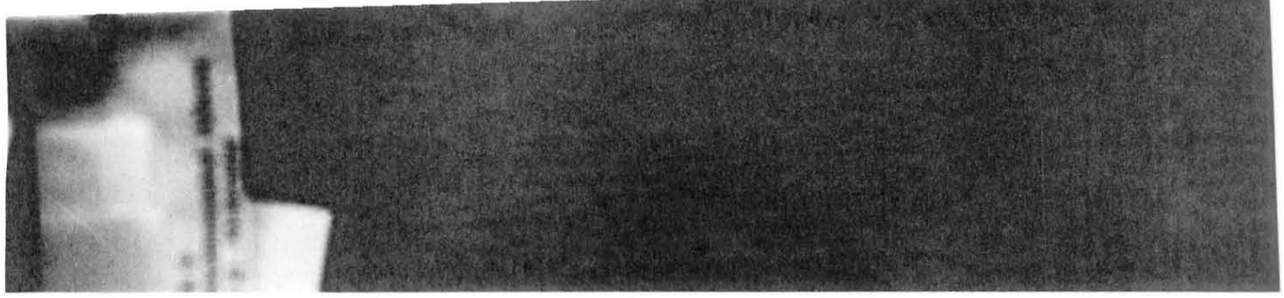
About 78 per cent of the gold and 66 per cent of the silver produced in Arizona in 1944 were recovered from copper ore mined at Bisbee, Ajo, Jerome, Superior, Morenci, and Miami. The rest of the gold came largely from gold-lead ore and zinc-lead ore from property in the Old Hat district and zinc-lead ore from a mine in the Big Bug district. Most of the remaining silver came from zinc-lead ore from Big Bug, Harshaw, Pima, Warren (Bisbee), and Old Hat districts, zinc-copper ore from the Pioneer district, silver ore from the Ash Peak district and siliceous gold-silver ore from the Verde district.

There was a marked decrease in production of gold from copper ore and siliceous gold ore, but that from zinc-lead ore increased. The output of gold from placers declined from 319 in 1943 to about 200 ounces in 1944. The largest producers of gold in Arizona in 1944 were the Copper Queen, New Cornelia, United Verde, Magma, Mammoth-St. Anthony, Morenci, Iron King, and Denn mines; these eight properties produced 85 per cent of the state's total. The Warren (Bisbee) district produced about 39,300 ounces of gold in 1944, a decrease of 17,742 ounces from 1943; the Ajo district ranked second with 29,850 ounces, a decrease of 15,258 ounces; the Verde district was third with 8,630 ounces, a decrease of 9,487 ounces; the Pioneer (Superior) district was fourth with 6,870 ounces, a decrease of 2,270 ounces; and the Old Hat (Mammoth) district was fifth with 6,000 ounces, a decrease of 10,164 ounces.

The decrease of 22 per cent in output of silver in Arizona in 1944 resulted largely from a decline in production of silver from the Copper Queen, United Verde, New Cornelia, and Magma properties. About 67 per cent of the state's silver output in 1944 came from the Copper Queen, United Verde, New Cornelia, and Morenci mines of the Phelps Dodge Corporation and the Magma mine; other large producers were the Iron King, Trench-Flux, San Xavier (Eagle-Picher Mining and Smelting Company), Castle Dome, (Miami Copper Company), Denn, and Mammoth-St. Anthony properties. The output of silver from the Warren district decreased from 2,252,250 ounces in 1943 to about 1,620,000 ounces in 1944; the Verde district from 1,036,194 to 600,000 ounces, the Ajo district from 478.284 to 323,000 ounces, and the Pioneer (Superior) district from 476,751 to 370,000 ounces.

Arizona continued as the largest copper-producing state, but its output in 1944

*Reports on Arizona, Idaho, Montana, Utah, and Washington prepared by George E. Woodward and Paul Luff, Salt Lake City Office, Metal Economics Division, Economics and Statistics Branch: those on California, Nevada, and Oregon by Charles White Merrill, San Francisco Office, Metal Economics Division, Economics and Statistics Branch; those on Colorado, New Mexico, South Dakota, and Texas by Charles W. Henderson, R. H. Mote, and R. V. Cushman of the Denver Office, Metal Economics Division, Economics and Statistics Branch.



(716,500,000 pounds) was 11 per cent less than that in 1943. This loss resulted principally from an acute labor shortage throughout the year in each of the seven large copper-producing districts; however, the output of copper in the Copper Mountain (Morenci) district increased 27 per cent over that in 1943, owing to the completion in January 1944 of an additional concentration unit at the Morenci mill of the Phelps Dodge Corporation. The Morenci mine was by far the largest producer of copper in Arizona in 1944; it was followed by the New Cornelia, Inspiration, Copper Queen, Miami, Nevada Consolidated (Ray mine), United Verde, Castle Dome, Magma, Bagdad, and Denn properties; these 11 mines accounted for about 705,000,000 pounds, compared with 11 mines producing 796,239,857 pounds in 1943, or 98 per cent of the state total.

The Copper Mountain (Morenci) was the chief copper-producing district in Arizona in 1944, its output increasing from 168,-694,400 pounds in 1943 to 213,300,000 pounds in 1944; the Globe (Inspiration-Miami) district was second, its output decreasing from 201,026,600 to 190 000,000 pounds; the Ajo district ranked third, decreasing from 140,138,000 to about 92,-800,000 pounds; the Warren district ranked fourth, decreasing from 101,572,-900 to 65,700,000 pounds; and the Mineral Creek (Ray) district ranked fifth, decreasing from 74,868,400 to about 54,-600,000 pounds. The output from the Verde district decreased from 68 467,100 to 51,000,000 pounds, and that from the Pioneer (Superior) district from 37,640,-000 to about 26,000,000 pounds.

The output (33,000,000 pounds) of lead in Arizona in 1944 was 20 per cent greater than in 1943. This gain was due chiefly to the marked increase in output of zinc-lead ore from the Copper Queen mine at Bisbee, the San Xavier mine south of Tucson, and the Mammoth-St. Anthony property at Tiger; the latter group was the largest producer of lead in Arizona in 1944, although it was shut down for three months as a result of a fire. Other large producers of lead were the Copper Queen mine of the Phelps Dodge Corporation, San Xavier (Eagle-Picher Mining and Smelting Company), Trench-Flux, Iron King, Arizona Lead Company (DeLuce group northeast of Yuma), Tennessee-Schuylkill, and "79" properties. About 83 per cent of the lead output in 1944 was recovered from zinc-lead ore and the rest largely from lead or gold-lead ores.

The output (56,000,000 pounds) of zinc in Arizona in 1944 exceeded the record output of 1943 by 44 per cent and resulted principally from a notable increase in output from the Copper Queen and San Xavier mines. These two properties produced nearly 45 per cent of the state's zinc output in 1944. Other large producers of zinc were the Iron King, Magma, Mammoth-St. Anthony, Trench-Flux, Duquesne, and Tennessee-Schuylkill properties. About 82 per cent of the zinc output in 1944 was recovered from zinc-lead ore, nearly 14 per cent from zinc-copper ore, and the remainder from zinc-lead-copper ore.

The output of ore and old tailings in Arizona in 1944 was about 35,000,000 tons, a decrease of 1,630,788 tons from 1943. Most of the loss was in copper from the Ajo, Warren (Bisbee), Verde, Mineral Creek (Ray), and Pioneer (Superior) districts; the total output of copper ore decreased from 36,022,080 to about 34,400,-000 tons. There was also a decrease in output of siliceous gold ore, gold-silver ore, silver ore, lead ore, and zinc-lead-copper ore, but a marked increase in zinc-lead ore.

CALIFORNIA

CALIFORNIA gold production in 1944 fell below that of any year since 1848, the year James W. Marshall made his historic discovery in the gravels of the American River near Coloma. Preliminary figures show California gold production in 1944 as 113,500 fine ounces valued at $3,972,500 compared with 148,328 fine ounces valued at $5,191,480 in 1943. The 1944 output was less than 8 per cent of that for 1940, the recent peak year. Production of lead also was lower in 1944 than in 1943, but silver, copper, and zinc outputs were larger.

Mines in California yielded (in terms of recovered metals) 113,500 fine ounces of gold, 763,300 fine ounces of silver, 24,-150,000 pounds of copper, 11,070,000 pounds of lead, and 15,770,000 pounds of zinc. These preliminary figures are based on 10 months mine production with November and December production estimated from reports of anticipated shipments and receipts by operators of mines, refineries, and smelters. The total value of the five metals in 1944 was $10.392,161 compared with $9,176,616 in 1943, an increase of 13 per cent.

A study of monthly gold output from California mines shows that a high point was reached in December 1940 after which a steady decline set in that accelerated after June 1941. By January 1943 the rapid decline was arrested and production continued at a low level throughout 1943 and 1944.

Although complete data for classifying gold production are not available, it appears that placer mines contributed approximately 65 per cent of the 1944 output and lode mines 35 per cent, compared with a placer-lode ratio of 60 per cent to 40 per cent in 1943. Placer mining had not provided so large a proportion of California gold output since before the Sawyer decision of 1884, when unrestricted hydraulicking was a major factor in the state's gold production. Most of the placer production in 1944 came from seven connected-bucket dredges which operated under War Production Board permits that limited the crews to older men not suitable for other work and made little provision for repair parts.

The Yuba Consolidated Gold Fields which has a fleet of six dredges in the Yuba River district, Yuba County, as well as dredges in other parts of the state, operated two of them in the Yuba River district during 1944. The Natomas Company, which has a fleet of seven dredges in the Folsom district, Sacramento County, operated two of them during 1944. Companies that operated one dredge each in 1944 were the Oroville Gold Dredging Company, Oroville district, Butte County; the Gold Hill Dredging Company, Camanche district, San Joaquin County; and the Tuolumne Gold Dredging Company, La Grange district, Stanislaus County. The state's only productive dragline dredge was operated by the Golden Feather Dredging Company in the Oroville district, Butte County. The Goldfield Consolidated Mines Company carried on the state's only large hydraulic operation in 1944 at the Red Hill mine, Junction City district, Trinity County. Gold produced by the Morris Ravine Mining Company during maintenance work at its mine in the Oroville district, Butte County, made this property the state's leading drift mine in 1944. The Columbia Construction Company shipped a substantial quantity of gold recovered as a byproduct in the preparation of concrete aggregate from Sacramento River gravel at Redding for the construction of Shasta Dam. Small lot shipments of placer gold, many of which are handled by gold buyers, dwindled to a very low level.

Gold production at lode mines suffered even more seriously than at placers in 1944 compared with former years. The decline at lode mines would have been even greater had it not been for the byproduct gold from base metal mines stimulated by war needs. Whereas in former peace years, over 90 per cent of the lode gold had been derived from gold ores, preliminary figures indicate that less than 70 per cent had that source in 1944. The remaining 30 per cent was recovered from ore mined primarily for copper, zinc, lead, tungsten, and other base metals.

Approximately two-thirds of the gold from gold ore produced in California in 1944 was mined in the Grass Valley-Nevada City district, Nevada County, where production was greatly expanded after special permits for limited operations were granted early in 1944 to the Empire Star Mines Company, Ltd., and the Idaho Maryland Mines Corporation by the War Production Board. In the Mother Lode counties, the larger shipments of gold derived from gold ore were made by the Mount

THE MISCELLANEOUS METALS OVERSHADOW BIG FIVE

In his report on California mineral production in 1944, Walter W. Bradley, state mineralogist, estimated the value of the miscellaneous metals produced in California in 1944 at $13,541,000. Metals included in this group are: chromite, iron ore, manganese ore, molybdenum ore, tungsten ore, platinum group metals, and quicksilver. Quicksilver production was given as 24,250 flasks, with a total value of $2,716,000. The estimated value of the gold, silver, copper, lead, and zinc produced in 1944 is $10,392,000.

In 1943, gold, silver, copper, lead, and zinc production in California was valued at $54,268,690. Of that total, gold accounted for $50,948,485.

Gaines Mining Company, Hunter Valley district, Mariposa County; Eagle Shawmut Mine, Mother Lode district, Tuolumne County; and Schroeder, Odgers, and Schroeder, East Belt district, Mariposa County. The Original Sixteen-to-One Mine, Inc., shipped bullion from the Original Sixteen-to-One mine, Alleghany district, Sierra County, until August 1944. F. W. Royer shipped gold-bearing siliceous flux from the Bagdad-Chase mine, Buckeye district, San Bernardino County. Smaller shipments were reported from a number of other operations.

Mines operated chiefly for base metals, that yielded more than 1,000 ounces of gold in 1944, included the Dakin mine, Klamath River district, Siskiyou County, worked by the Gray Eagle Copper Company; the Columbia No. 2 mine, Resting Springs district, Inyo County, worked by the Shoshone Mines, Inc.; the Blue Moon mine, Hunter Valley district, Mariposa County, worked by the Red Cloud Mines, Inc.; and the Quail Hill mine, West Belt district, Calaveras County, worked by G. Ivan Smith.

California silver production in 1944 was 763,300 fine ounces valued at $542,791 compared with 609,075 ounces valued at $433,120 in 1943. Almost one-half of the 1944 silver production was derived from argentiferous lead ores. The principal producers were Darwin Mines (Imperial Metals, Inc., prior to March 1943) which operated a group of mines including the Essex, Independence, and Columbia in the Darwin section of the Coso district, and the Shoshone Mines, Inc., which operated the Columbia No. 2 mine, Resting Springs district, Inyo County. Both companies shipped lead ore to smelters, but the former also shipped silver-bearing zinc concentrates produced at the company's reconstructed flotation mill. Much of the rest of California's 1944 silver was produced from other base metal ores including copper-zinc, zinc, tungsten, lead-zinc, and copper ores.

The production of copper, lead, and zinc in California in 1944 continued to react favorably to the various subsidies for these important war metals. Copper output in 1944 was 24,150,000 pounds, valued at $3,236,100 compared with 17,524,000 pounds valued at $2,278,120 in 1943, and the largest in both quantity and value since 1930. Lead production in 1944 was 11,070,000 pounds valued at $874,530 compared with 11,640,000 pounds valued at

$873,000 in 1943. California zinc output in 1944 was 15,770,000 pounds valued at $1,766,240 compared with 3,712,000 pounds valued at $400,896 in 1943; 1944 production was the largest in quantity since 1926 and exceeded in value every year except 1916. It should be noted that almost all of the important California producers of these three metals had qualified for one or more bonuses, so that the average prices and values for the state were actually substantially higher than the national averages at which all values have been computed.

Almost two-thirds of the state's copper output was produced from the Dakin mine, Klamath River district, Siskiyou County, by the Gray Eagle Copper Company, an affiliate of the Newmont Mining Corporation. The Keystone Copper Corporation, the second largest copper producer in the state, continued mining at the north shaft of the Keystone mine, Copperopolis district, Calaveras County, and trucked the ore to the nearby Gold King mill which had been converted to a copper concentrator employing flotation. The Mountain Copper Company continued mining the Mattie zinc-copper ore body at the Hornet mine, Flat Creek (Iron Mountain) district, Shasta County, making shipments of copper and zinc concentrates. During 1944, the Winston Copper Company arranged to have some members of the staff of the Pacific Mining Company (Pine Tree and Josephine gold mine) assume management of the Newton copper mine, Ione district, Amador County; smelter shipments of copper ore have been increasing under the new direction. The Pacific Mining Company was also operating a flotation plant on the old tailings of the Union mine, Copperopolis district, Calaveras County, and shipping copper concentrates.

Darwin Mines, operator of a group of mines in the Darwin section of the Coso district, Inyo County, and Shoshone Mines, Inc., operator of the Columbia No. 2 mine, Resting Springs district, Inyo County, were nearly equal contributors to California's lead output in 1944, and together they accounted for three-fifths of the state's lead production. The Darwin Mines' flotation mill, built in 1942, was redesigned during 1943 and commenced to produce zinc concentrates early in 1944. Most of the lead, however, was recovered from direct smelting ore. L. D. Foreman, one of the state's smaller lead producers, also operated in the Coso district, and shipped old slag accumulated at the Last Chance mine in the early days. Damon and Damon increased its shipments of zinc-lead ore from the Gold Bottom mine, Slate Range district, Inyo County. During the year, this company reopened the adjacent Ophir mine and reconstructed there, the mill formerly operated by the Mineral Reduction Company at Benton Station.

Most of the zinc produced in California in 1944 came from mines that had begun production since Pearl Harbor and many of them since January 1, 1943. The largest producer in 1943, G. Ivan Smith, operator of the Quail Hill mine, West Belt district, Calaveras County, began regular shipments of zinc-copper ore in March 1943 but suspended operations late in 1944 after a much smaller zinc output in 1944 than in 1943. The leading producer in 1944 was the Red Cloud Mines, Inc., an operating subsidiary of the Hecla Mining Company of the Coeur d'Alene district, Idaho, which commenced shipping concentrates in January 1944; ore mined at the Blue Moon mine. Hunter Valley district, Mariposa County, was treated at the nearby converted Jenny Lind gold mill. Labor shortage curtailed the operation from a daily capacity of 225 tons of ore to 500 tons weekly.

The second largest zinc producer, Hoefling Bros., operator of the Big Bend mine, Yankee Hill district, Butte County, began shipping zinc and copper concentrates in May 1943. This company, after closing the Surcease gold mine, had opened the nearby Big Bend zinc-copper prospect and converted its mill from cyanide to selective flotation. Production of zinc concentrates by the Mountain Copper Company, Ltd., from ore of the Mattie ore body in the Hornet mine, Flat Creek (Iron Mountain) district, Shasta County, started in July 1943 and continued throughout 1944. Dewatering operations at the Penn mine, Campo Seco district, Calaveras County, completed during 1944, permitted the mining of copper-zinc ore by Clemson and Miller; the ore is being shipped to the Eagle Shawmut gold mill on the Mother Lode in Tuolumne County for treatment.

SOME STATISTICS ON 1942, 1943, AND 1944 PRODUCTION OF GOLD, SILVER, COPPER, LEAD, AND ZINC IN THE WESTERN UNITED STATES

	Gold—Fine Ounces			Silver—Fine Ounces			Copper—Pounds		
State	1942	1943	1944	1942	1943	1944	1942	1943	1944
Alaska	487,621	99,583	50,840	119,704	42,788	14,502	44,000	54,000	6,000
Arizona	253,651	171,810	116,500	7,064,467	5,713,889	4,464,000	786,774,000	806,362,000	716,500,000
California	847,997	148,328	113,500	1,450,440	609,075	763,300	2,116,000	17,524,000	24,150,000
Colorado	268,627	137,558	113,727	3,096,211	2,664,142	2,206,364	2,204,000	2,056,000	2,086,000
Idaho	95,020	30,808	24,800	14,644,890	11,700,180	9,891,000	6,860,000	4,648,000	3,750,000
Montana	146,892	59,586	48,390	11,188,118	8,450,370	7,078,500	282,388,000	269,050,000	236,876,000
Nevada	295,112	144,442	117,200	3,723,435	1,620,280	1,233,000	167,326,000	142,136,000	119,900,000
New Mexico	11,961	5,563	6,914	676,170	463,583	536,220	160,200,000	152,326,000	144,082,000
Oregon	46,233	1,097	1,050	87,376	10,523	14,850	206,000	12,000	20,000
South Dakota	522,098	106,444	10,841	186,937	35,886	5,296	2,000	.....	2,000
Texas	236	4	.....	672,781	10,284	5,556	198,000	162,000	264,000
Utah	391,544	390,470	338,560	10,574,955	9,479,340	7,760,700	613,382,000	647,978,000	562,760,000
Washington	75,396	65,244	47,370	369,038	370,440	312,300	16,060,000	14,630,000	12,240,000

COLORADO

MINES in Colorado yielded 113,727 fine ounces of gold, 2,206,364 fine ounces of silver, 2,086,000 pounds of copper, 34,382,000 pounds of lead, and 75,666,000 pounds of zinc in 1944. Production in 1943 was 137,558 fine ounces of gold, 2,664,142 fine ounces of silver, 2,056,000 pounds of copper, 36,064,000 pounds of lead, and 88,188,000 pounds of zinc. These figures indicate decreases in 1944 of 23,831 ounces of gold (17 per cent), 457,778 ounces of silver (17 per cent), 1,682,000 pounds of lead (5 per cent), and 12.522,000 pounds of zinc (14 per cent). The production of copper increased 30,000 pounds (1 per cent) over 1943.

At average prices used by the Bureau of Mines, the calculated gross value of the output of these metals in 1944 was: Gold $3,980,445, silver $1,568,970, copper $279,524, lead $2,716,178, and zinc $8,474,592—a total value of $17,019,709. In 1943 the total gross value was $19,205,415, indicating a decrease from 1943 of $2,185,706 (11 per cent) in the total value of gold, silver, copper, lead, and zinc mined in Colorado in 1944.

The outstanding features of nonferrous metal mining in Colorado in 1944 were the marked increase in the output of zinc and lead in Lake County, the largest production of any year since 1930; the successful development program of the Black Bear mine in San Miguel County, carried out by the Idarado Mining Company through extension of the Treasury tunnel, which opened up a large potential source of zinc-lead ore; and the custom milling program of the Resurrection Mining Company which stimulated the mining of zinc-lead ore in Summit and Lake counties by providing a market for ore economically unprofitable for direct smelting.

The shortage of labor at the mines and mills of Colorado in 1944 was more critical than at any time since the entry of the United States into World War II and was the greatest single cause for the decline in the Colorado output of base and precious metals. Absenteeism was present in varying degrees of severity at virtually every producing property. Some of the larger operators reported absenteeism as high as 15 per cent during certain periods of the year.

The gross value of production from Boulder County in 1944 was 58 per cent less than in 1943 and was the lowest in value for any year since 1931. Only about 10 mines were in operation during the year. In contrast the gross value of the mineral production in Chaffee County in 1944 was almost double that of 1943. The largest producer of gold, silver, copper, and zinc was the Garfield mine, operated continuously throughout the year by the Burleson Brothers. In Clear Creek County the output of lead and zinc increased slightly in 1944, but the gross value of mineral production decreased 42 per cent.

The gross value of metal produced in Dolores County in 1944 increased 26 per cent over 1943, but the output of zinc increased 29 per cent. The Rico Argentine Mining Company operated its group of mines and 135-ton selective-flotation mill continuously and shipped lead concentrates to Leadville and zinc concentrates to Amarillo, Texas.

In Eagle County, the output of zinc decreased 32 per cent in 1944, but the county is still ranked as first among Colorado counties in the production of that metal. In fact, the county produced about 52 per cent of the total output of zinc in Colorado in 1944. The New Jersey Zinc Company, Empire Zinc Division, operated its Eagle mine and 600-ton underground flotation mill continuously in 1944.

The Golden Cycle mill at Colorado Springs operated throughout the year on company and custom ores from nearly all mining districts in the state; about 220,000 tons of ore were treated in 1944, compared with 287,939 tons in 1943. The 500-ton selective-flotation unit of the mill handled zinc-lead sulphide ores from Boulder, Clear Creek, Chaffee, Custer, Fremont, Gilpin, Gunnison, Lake, Park, Pitkin, Saguache, San Juan, and Summit counties. About 107,000 tons of these complex ores were treated in 1944 as compared with 61,031 tons in 1943. In addition, the mill also handled about 113,000 tons of company and custom gold-(silver)-sulphotelluride ores from the Cripple Creek district of Teller County—a 50 per cent decrease from the amount treated in 1943.

The production of all metals, with the exception of gold, increased in Lake County in 1944. The output of recovered zinc and lead was the largest of any year since 1930. American Smelting and Refining Company operated its Arkansas Valley lead bullion-leady copper matte smelter continuously (one furnace) in 1944 on ores and concentrates purchased from operators in virtually every mining district in Colorado.

The Resurrection Mining Company maintained continuous production at its Resurrection mine and 800-ton (daily) selective flotation mill during the year. The mill also treated custom ore from shippers in Lake and Summit counties. The Ore and Chemical Company's 1,000-ton (daily) "sink and float" mill was operated continuously in 1944 on ore from the South Moyer, Tucson, Accident, and Colonel Sellers dumps, shipping the bulk concentrates to the Golden Cycle mill for selective flotation. The California Gulch Mining and Milling Company operated its two mills throughout the year on ores from the Ibex mine and dump, the Fortune mine, and the Colonel Sellers dump. The John Hamm Mining and Milling, Ltd., milled ore from the Wolftone and Maid of Erin dumps.

Tunneling operations on the new Leadville drainage tunnel were continued on a three-shift basis throughout the year. Progress has been slower than expected, due to the fractured and broken nature of the rocks, and it has been necessary to gunite and concrete the walls of the tunnel at some points to consolidate the rocks and check the flow of water.

Most of the crude ore produced in Mineral County was treated in the 100-ton flotation mill of the Emperius Mining Company. Crude smelting ore was also shipped to Leadville from the Amethyst, Commo-

SOME STATISTICS ON 1942, 1943, AND 1944 PRODUCTION OF GOLD, SILVER, COPPER, LEAD, AND ZINC IN THE WESTERN UNITED STATES

	Lead—Pounds			Zinc—Pounds			Total Value in Dollars		
State	1942	1943	1944	1942	1943	1944	1942	1943	1944
Alaska	830,000	400,000	124,000	.....	.....	.....	$ 17,212,792	$ 3,552,852	$ 1,800,314
Arizona	29,544,000	27,454,000	33,000,000	37,044,000	39,354,000	56,600,000	114,525,600	121,212,902	112,209,100
California	10,302,000	11,640,000	11,070,000	1,226,000	3,712,000	15,770,000	31,771,607	9,176,616	10,392,161
Colorado	30,362,000	36,064,000	34,382,000	64,430.000	88,188,000	75,666,000	19,896,623	19,205,415	17,019,709
Idaho	227,818,000	192,914,000	161,000,000	174,512,000	173,414 000	172,000,000	46,063,326	43,199,910	40,387,100
Montana	40,100,000	32,648.000	27,932,000	109,430,000	75,212,000	73,140,000	60,129,853	53,642,658	48,866,942
Nevada	10,752,000	9,580.000	13,740,000	20,394,000	27,294,000	41,750,000	35,840,168	28,351,601	26,806,860
New Mexico	9,216,000	11,446,000	14,402,000	92,922,000	119,048,000	105,166,000	29,542,885	34,042,378	32,846,640
Oregon	46,000	8,000	6,000	.....	.....	.....	1,708,297	48,038	50,464
South Dakota	170,000	82,000	68,000	230,000	92,000	112,000	18,439,385	3,767,145	401,385
Texas	362,000	26,000	.....	.....	.....	.....	534,894	30,463	38,271
Utah	143,860,000	130,514,000	104,500,000	91,086,000	93,792,000	79,000,000	113,552,848	124,562,540	109,881,660
Washington	9,702,000	10,044,000	11,864,000	28,796,000	24,406,000	23,732,000	8,172,609	7,838,012	7,115,430

1942—Average Metal Values

Gold (per ounce)	$35.00
Silver (per ounce)	0.711
Copper (per pound)	0.121
Lead (per pound)	0.067
Zinc (per pound)	0.093

1943—Average Metal Values

Gold (per ounce)	$35.00
Silver (per ounce)	0.711
Copper (per pound)	0.13
Lead (per pound)	0.075
Zinc (per pound)	0.108

1944—Average Metal Values

Gold (per ounce)	$35.00
Silver (per ounce)	0.711
Copper (per pound)	0.134
Lead (per pound)	0.079
Zinc (per pound)	0.112

aore Lease, and Happy Thought mine. In Ouray County, the production of all metals except gold increased in 1944. The largest producer in the county was the Camp Bird mine and 100 to 125-ton amalgamation-flotation mill operated by King Lease, Inc.

In San Juan County in 1944, the Shenandoah-Dives Mining Company continued to operate as a single unit its consolidated group of claims on King Solomon Mountain and the Silver Lake group leased from the American Smelting and Refining Company. The ore mined and custom ore from other properties in San Juan County were milled in the company's 700-ton selective-flotation mill on the Animas River near Silverton. Denver Equipment Company operated the 100-ton Pride of the West selective-flotation mill at Howardsville continuously in 1944 on company ore from the Pride of the West group.

The largest producer in San Miguel County was the Telluride Mines, Inc., which operated its 550-ton amalgamation and gravity and flotation-concentration mill at Pandora throughout the year. Alta Mines, Inc., continued to operate its 100-ton gravity and flotation-concentration mill on ore from the Alta-St. Louis group. Sunshine Mining Company, as agent for the Metals Reserve Company, continued the development program at the Treasury tunnel which was extended in 1943 to intersect the Black Bear vein beneath the old Black Bear workings in Ingram Basin on the Telluride side of Columbia Mountain. On July 1, 1944, the Idarado Mining Company, owner of the Black Bear mine and Treasury tunnel, liquidated all advances made by the Metals Reserve Company and assumed complete control of its property. Rehabilitation of the 250-ton mill at the portal of the tunnel was in progress the latter part of the year and milling of stockpiled ore was expected to begin during January 1945.

In Summit County, the production of copper and lead decreased, but output of other metals increased. The Wilfley Leasing Company operated its Wilfley mine at Kokomo continuously in 1944 and shipped crude milling ore to the Resurrection mill at Leadville. The Wilfley 75-ton selective-flotation mill was not operated during the year. Control of the Washington and Hancock group (known as the Lucky Strike) was acquired by American Smelting and Refining Company on February 28, 1944, under a purchase contract. Rehabilitation of the Cole-Peterson (Victory) tunnel to open the vein at greater depth was completed during the summer and in September the company began regular shipments of crude milling ore to the Resurrection mill. The Kokomo-Kimberly Mines, Inc., operated the Kimberly property throughout the year.

The Cripple Creek district of Teller County yielded 29 per cent of the total gold production of the state in 1944. The quantity of gold recovered, however, was only 72 per cent of that of 1943. The crude ore, all dry gold containing some silver, was sent to the Golden Cycle mill. The prominent producing mines were: Stratton Estate group, United Gold Mines, Ajax, Anchoria, and Cresson.

IDAHO

IDAHO ores and gravels in 1944 yielded gold, silver, copper, lead, and zinc valued at $40,387,100, a 7 per cent loss from 1943. The output of each metal was less than that in 1943; gold declined more than 19 per cent, silver 15 per cent, copper 19 per cent, lead more than 16 per cent, and zinc nearly 1 per cent.

The outstanding features of the year in metal mining in Idaho were the marked increase in output of zinc from the Bunker Hill and Sullivan zinc slag-fuming plant at Bradley and the zinc-lead tailing plant at Osburn operated by the Hecla Mining Company; the large output of silver-lead ore produced from the Chester, Polaris, Silver Dollar, and Silver Syndicate mines in the Coeur d'Alene region by the Sunshine Mining Company; the notable decrease in output of silver, lead, and zinc from the Hecla mine at Burke, resulting from the closing of the mine in July owing to the exhaustion of commercial ore; the suspension (temporarily) in March of mining silver-antimony ore from the Sunshine mine near Kellogg, which resulted in the closing of the company's electrolytic antimony plant; the marked decrease in output of silver-copper-antimony ore from the Mineral Point (Coeur d'Alene Mines Corporation) mine near Osburn; and the general decrease in output of zinc-lead ore from most of the mines in the Coeur d'Alene region, caused by an acute shortage of labor. Labor became so scarce during the summer and fall months that some of the companies had to curtail their output of ore as much as 50 per cent. At the present time (December 1944) about 2,000 miners are needed at the base metal mines in Idaho.

Idaho has one lead smelter and refinery —the Bunker Hill and Sullivan Mining and Concentrating Company plants at Bradley. The annual rated capacity of the smelter is 225,000 tons of feed per year, but in 1944 the plant was operated below capacity on crude ore and concentrates chiefly from mines and mills in the Coeur d'Alene region. The company also operated its antimony, bismuth, and zinc slag-fuming plants at Bradley. In 1944 the zinc slag-fuming plant treated about 150,000 tons of hot current slag and reclaimed cold slag, which produced 23,500 dry tons of zinc fume and 4,200 tons of lead fume; in 1944 it became the largest producer of zinc in the state. The Sullivan Mining Company operated continuously at capacity its 100-ton electrolytic zinc plant (450-cell) near Bradley on zinc and zinc-lead concentrates produced mainly from concentration mills in the Coeur d'Alene region. The Metals Reserve Company and the Sullivan Mining Company continued to stockpile zinc concentrates at Bradley, which came chiefly from the Star mill. In September the Bunker Hill and Sullivan Mining and Concentrating Company began stockpiling zinc concentrates near its mill at Kellogg.

Antimony, tungsten, and antimony-gold concentrates were produced throughout 1944 in the 600-ton mill of the Bradley Mining Company at Stibnite and tungsten cencentrates and silver-copper-lead concentrates were produced in the 200-ton Ima mill at Patterson. The Hecla Mining Company operated continuously its 2,500-ton sink-float-flotation plant at Osburn on old zinc-lead tailings. The sink and float unit screened and cleaned about 502,000 tons of old tailings in 1944; part of the resulting zinc-lead middling was treated in the flotation unit at the plant and part was shipped to the Hecla and Polaris flotation mills where it was separated into lead concentrates and zinc concentrates.

Production in 1944 (in terms of recoverable metals) was 24,800 fine ounces of gold, 9,891,000 fine ounces of silver, 3,750,000 pounds of copper, 161,000,000 pounds of lead, and 172,000,000 pounds of zinc. These figures compare with an output in 1943 of 30,808 ounces of gold, 11,700,180 ounces of silver, 4,648,000 pounds of copper, 192,914,000 pounds of lead, and 173,414,000 pounds of zinc.

At the average prices used by the Bureau of Mines, the gross calculated value of the output of these metals in Idaho in 1944, with comparative figures for 1943 in parentheses, was: Gold, $868,000 ($1,078,280); silver $7,033,600 ($8,320,128); copper, $502,500 ($604,240); lead $12,719,000 ($14,468,550); and zinc $19,264,000 ($18,728,712)—a total of $40,387,100 in 1944 compared with $43,199,910 in 1943.

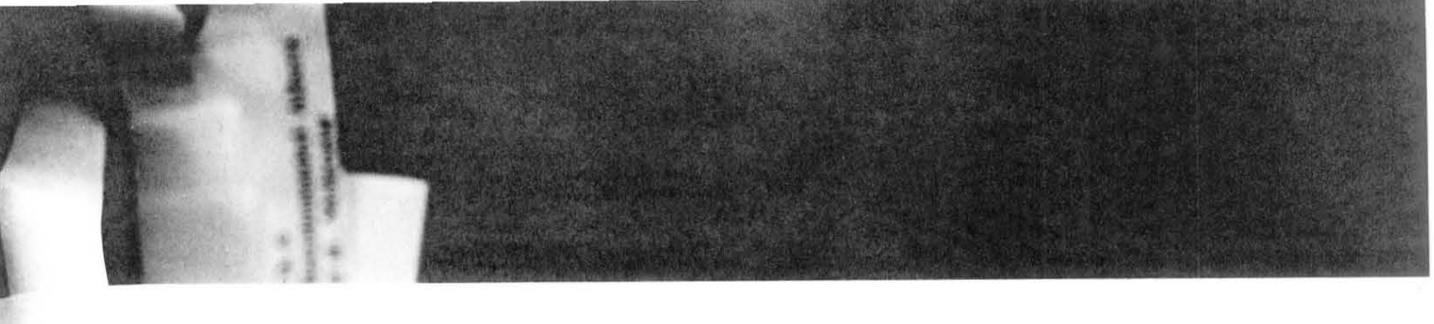
The output (24,800 ounces) of gold in Idaho in 1944 declined more than 19 per cent from that in 1943. This decrease resulted mainly from a lower grade of gold ore mined at the Boise-Rochester-Monarch group at Atlanta by the Talache Mines Company. About 75 per cent of the gold produced in Idaho in 1944 was recovered from gold-tungsten-antimony ore from the Yellow Pine mine at Stibnite, zinc-lead ore from the Triumph property near Hailey, and gold ore from the Boise-Rochester-Monarch group at Atlanta. The output of gold from lode mines was 24,685 ounces in 1944 compared with 30,553 ounces in 1943; gold from placer mines (115 ounces) was insignificant with prewar years.

The output of silver in Idaho in 1944 was 15 per cent less than that in 1943, owing chiefly to substantial decreases from the Mineral Point (Coeur d'Alene Mines Corporation), Hecla, Bunker Hill and Sullivan, Sunshine, and Morning mines; however, a marked increase in output of sil-

THE NEW MERCURY BATTERY

News that a revolutionary new dry cell, mercury battery is in production for the Army is said to be responsible for the rising quicksilver price. The new cell, powerful, compact, and long-lasting, uses mercuric oxide as a prime component, and is said to have a promising postwar future.

Quicksilver mining states such as California, Nevada, and Oregon, are said to be experiencing a reaction from the news which is understood to be the basis for long-range operational plans being worked out by mine owners in those states. Ho-hum, such are the fortunes of mining. We're up today and down tomorrow. Never a dull moment.



MINING MEN attend

Western Mining War Conference

SOME of the West's leading mining authorities, several United States senators, and army and government officials attended the three-day Western Mining War Conference held at Denver, Colorado, January 25 to 27, inclusive. The meeting was sponsored by the Colorado Mining Association and was arranged by Robert S. Palmer, executive secretary of the association. Charles N. Bell, president of the Colorado group, presided at the sessions.

The conference was opened with a luncheon Thursday at which addresses were presented by Dr. J. W. G. Hannon, medical director of McIntyre Research, Washington, D. C., who spoke on aluminum therapy; and by A. W. Jacobs, ventilation engineer of the McIntyre Porcupine mine at Schumacher, Ontario, Canada, who discussed the use of aluminum powder in prevention of silicosis.

Other speakers at the early sessions included Carl H. Wilken, Washington, D. C., economic analyst for the National Association of State Agricultural Commissioners; Ira B. Joralemon, San Francisco geologist; Major General William E. Shedd, commanding general of the Ninth Service Command, Fort Douglas, Utah; and Charles A. Taft, representative of the State Department.

Wilken declared that American prices must be kept above the world level to avoid "national bankruptcy, unemployment, and chaos . . . Farm and mine income determine what our national income can be," he said, "and failure to realize this cost the United States $473,000,000,000 in income from 1930 to 1941." Raw material prices were below parity in that period and every other group in the nation lost in direct ratio to farmers and the mining industry, he added.

Joralemon, well-known western geologist, stated that lower wages or higher prices were necessary to increased mine production. He said that low-grade ore production could not be undertaken without price raises or a return to the wage level of 1930. The relation of prices to wages was termed the mining industry's major problem. He told the convention that there is no danger of depleting the nation's mineral reserves and no necessity for importations from abroad.

Those present at the conference were told by General Shedd that military needs for lead dictate a 40 per cent reduction in conversion of the metal to civilian use. He also told the delegates that there could be no revision of gold and silver mining shutdown orders. Lead and coal production are "critically short," zinc output is insufficient, and copper production is barely adequate, General Shedd declared.

CHARLES A. TAFT, representing the State Department, declared that American industries must not only intensify their efforts to develop new resources at home, but also must develop foreign sources of supply with government assistance.

Manpower problems, shortages of critical minerals and metals, lifting of the gold mining ban, and the international monetary system were among the subjects considered at the Denver meeting of western mining men, congressmen, and government officials. Many points were brought out which should be of assistance in solving these matters.

"Few will deny that at some time in the future depletion of our mineral reserves will become a major problem and that this country will be in the midst of the same transition England had to make at the beginning of the last century, that from a largely self-sufficient country to a country dependent upon imported mineral raw materials," Taft said.

Reserves of many strategic metals do not assure supplies for more than two or three decades with present technology, he said. Looking into the postwar period, Taft stated that high-cost mines, which are now able to operate as a result of war-inspired incentive prices, must be shut down when the war emergency ends.

"A government representing the taxpayers as well as a government concerned with the ultimate welfare of the owners and the employes must cut off the high-cost mines first and get back to standard market prices," he said.

"What about the question as between domestic and foreign producers? The State Department has been widely advertised among your mining fraternity as advocating the continuance of foreign purchases while your mines are shut down. This statement is not true and has never been true. We do take the position that the producers should be treated with justice in the cutting back or termination of existing contracts. That means that all high-cost mines here and abroad should be treated alike, in our judgment. When such mines are closed in the United States they should be closed down elsewhere."

THE War Manpower Commission was represented by Ford T. Shepherd of Washington, who contended that the "greatest source of unused manpower is already on our payrolls." Most of the rules and regulations made in Washington, he said, are made by management and labor while the so-called "smart boys" are very much in the minority.

"Don't sell these men in Washington short," Shepherd advised. "I don't want an answer from you, but if the big spotlight that plays on Washington all the time was turned on your own operations would any insufficiencies be revealed? What causes your labor absenteeism and turnover? Do you really know? Don't be surprised if you find you can eliminate those easier than you can find new workers."

As proof that utilization of workers is effective, Shepherd said production in 1944 was increased 122 per cent, while the number of workers decreased by 900,000. While 60 per cent of our war production program is on schedule, the remaining 40 per cent is lagging because new demands are too great for our immediate facilities and labor to handle," he explained.

MANY leading men spoke during the three-day session, including experts on all the metals, and safety engineers. Discussions on the various metals were lead by the following men: lead, Felix Wormser, head of the Lead Industries Association; zinc, Ernest V. Gent, head of the American Zinc Institute; vanadium, John L. Robison of the U. S. Vanadium Corporation; tungsten, George H. Teal; silver, B. T. Poxson; and gold, Merrill E. Shoup.

E. H. Snyder of Salt Lake City, discussing the zinc situation, stated: "Indisputable statistics show that for every ton of zinc imported into the United States, 55 man-shifts of employment are lost to persons in the zinc industry—persons who have their homes and their savings and insurance tied in with that industry. On the basis of 3.55 dependents per wage-earner in the zinc industry, 196 persons would lose their livelihood. This would mean—for the importation of 100,000 tons of zinc a year—65,000 Americans deprived of their livelihood."

He proposed a tariff plan which would include computation of costs of production for the domestic mining industry, on the basis of existing average wage rates, insurance, pay roll taxes, depreciation and all other forms of taxes, and then fixing an import duty for any foreign metal equal to the difference between the bona fide London price, in terms of American dollars, and this American cost of production—plus a "differential" of perhaps one-half cent a pound to represent profit.

Delegates were outspoken in their assertions that the mining business in the United States had been founded upon tariffs, and its growth was due to tariffs, and they would fight to maintain tariffs.

At the session of the lead panel, moderated by Felix E. Wormser of New York, mine men were told that stockpile supplies of the metal are down to about 90,000 tons, or less than one month's consumption.

Yet the United States has 500,000 tons of scrap lead awaiting collection and conversion, according to panel members. The meeting concluded that scrap collections

(Continued on Page 38)

Volcano mine, which he took over under lease recently from the Hale interests. The mine is in the Patagonia area and has principal values in copper.

The **Williams** tungsten mine, located in Mohave County in the Greenwood mining district of Arizona, has been taken over by Edward H. Molson, Box 607, Tucson, Arizona, and development work already has been started. The property formerly was operated by W. S. Bradbury, Box 71, Kingman, Arizona, under lease from the Williams interests. A $20,000 loan, to be used for remodeling and operating a 50-ton gravity concentration mill, was granted Bradbury by the Reconstruction Finance Corporation soon after he took over the mine in 1943. The property was closed down early last year. Molson has been connected with the operation of the Maudina tungsten mine in Pima County for some time.

CALIFORNIA

Clean-up work and retimbering at the **Vine Spring** mine have been completed recently down to the 60-foot level, and a hoist and compressor have been installed. In addition, a 40-foot bin has been built and the operator has leased a mill from a nearby property. Installation of the plant is expected to be completed and milling started early in February. Sampling at the 30-foot level, completed recently by the Smith-Emery Company, has indicated ore running slightly over $35 per ton in gold values. Complete ownership of the lease on the Vine Spring has been acquired by Julian R. Sanchez, 2782 Twenty-fourth Street, San Francisco, California, who operated the property several years ago with a group of associates. The mine is located about 2½ miles northwest of Columbia in Sonora County, California.

The Palmer Development Company is reported to be producing approximately 300 tons of steatite talc per month at the **Alliance** mine located near Darwin, California. The workings have been reopened and operations now consist of crosscutting and drifting with the ledge on the 100-foot level. The mine is composed of the Sunrise and Happy Day properties and is being worked under partnership agreement by Selda Anthony Palmer and Harlan Robert Gray, who for the past several years has been engaged in tunnel work in the Hawaiian Islands. Mine operations are under the direction of Raymond M. Palmer, Box 87, Lone Pine, California, and Charles Stanley also is connected with the mine operation. The Alliance formerly was operated by the Alliance Mining Company of Los Angeles, California.

The **Blue Cloud Mining Company** is reported to be planning to sink its 300-foot shaft to a depth of 600 feet in the near future, and work will be done under the direction of George Pott, Parker, Arizona. The Blue Cloud property is located about six miles from Parker on the California side of the state line, and is owned by Malin Campbell of Santa Monica, California. Values are principally in copper and gold.

Fredericks and Ferrin, a partnership which plans to operate the **You Bet** gravel property as soon as the gold mining ban is lifted, has moved its 30-ton dredge from Gilmore Field near Grass Valley, California, to the You Bet mine. The dredge is an underground digger, specially designed in San Francisco and assembled in Grass Valley. The You Bet is located east of Nevada City, California, and has been idle for several years. It is leased by Phil P. Fredericks and A. Harold Ferrin, both of San Francisco, from the owner, Alpha Stores, Ltd., F. F. Cassidy, Nevada City, president, and it is reported that about 2,000 acres are included in the lease agreement. Carl Thomalson, president of the Thomalson Drifting Corporation, Oakland, California, is connected with Fredericks and Ferrin.

Installation of a new 50-kilowatt Bardco standby plant recently was completed by **Champion Sillimanite, Inc.**, in Chalfant Valley, Inyo County, California. The new plant is powered by a six-cylinder Waukesha gas engine, and was set up near the company's hydroelectric plant, now in operation. The company recently has been engaged in diamond drilling for undiscovered ore deposits and is conducting andalusite and diaspore mining at the Inyo County mine, both by open-cut and tunnel methods. Champion Sillimanite also operates a dumoritierite property in the Lovelock, Nevada, district. Head offices are maintained at 309 Bank of America

Building, Merced, California, and Dr. J. A. Jeffery of the Champion Spark Plug Company, 8525 Butler Avenue, Detroit 11, Michigan, is president and general manager. George W. Clarkson, Box 117, Laws, California, is mine superintendent.

It is expected that mining operations will be started soon at the **Noonday** copper mine, following dewatering and rehabilitation of the old workings. It is said that sampling results indicate approximately 20,000 tons of 5 per cent copper ore in sight. The ore also carries values in gold and silver. Arrangements have been made with the Volo Mining Company for treatment of the Noonday ore at the Volo mill at Placerville as soon as road conditions permit trucking. L. C. Baldwin, superintendent, at present is engaged in overhauling the Volo power line and also has been repairing the milling plant. The Noonday, located in Eldorado County seven miles from Placerville, is an old property, having been worked as far back as the late 1890's. Old workings include a 200-foot, two-compartment shaft and several hundred feet of drifting on the 100 and 200-foot levels. The property is under lease to S. T. Hilberg, 1461 Fifty-second Street, Sacramento 16, California.

Milling operations at the Pine Creek plant were suspended January 5 by the **U. S. Vanadium Corporation,** and renovation of the plant is proceeding. U. S. Vanadium has been operating the mill as a custom unit, but has announced that an insufficient tonnage of custom ore has made milling impracticable at present. The company recently closed down its own tungsten mining operations at the Pine Creek mine at Bishop, California, and it is understood that the milling operations will be resumed as soon as sufficient manpower can be obtained to continue mining. The company is headed by J. R. Van Fleet, 30 East Forty-second Street, New York 17, New York, and M. N. Shaw, Bishop, is general superintendent.

COLORADO

A regular quarterly dividend of 25 cents has been declared by the **Colorado Fuel and Iron Corporation,** W. A. Maxwell, Jr., Continental Oil Building, Denver 2, Colorado, president. Disbursement will be made February 28 to stockholders of record February 14, 1945.

Development work is being continued by the **Golden Stars Mining Company** at Cripple Creek, Colorado, which leases the Morning Glory property of the Doctor Jack Pot Mining Company. There was practically no production from the Doctor Jack Pot during 1944. Merrill E. Shoup of Colorado Springs is president of the owning concern and W. C. Benton, First National Bank Building, Denver, is president of the Golden Stars concern.

Production from the Columbus mine has been resumed by the **Foursome Mining Company,** which was forced to suspend mine output for several weeks in December after a fire destroyed the compressor plant, shops, and other buildings. The mine is in the Animas Fork district north of Silverton, Colorado. Lloyd E. Jones and William O. Erickson, both of Silverton, are the operators of the company.

Over 2,500,000 pounds of lead and zinc were produced by **Kokomo Kimberly Mines, Inc.,** during 1944. The company, J. Ben Ross, 811 Midland Savings Building, Denver, Colorado, president and general manager, operates the Kimberly-Breen mines in Summit County near Kokomo, Colorado. Ore values are in lead, zinc, gold, and silver. Besides company development work, the U. S. Bureau of Mines, which has been investigating the district for the past two years, is diamond drilling from the underground workings of the Kimberly mine to explore three known lime beds. The bulk of the company's production has come from the Quail lime beds, and the Robinson lime bed is the name of the largest of the three bodies now being investigated by the bureau. Howard L. Barnett of Kokomo is general superintendent.

A. L. Fisher of Dillon, Colorado, is carrying on development work at his radium prospect on Buffalo Mountain near Dillon. Both carnotite and vanadium values are said to be present in the ore. Accessibly located, the property is near an adequate road and plenty of timber and water are at hand.

For the second time a circuit court decision has modified the NLRB order in the case of the **Shenandoah-Dives Mining Company** of Silverton, Colorado, which began with a strike in 1939. The original NLRB order prohibited recognition by the company of the San Juan Federation of Miners, an independent union; claimed undue interference on the part of the company; ordered reinstatement of the Mine, Mill and Smelter Workers' Union and discharge of 79 men taken on during and after the strike. The court now claims there was no undue company interference and has called for the discharge of only 20 men who were hired after the settlement of the strike in 1939. The case has been remanded to the NLRB, with no definite terms known. Charles Chase of Silverton is general manager of the company, which is mining and milling an average of 500 tons of ore daily, recovering gold, silver, lead, copper, and zinc. The company also is developing the Silver Lake-Iowa ground, which adjoins its own, under contract for the American Smelting and Refining Company.

Steady operation of its new mill is reported by **Monarch Mineral Products Company,** which was organized last summer to build and operate the milling unit for the **Hayden Mining Company,** Ralph E. Ruder, Box 1071, Colorado Springs, Colorado, president. The ore is a mixture of microlite and lepidolite and is taken from the Brown Derby mine near Gunnison, Colorado, and trucked to the mill. Edward P. Chapman, Jr., Salida, is manager.

Because of severe storms late in December, operations at the **Fairview** manganese mine were suspended, but regular production will be resumed as soon as possible. The mine is located near the base of Sultan Mountain on the Animas River

The plant, estimated to cost $4,500,000, will be operated by the **Monolith Portland Midwest Company** through its Oxide Division. H. D. McBride, 810 Flint Street, Laramie, is manager.

CHANGES IN MICA PROGRAM ANNOUNCED BY COLONIAL MICA

BECAUSE of the improved stock position for mica, the War Production Board has recommended certain changes in the domestic mica procurement program. These changes, according to an announcement by Colonial Mica Corporation, will become effective upon the expiration of the present price commitment on March 31, 1945, and will continued from April 1 to June 30, 1945.

During the months of April, May, and June, Colonial Mica will purchase domestic ruby muscovite mica, full trimmed, of qualities and grades comparable to those purchased in foreign countries, at prices based on the purchase price paid in foreign countries, plus a due allowance to cover estimated cost of transportation and other charges incident to landing the mica in the United States. An announcement of the specific prices for the different qualities and grades will be made at a later date.

Special notice is given that domestic punch mica, now being purchased under the program announced on September 27, 1944, will not be purchased during the period beginning April 1 and ending June 30, 1945.

MINING COMMITTEE OPPOSES EXTENSION OF NAVAL TEST AREA

A RECOMMENDATION, opposing the permanent acquisition of additional lands by the Naval Ordnance Test Station in the vicinity of Inyokern, California, has been drawn up by the mining committee of the Los Angeles Chamber of Commerce, approved by its board of directors, and forwarded to the chamber's Washington office for further action. Governmental departments, it is stated, have had a tendency during the war to acquire large land areas regardless of whether, in the long run, permanent title is either necessary or desirable.

According to the mining committee's recommendation, the permanent base of the Naval Ordnance Test Station at Inyokern now comprises an area of approximately 394,240 acres and the Navy Department has given notice of its intention to acquire approximately 246,458 acres in addition to its present holdings. The outline of the proposed permanent extension indicates that it includes some 30 mines and mineral prospects and encroaches upon one of the major lead producing districts near Darwin, California. The district also has produced other critical minerals, such as tungsten and copper, and now is producing mercury and pumice. There also are a number of gold mines in the area which will resume operation after the war.

In addition to the mining properties involved, the proposed extension would include right-of-way line of an electric power company, portions of two highways leading into Owens Valley, and portions of the Southern Pacific Railroad. A number of cattle ranches also are located in the area.

In view of the above, the mining committee has submitted its recommendations as follows: That there be no additional acquisition of mineral-bearing lands until it has been proved that the use of such lands is necessary. That it should first be determined if the government owns lands in other places which could be used as a test range. That, if it is determined that such acquisition is necessary, that it be for the period of the war only, and not utilized as a permanent base. That, if any extension is made, the mines and potential mines be excluded, insofar as possible, by reducing the area of the extension.

TRUCKS ARE SECURELY TIED WITH FEDERAL RED TAPE

After the winter season cracked down hard in Alaska, the owner of a fleet of trucks brought said trucks into the States. Knowing of the shortage of transportation facilities here he figured he could put his equipment to work for the benefit of all concerned. In Alaska he had trucked for the Army on the Alcan highway. Inquiry, however, showed that at least three months would pass before the necessary red tape was wound and unwound, and by that time the trucker would be on his way back to Alaska—so a fleet of trucks stands idle this winter.

SEARCHLIGHT WOULD ABOLISH POST OF DISTRICT RECORDER

STEPS are being taken to allay a peculiar situation that exists in the Searchlight area of Clark County, Nevada, and it is a situation that is common in many other old mining communities of the West. The requirement was made in the early days of the district that mining documents be recorded with the mining district recorder as well as with the county recorder. Now legislation is being started to remove these obsolete statutes from the books.

In the early days of western mining, before the advent of modern highways and other means of transportation and communication, it would have worked undue hardship on the prospector to require him to record his documents in the county seat, so the position of district recorder was established by law. In time, of course, the documents also were recorded in the county seat. The procedure was that the locator of a mining claim paid the mining district recorder $2 for recording a notice of location of a mining claim and every three months the district recorder sent duplicate copies of these documents to the county recorder, together with $1 for each recording.

This procedure is no longer a convenience to the prospector and on the other hand, it forces him to examine both the county and the district recorder's files to determine what land is open. Searchlight points to an unfortunate shooting episode

that took place a few years ago when a prospector examined the Clark County records and found certain lands open for location. Later, while working on these lands, the shooting occurred and the prospector discovered that the claims were duly recorded with the Searchlight mining district recorder.

Wayne McLeod, surveyor general of Nevada, has requested the attorney general to prepare legislation to eliminate this obsolete section of the state mining law.

WPB INDICATES GOLD MINES MUST WAIT UNTIL LATE 1946

APPLICATIONS for new equipment for the gold mining industry probably will receive little consideration until late in 1946, unless the manpower and materials situation improves greatly before that time, according to War Production Board officials. The office of the vice-chairman for metals and minerals, WPB, pointed out that many items of equipment such as locomotives, hoists, motors, and certain types of ore preparation equipment cannot be approved for early manufacture for gold-mine use because of their urgent need in critical war programs.

It was emphasized, however, that WPB is desirous of assisting in the rehabilitation of gold mines closed in conformity with Order L-208 whenever this is possible without impeding the war program and that every consideration will be given to applications for capital equipment filed by mines presently operating by special authorization under L-208. Each application must be considered on its own merits, however, and in relation to the production of critical machinery required for essential mining programs. Applications for such equipment should be filed with the Mining Division, WPB, Washington, D. C.

RAILROAD ABANDONMENT IS FOUGHT BY SURROUNDING AREA

EFFORTS are being made to prevent the abandonment of the Denver and Rio Grande Southern railroad's narrow gauge line in southwestern Colorado. The receiver for the railroad has started proceedings preliminary to abandonment because of the road's losses for the past year and poor financial position, it is reported. However, it is said that if the road were given the mail contract and payments on the road's loan from the Defense Supplies Corporation (RFC) were postponed, it might be possible for it to continue operation of its narrow gauge line.

Abandonment of the line would isolate producers of wool, sheep, cattle, and other products, including output from farms and mines. Shortage of trucks and tires precludes hauling. The counties involved are listed as Archuleta, Dolores, Gunnison, Hinsdale, La Plata, Montezuma, Ouray, San Juan, and San Miguel in Colorado, and Rio Arriba and San Juan in New Mexico. Mining interests from these counties are joining others in seeking help for the railroad.

It is hoped that, with government aid, the railroad company can broad-gauge its line and continue operations.

MICA MOUNTAIN MINES, INC., PREPARES FOR PRODUCTION

MICA MOUNTAIN MINES, INC., holds mining claims in the Gold Butte district of Clark County, Nevada, including the Snowflake mica, Nighthawk tungsten, and Black Jack copper groups. The properties are owned by W. H. Garrett of Overton, Nevada, and A. S. Coleman of Overton, who is now at Long Beach, California, for the winter. Officers of the company are Wallace M. Clinger, M. D., Medical Arts Building, Salt Lake City, Utah, president; John L. Monson, vice-president; Pauline C. Egli, secretary-treasurer; Howard R. Clinger of Salt Lake City, Utah, general manager; and E. Penn Smith, St. George, Utah, general superintendent. At present six men are employed at the mine and mica will be shipped to the Colonial Mica Corporation, agent for the government. Scrap mica will be ground.

A recent field examination by two Colonial Mica representatives qualified the material as ruby mica, thus assuring the premium price for the sheet mica produced. Twenty-five claims in all are held by this company and work will progress as fast as machinery, equipment, and men can be obtained.

Company plans call for the eventual installation of a processing plant at Overton, Nevada, and permission already has been granted for conveying the ore on barges across Lake Mead to Overton.

MINERALS REACH ALL-TIME HIGH WHILE METALLICS SHOW DECLINE

LAST year's production of minerals from the United States and Alaska amounted to a record total of $8,543,000,000, which shows a 6 per cent gain over 1943 when mineral production passed the $8,000,000,000 mark for the first time. Output in 1942, another record year, was $7,575,700,000.

Of the estimated total of $8,543,000,000 for last year, mineral fuels contributed $5,254,000,000, an increase of over 14 per cent above 1943 figures; metal products were $2,377,000,000, which is 5 per cent below 1943 production: and other nonmetallic minerals were $912,000,000, a decline of about 6 per cent from the preceding year.

Principal metals to show declines rather than gains during 1944 were aluminum, bauxite, chromite, copper, ferro-alloys, gold, iron ore, lead, mercury, molybdenum, silver, tantalite, columbite, tungsten, vanadium, and zinc. Gains showed in the output of beryllium, cadmium, pig iron, manganese ore, nickel, and platinum.

COPPER AND IRON DEPOSITS STUDIED BY SURVEY IN ALASKA

AS A PART of the U. S. Geological Survey's program to investigate and appraise iron and associated copper deposits of southeastern Alaska, as a possible source of ore to be used in the industrial expansion of the Northwest, the Jumbo Basin on Prince of Wales Island about 40 air miles from Ketchikan was studied. Geologic, magnetic, and topographic maps of the iron and copper deposits of the basin have been made and a report is in preparation.

The Jumbo Basin is on the east side of Hetta Inlet three miles south of the abandoned town of Sulzer and about 110 miles by boat west of Ketchikan. The nearest settlement is the village of Hydaburg 15 miles away by water. The main basin ranges in altitude from sea level to 3,900 feet and is heavily forested.

The principal magnetic deposits are found about 1,600 feet above sea level and about 1¼ miles by pack train from the beach. The magnetite occurs in lenses ranging from a few feet in depth to 60 feet and the largest known ore body outcrops for a length of 450 feet. Three principal bodies, aggregating about 370,000 tons of indicated and inferred ore, are within an area of a few hundred square feet of the north side of Jumbo Basin. Additional smaller bodies of magnetite are known to be in the basin but are considered too small to be of commercial importance.

The only copper deposits in the district were studied in 1944 and are those at the Jumbo mine, about half a mile southeast of the magnetite deposits. This mine produced in the Ketchikan district from 1907 to 1918, but has been inactive since 1923. In addition to copper, the ore contains appreciable gold and silver. Only a few tons of high-grade copper ore remain, but appreciable reserves are present of material estimated to contain from 0.5 to 1 per cent copper.

USGS STUDIES ROYAL JOHN PROPERTY IN NEW MEXICO

THE Royal John mine, located in the southern part of the Swartz mining district, Grant County, New Mexico, recently was studied by D. M. Kinney and A. E. Weissenborn, geologists with the United States Geological Survey. The project was a part of a general USGS survey of lead-zinc resources in the United States, being made as an aid to production of the metals for war needs. A preliminary report of the Royal John investigations, including three maps, already has been placed in the open files of the government agency. Copies may be consulted by persons directly interested in the deposit, at the offices of the USGS at Washington, D. C.; Rolla, Missouri; and Silver City, New Mexico. The Royal John has been owned and operated for some time by John and Al Owen, Santa Rita, New Mexico.

GOLD AND SILVER PRODUCERS IN MEXICO ALLOWED SUBSIDY

A SUBSIDY for certain classes of metal producers in Mexico has been allowed through a recent decree by President Manuel Avila Camacho. The subsidy applies to the production of gold, silver linked with gold, and other minerals which contain at least 80 per cent of either gold or silver, and provides a full rebate of the supplementary war emergency tax, plus 10 per cent of it, for gold output and 72 cents per kilogram for silver. The decree provides that the subsidy shall apply to those who operate cyanidation, amalgamation, lixiviation, and concentration metal treatment plants handling gold and silver ores, whether they own or rent the units. Exporters of gold and silver ores also will enjoy the rebate, and producers who sell their gold to the Bank of Mexico will be allowed the full rebate of the emergency production tax, plus 10 per cent of it.

WESTERN MINING WAR CONFERENCE

(Continued from Page 13)

and imports would have to be increased if the white lead industry were to be saved from a shortage-wrought shutdown.

Discussion of the silver situation occupied the closing business session Saturday afternoon. This was in charge of B. T. Poxson of Denver, Colorado. Among the speakers were Melvin Brugger of Colorado Springs, A. G. Mackenzie of Salt Lake City, Henry M. Rives of Reno, James A. White of Washington, D. C., and C. L. Martin of Montezuma.

Earlier, the meeting heard a paper in which Henry B. Fernald, New York tax specialist, proposed a long-term tax program designed to encourage investment and spur private enterprise to provide full employment.

Fernald's address, read by Julian D. Conover, Washington, D. C., secretary of the American Mining Congress, declared that taxes which leave inadequate incentive do not yield maximum revenues. The program urged repeal of the excess profits tax, and advocated a maximum individual income tax of 50 per cent.

WILLIAM MURPHY of New York, former head of the WPB gold and silver section, was the principal speaker at the Gold and Silver banquet. He stated that the United States possesses an economy which all the world is trying to achieve and that, to secure its economic leadership, this country must turn again to gold and silver as international money.

"For over 10 years," he declared, "we have been deluged with a torrent of European propaganda describing the gold standard as a relic of barbarism. It is easy enough to understand this propaganda when it emanates from Europe, where gold and silver stocks are near exhaustion. It is not so easy to understand or excuse it when the chorus is taken up by gullible Americans.

"In the United States we possess the resources, the ability, and the imagination to fill the role of world leadership that is beckoning to us. But the age of American innocence must come to a quick end," the gold and silver expert maintained.

He said that international leadership should be secured by American insistence on the use of both gold and silver as money in place of "fancy theories of managed currency." The nation, which has large stocks of gold and silver, should logically take this view and win backing from the "great industrial nations of the future—China, India, and Latin American countries."

One of the delegates to the conference, and probably the youngest participant, was Dr. Victor Urquidi, economist for the Bank of Mexico, which corresponds to our Federal Reserve Bank. He was sent to Denver as the personal representative of Eduardo Suarez, secretary of the treasury.

Only 25, Dr. Urquidi is one of the young men the Mexican government has picked for special training to step into important government posts. He was sent to the London School of Economics for training. With Treasury Secretary Suarez, Dr. Urquidi attended the Bretton Woods conference, and helped to present his country's problems to the delegates there.

"Mexico," said Dr. Urquidi, "is deeply concerned with monetary problems, especially those pertaining to silver, and wants to cooperate closely with mining. At the Bretton Woods conference we sponsored a series of proposals regarding silver.

"Mexico wants to have the silver problem recognized as an international monetary problem, and not merely a commodity problem. We believe it likely that the main monetary use of silver in the future will come from the east—China and India.

"Our economists believe that the United States treasury should not only buy silver—keeping it useless in its vaults—but should also sell silver. Under present conditions, people in many countries will want to buy silver from the United States, to use as money, greatly preferring it to paper money.

"If the United States can be induced to buy and sell silver freely, at a uniform price, we can satisfy both producers and consumers. Mexico will gladly participate in any international agreement on silver."

THE conference closed Saturday night with the famous "sowbelly dinner." United States Senator Pat McCarran of Nevada was the speaker, and John W. Valentine of Boulder was the toastmaster.

McCarran, speaking extemporaneously, declared that the United States must recognize gold and silver as the basis of world money, because "we will have to cater to Asia and India for postwar commerce, and the countries of Asia and most of the world recognize only silver."

"The only sound money is silver and gold," the senator continued. "The organic law of the United States recognizes no other money. The constitution provides that Congress shall coin money; it does not say that Congress shall print money. If this country is to be a world leader, we must return to sound money."

Officers elected to direct the work of the Colorado Mining Association for the coming year included the following: President: Harvey L. Tedrow of Denver, succeeding Charles N. Bell; vice-presidents: B. T. Poxson, mining engineer of Denver; C. J. Abrams, general superintendent, Climax Molybdenum Company, Climax; C. Q. Schlereth, consulting engineer, Denver; Merrill E. Shoup, president, Golden Cycle Corporation, Colorado Springs; and John Hamm, general manager, John Hamm Mining and Milling, Ltd., Leadville; treasurer; C. O. Withrow, mining engineer of Denver. Robert S. Palmer was re-elected executive secretary of the group.

—20 Years Ago—

FROM

The Mining Journal

For February 15, 1925

The annual allocation of the 281 garden plots for employes of the Miami Copper Company is scheduled for February 15. The company furnishes the land, water, and instructions free. The only expense to the employe is the cost of the seeds.

* * * *

That the United Eastern Mining Company was damaged in the amount of $70,948 by the Tom Reed Gold Mines Company in the extraction of ores to that sum, is alleged in a complaint just filed by the former company in the superior court of Mohave County. This is the climax of the apex suit of the Tom Reed for possession of the Big Jim mining claims, tried before Judge Bollinger a few years ago and which was decided in favor of the United Eastern.

* * * *

El Tiro Mining Company, operating at Silverbell, Arizona, has increased its shipments until they have reached 100 tons of 7.5 per cent ore daily. This is the second largest mine in Pima County.

* * * *

The shaft of the Blue Bell mine, owned by the Southwest Metals Company, G. M. Colvocoresses, general manager, Humboldt, Arizona, is to be deepened within the next few weeks. Bids for the new development have been asked and it is expected that the contract will be let shortly. This work will carry the shaft down an additional 150 feet, to the 1,500 level, and is in line with the company's plans for reopening the smelter early in April.

* * * *

Starting February 1, the steam shovels at the mines of the Ray Consolidated Copper Mining Company, Chino Branch, Santa Rita, New Mexico, began operating three eight-hour shifts, instead of two nine-hour shifts as heretofore. The present plan calls for the operation of five steam shovels on each of the three shifts, and three shifts working on the electric shovel. With this new schedule the company hopes to be able to do some stripping of the overburden, in which work it has been far behind for some years.

* * * *

El Potosi Mines Company, William Quigly, vice-president, El Paso, Texas, has contracted with Charles Hardy of New York for its entire output of zinc for three years. The zinc concentrates from the company's mines in Chihuahua, Mexico, will be shipped to Europe where a shortage of zinc ores and concentrates has been known to exist for some time. The output of the mine is estimated at about 50,000 tons annually.

CANADIAN CONCERN HAS JOBS FOR ITS WORKERS NOW AT WAR

THE Consolidated Mining and Smelting Company of Canada has sent questionnaires to all its former employes now in active war service in an effort to find out how many wish to return to their old jobs. The company has promised to reinstate all who desire to come back. Of the estimated 2,500 employes now in the armed forces who were sent questionnaires, about 70 per cent have replied. Of these about 97 per cent expressed the desire to return to their old positions.

Men who were hired to replace those who had gone to war were advised that their status with the company was temporary, but the company is hopeful that postwar conditions will warrant the retention of the entire personnel.

LOS ANGELES CHAMBER MAKES SURVEY OF ARIZONA MINES

THE Domestic Trade Department of the Los Angeles County Chamber of Commerce has announced the publication of its eighth survey of mining activities in Arizona. The survey was based on the findings of E. D. Arthur, mining commissioner of the chamber, who spent four weeks in Arizona compiling data on active mines in the state. The mining properties are classified according to the counties in which they are located and considerable information on the operations of each mine is included. The 38-page booklet is titled "Arizona Mines—Sales Opportunities."

LEAD-COPPER PRODUCTION CONTINUED AT THE CONQUEROR

REGULAR production of lead-copper ores from the Conqueror mine in New Mexico is reported by the Continental Engineering Company. Work is being conducted under the direction of C. E. Degner of Carrizozo, New Mexico, president and general manager of the operating company.

The Conqueror mine is situated in the Gallinas Mountains about 50 miles north of Carrizozo, Lincoln County, New Mexico, and comprises 25 lode mining claims. Continental Engineering formerly operated the Surprise gold-silver mine in the same vicinity under the name of the Engineers' Gold and Silver Mining Company, but, after the WPB gold closing order was issued, the company changed its name and started work at the Conqueror.

The Conqueror mining claims are fully equipped, following complete rehabilitation and installation of machinery when the mine was re-opened. The powerhouse is equipped with a 265-cubic foot compressor, a Lidgerwood high-speed hoist, and two large air receivers. Other buildings on the property include the bunkhouse, mess hall, blacksmith shop, and machine shop. The company also has an automatic steel sharpener, electric blasting machine, a large liner and drifter with 600 or 700 feet of drill steel, ore bins with steel loading chutes, ore cars and tracks, and a powder magazine. All necessary timber for the shaft and general construction can be obtained from the company's own saw mill.

In addition to the Surprise and Conqueror mines, Continental Engineering is reported to control a substantial fluorspar deposit in the same district and 250 acres of iron mining property in New Mexico.

ALUMINA-BEARING CLAY DEPOSIT OPENED BY FEDERAL ENGINEERS

OVER 8,000,000 tons of ore carrying 30 per cent alumina oxide have been proved by the joint efforts of the U. S. Geological Survey and the U. S. Bureau of Mines. The deposit lies about seven miles north of Castle Rock in Cowlitz County, Washington, and is centrally located with respect to the aluminum plants at Longview, Vancouver, and Tacoma in Washington and Troutdale in Oregon. At Salem, Oregon, about 120 miles south of the deposit, the government is constructing a plant to test the extraction of alumina from clay.

A preliminary report describing the geology, ore deposits, and reserves, with maps, cross sections, and columnar sections of the deposit, has been prepared by the survey. Copies are on open file in the following places: survey offices in Washington, D. C., and in Salt Lake City and Spokane; in the State Division of Mines at Olympia, Washington; State Division of Geology at Pullman, Washington; Oregon State Department of Geology and Mineral Industries at Portland; and the U. S. Bureau of Mines Experiment Station at Seattle.

WMC INCLUDES MINING AND SMELTING IN CRITICAL GROUPS

THE War Manpower Commission has announced a list of essential and critical activities for use by Selective Service as a guide in the induction of men in the 26 through 29-year age group. All activities in the list are essential, but those printed in capital letters are considered as critical industries. Included in the new WMC list are the following which pertain to the mining industry:

Metal Mining. The mining of IRON, COPPER, tin, LEAD, ZINC, aluminum, MERCURY, manganese, chromium, MOLYBDENUM, tungsten, VANADIUM, and similar ores, and the dressing of such ores. Also includes the removal of overburden, shaft sinking, and other such activities preparatory to metal mining.

Nonmetallic Mining and Processing. The MINING, PROCESSING, or QUARRYING of salt, gypsum, PHOSPHATE ROCK, SULPHUR, POTASH, asbestos, GRAPHITE, PYRITES, BORATES and OTHER SALINES, FLUORSPAR, mica, TALC, ABRASIVE SANDS, calcite (optical), and similar essential products.

Smelting, Refining, and Rolling of Metal. Includes PRIMARY AND SECONDARY SMELTING, and REFINING, ALLOYING, ROLLING, and DRAWING of IRON, STEEL, COPPER, LEAD, ZINC, MAGNESIUM, ALUMINUM, BRASS, BRONZE, NICKEL, TIN, CADMIUM, FERRO-ALLOYS and ANY OTHER METALS USED IN THE PRODUCTION OF WAR MATERIALS.

Production of Machinery. Includes machinery for MINING, SMELTING, and REFINING.

METAL PRODUCTION FIGURES FOR 1944

(Continued from Page 12)

NEVADA

NEVADA zinc production set an all-time record in both quantity and value in 1944. Lead output was above any year since 1941 in both quantity and value, but gold and silver were both lower in quantity and value than in any year since 1933 and copper was the lowest in quantity and value since 1938.

Mines in Nevada yielded (in terms of recovered metals) 117,200 fine ounces of gold valued at $4,102,000, 1,233,000 fine ounces of silver valued at $876,800, 119,900,000 pounds of copper valued at $16,066,600, 13,740,000 pounds of lead valued at $1,085,460, and 41,750,000 pounds of zinc valued at $4,676,000 compared with outputs in 1943 of gold, 144,442 fine ounces valued at $5,055,470, silver 1,620,280 fine ounces valued at $1,152,199, copper 142,136,000 pounds valued at $18,477,680, lead 9,580,000 pounds valued at $718,500, and zinc 27,294,000 pounds valued at $2,947,752. Gold production decreased 19 per cent in quantity and value, silver decreased 24 per cent in quantity and value, copper decreased 16 per cent in quantity and 13 per cent in value, lead increased 43 per cent in quantity and 51 per cent in value, and zinc increased 53 per cent in quantity and 59 per cent in value.

Preliminary data for 1944 indicate that 95 per cent of Nevada gold was produced at lode mines and 5 per cent at placers compared with 92 and 8 per cent, respectively, in 1943. In 1944 as in 1943 one-half of the state's total gold was derived from copper ores; virtually all copper ore was treated by concentration and the concentrates smelted. Gold ore, most of which was cyanided, yielded over two-fifths of the 1944 production of gold compared with 35 per cent in 1943.

The Getchell mine in the Potosi district, Humboldt County, operated by Getchell Mine, Inc., continued to be Nevada's leading gold producer for the sixth successive year. Operations there have been permitted because of the substantial output of strategic arsenic recovered as a byproduct in roasting the ore preparatory to cyanidation. The Getchell mine operation accounted for roughly one-fourth of the state's 1944 gold output. The companies holding second and third rank in gold production were both copper mine operators —the Kennecott Copper Corporation (Nevada Mines Division) and the Consolidated Coppermines Corporation. Those two companies and the International Smelting and Refining Company, operating the Copper Canyon mine, Battle Mountain district, Lander County, also a copper producer, supplied almost half of Nevada's total gold in 1944.

Other mining operations that produced over a thousand ounces of gold in 1944 included the following: The Willow Creek Mines, Inc., which operated a cyanide plant at the Goldacres mine, Bullion district, Lander County; the Manhattan Gold Dredging Company which continued dredging in the Manhattan district, Nye County; the Combined Metals Reduction Company which derived its gold from argentiferous lead-zinc ores produced from a group of mines in the Pioche district, Lincoln County; the Consolidated Chollar Gould and Savage Mining Company which cyanided gold-silver ore from adjoining mines in the Gold Hill section of the Comstock lode, Storey County; and the Tonopah Mining Company of Nevada which shipped to smelters gold-silver ore mined by lessees in the Tonopah district, Nye County, for use as siliceous flux.

Approximately 90 per cent of Nevada's silver in 1944 was recovered from base metal ores. Almost one-half was derived from lead-zinc ore and smaller quantities came from copper, lead, and gold-silver ores. The leading producers of silver from lead-zinc ore were the Combined Metals Reduction Company, the Prince Consolidated Mining Company, and the Ely Valley Mine, all in the Pioche district, Lincoln County. The leading producers of silver from lead ore were: the Salt Lake-Pioche Mining Company (including lessees), Financier and Apex mines, Pioche district, Lincoln County; the Bristol Silver Mines Company, Bristol mine, Jack Rabbit district, Lincoln County; Symanzik and Wrobel, Trinity mine, Battle Mountain district, Lander County; and Hall Brothers Company, Inc., Tybo mine, Tybo district, Nye County. These four operators shipped their ore to smelters.

Copper concentrates shipped to smelters from the Kennecott Copper Corporation (Nevada Mines Division) and the Consolidated Coppermines Corporation mines in the Robinson district, White Pine County, the International Smelting and Refining Company's Copper Canyon operation, Battle Mountain district, Lander County, and the Mountain City Copper Company's Rio Tinto mine, Cope district, Elko County, were an important source of silver in 1944. Direct smelting copper ore shipped by Greenan-Kerr Tin Mine, Antelope district, Pershing County, also yielded a substantial quantity of silver. Gold-silver ore shipped for siliceous flux by the Tonopah Mining Company was an important source of silver.

After establishing an all-time record in 1942, Nevada copper production decreased in 1943 and again in 1944 to 119,900,000 pounds valued at $16,066,600. The decrease in copper production was caused principally by a chronic labor shortage at the mines. Over one-half of the state's copper output came from the Kennecott Copper Corporation (Nevada Mines Division) which worked the Copper Flat open pit and the Ruth mine, Robinson district, White Pine County, throughout the year. The second largest producer was the Kennecott's neighbor, the Consolidated Coppermines Corporation. These two companies and the Mountain City Copper Company which worked the Rio Tinto mine, Cope district, Elko County, produced over 96 per cent of the state total in 1944.

The Pioche district produced over 60 per cent of the lead and over 80 per cent of the zinc in Nevada in 1944 according to preliminary data; all of the zinc and most of the lead was recovered from concentrates produced by the Combined Metals Reduction Company's Pioche mill; during the year the mill's daily capacity was increased from 500 to 700 tons.

The first shipment from the Mt. Hope mine, Eureka district, Eureka County, was made to the Bauer mill of the Combined Metals Reduction Company by Leverett Davis in January 1944; later in the year the management was taken over by the Callahan Zinc-Lead Company, Inc. Small shipments were continued throughout the year and in addition, ore was stockpiled for treatment at the mine when a mill should be completed.

NEW MEXICO

MINES in New Mexico yielded (in terms of recoverable metals) 6,914 fine ounces of gold, 536,220 fine ounces of silver, 144,082,000 pounds of copper, 14,402,000 pounds of lead, and 105,166,000 pounds of zinc in 1944. Production in 1943 was 5,563 fine ounces of gold, 463,583 fine ounces of silver, 152,326,000 pounds of copper, 11,446,000 pounds of lead, and 119,048,000 pounds of zinc. These figures indicate increases in 1944 of 1,351 fine ounces of gold, 72,637 fine ounces of silver, and 2,956,000 pounds of lead, and decreases of 8,244,000 pounds of copper and 13,882,000 pounds of zinc.

At average prices used by the Bureau of Mines, the calculated gross value of the output of these metals in 1944 was: Gold $241,990, silver $381,312, copper $19,306,988, lead $1,137,758, and zinc $11,778,592—a total value of $32,846,640. In 1943 the total value was $34,042,378, of which $194,705 was in gold, $329,659 in silver, $19,802,380 in copper, $858,450 in lead, and $12,857,184 in zinc.

The metal mining industry of New Mexico was hampered in 1944 by the extreme shortage of manpower. At the end of 1944 it appeared this shortage was more crucial than at any time since the entry of the United States into the war. Absenteeism continued large among the major producers in 1944. Even under the most favorable underground working conditions absenteeism was reported as high as 20 per cent.

The Chino Mines Division of the Kennecott Copper Corporation, largest copper producer in New Mexico, operated its open-pit mine at Santa Rita and its flotation mill and reverberatory copper smelter at Hurley throughout 1944. The manpower shortage became so critical during the latter part of the year that on October 16 the company was forced to reduce operations to a 6-day week, working 12 days and sus-

GEORGIA STILL MINES GOLD

The Bureau of Mines reports that Georgia, which for years "has proudly listed itself as a gold producing state," again made the grade in 1944. According to the bureau's figures on the nation's gold production, Georgia in 1944 produced approximately 4 ounces. "The metal was mined by individuals near Dahlonega," the report stated.

pending operations for 2 days. Copper continued to be recovered from leaching accumulated dump material from the pit and from siliceous copper ore used in the converters as a flux. Molybdenum, gold, and silver are recovered in the concentration mill as byproducts. Most of the copper produced at the smelter in 1944 was marketed in the form of fire-refined copper bars. The company continued development of its Oswaldo and Ivanhoe zinc properties in the Central district.

The largest producer of zinc in the Central district was the Bullfrog mine of the United States Smelting Refining and Mining Company which operated continuously during the year. The American Smelting and Refining Company continued to operate its Ground Hog-San Jose property and the leased Hanover Unit (formerly Combination-Black Hawk mill) throughout 1944 treating mostly company ore from the Ground Hog mine but also some custom ore from the Combination, Hobo, and other mines. The Peru Mining Company operated its Pewabic, Copper Flat, and Kearney mines near Hanover and shipped zinc ore to the Peru 1,000-ton selective-flotation mill at Wemple near Deming.

The Empire Zinc Company operated its Hanover mine group and selective-flotation mill continuously in 1944. In addition to ore from the company properties in the Central district, the mill treated ore from the company Lynchburg and Kelly mines in the Magdalena district.

In March 1944 the New Mexico Ore Processing Company, operators of the Peerless mine in the Central district and several claims in the Pinos Altos district, purchased the Continental Chemical and Ore Company mill in Silver City. The new owners increased the capacity of the plant from 60 to 100 tons per day; built a new assay office and metallurgical laboratory and installed additional ore bins. Lead concentrates produced at the mill are shipped to the El Paso (Texas) smelter; zinc concentrates are shipped to the Amarillo (Texas) smelter.

In the Central district the Black Hawk Consolidated Mines Company operated its Hobo-Combination mine and shipped crude zinc-lead milling ore to the Hanover Unit of the American Smelting and Refining Company. In the Steeple Rock district the Exploration Syndicate, Inc., continued to lease and operate the Carlisle group of mines. In September the company completed its new East End selective-flotation mill. In the Burro Mountain district the Phelps Dodge Corporation continued leaching operations on its Burro Mountain property.

In the Lordsburg district, the Banner Mining Company operated the Bonney mine and 500-ton flotation mill throughout 1944 and produced copper-gold-silver concentrates which were shipped to the El Paso smelter. Lessees on the Atwood mine, also in the Lordsburg district, made regular shipments of crude copper ore to the El Paso smelter.

In the Magdalena district the American Smelting and Refining Company continued to operate its Waldo mine and 250-ton selective-flotation mill throughout 1944.

OREGON

OREGON'S gold, silver, copper, lead, and zinc mining industry did not recover in 1944 from the disastrous depths to which it had fallen in 1943 as a result of the war. Gold production was 1,050 fine ounces, silver 14,850 fine ounces, copper 20,000 pounds, and lead 6,000 pounds; no zinc output has been reported in Oregon since 1937. Production in 1943 was 1,097 fine ounces of gold, 10,523 fine ounces of silver, 12,000 pounds of copper, and 8,000 pounds of lead. The value of the four metals in 1944 was $50,464 compared with $48,038 in 1943, a 5 per cent increase.

Gold production in 1944, though only slightly lower than in 1943, was less than 1 per cent of that in the record year 1940 when 113,402 fine ounces valued at $3,969,070 were produced. The decline since 1940 has been due to the unfavorable economic conditions and labor supply which have grown steadily worse as the demands of the war industries of the Pacific Coast have become more insistent. Even before the end of 1942, all of Oregon's larger gold producers had suspended operations and none resumed work during 1943 or 1944. A part of the 1944 gold output was a byproduct at an operation carried on to recover chromite from old beach sand.

Production of silver, copper, and lead, dwindled to almost nothing when gold production succumbed to war conditions in 1943. The principal silver producer in 1944 as in 1943 was the Oregon King Mines, Inc., operator of the Oregon King mine, Ashwood district, Jefferson County.

SOUTH DAKOTA

MINES in South Dakota yielded in 1944 10,841 fine ounces of gold, 5,296 fine ounces of silver, 2,000 pounds of copper, 68,000 pounds of lead, and 112,000 pounds of zinc. Production in 1943 was 106,444 fine ounces of gold, 35,886 fine ounces of silver, no copper, 82,000 pounds of lead, and 92,000 pounds of zinc. Compared with 1943, the gold output from South Dakota in 1944 decreased 95,603 ounces (90 per cent), silver 30,590 ounces (85 per cent), and lead 14,000 pounds (17 per cent). The production of copper increased 2,000 pounds and zinc 20,000 pounds (22 per cent).

At the average prices used by the United States Bureau of Mines, the calculated gross value of the output of metals in 1944 was: Gold $379,435, silver $3,766, copper $268, lead $5,372, and zinc $12,544 —a total of $401,385. In 1943 the total value was $3,767,145, indicating a decrease from 1943 of $3,365,760 (89 per cent) in the total value of gold, silver, copper, lead, and zinc mined in South Dakota in 1944.

The only metal mine operating in South Dakota in 1944 for the production of gold, silver, copper, lead, or zinc was the Belle Eldridge Gold Mines, Inc., in the Whitewood district, Lawrence County. Operations at all the other metal mines in the state were suspended by the middle of 1943. The Belle Eldridge company operated its group of claims in Spruce Gulch continuously until July 1, 1944, when the mine and mill were shut down for the duration. Since then development of the

F. CONRAD* reports on

Minerals Used At Fontana Steel Plant

A wide variety of minerals are required to produce the 1,000 tons of molten iron poured each day by the blast furnace at the Kaiser Company's Fontana steel plant. In addition, other materials are required for the open hearth and the foundry. Major sources of supply are located in four western states and in Mexico. Shipments by rail are unloaded by a rotary car dumper capable of handling 384 cars a day.

FROM a technical standpoint steel mills seem cold, hard, dirty, and totally unromantic. But an entirely different viewpoint is obtained when one has observed a model plant, such as Kaiser Company's Fontana, California, enterprise, raise itself gradually from ground formerly used as a hog ranch; seen it go into blasting production and watched the grounds as they are beautified with green lawns and dahlia gardens. One realizes then that virtually everything composing it came from the good earth.

With Big Bess, the blast furnace, pouring out over 1,000 tons of molten iron each day, it is also difficult to imagine that roughly six months of such production would not replace the steel used in building the plant. Nor is it easy to visualize the small mountain of limestone which was converted into concrete to construct and support the massive buildings.

And built from the earth, a steel mill obtains its living from the earth. The following data and approximate figures represent a few of the essential minerals used, their present source of procurement by Kaiser Company, and their uses.

IRON ORE: Obtained from the Vulcan open-pit mine in the Providence range near Kelso, California. Approximately 55,000 tons are used per month in the blast furnace. The ore is shipped via Union Pacific Railroad.

COKING COAL: Mined by the caving system at the Sunnyside mine, Sunnyside, Utah, a property which is leased from Utah Coal Company. Approximately 45,000 tons of coal are shipped each month via the Denver and Rio Grande Railroad and the Union Pacific Railroad. The coal is coked in a 90-oven Koppers Company byproducts coke plant for use in the blast furnace.

LIMESTONE: Portland Cement Company of Colton and Chubbuck, California, furnishes virtually all limestone used, shipments going via Union Pacific Railroad. Approximately 15,000 tons are used monthly in the blast furnace and 5,000 tons monthly in the open hearths.

MANGANESE ORE: Ore used at present comes from the Lucifer mine, owned by Zerwekh Company, near Quintanilla, Mexico, and is shipped by boat from Santa Rosalia, Mexico. Approximately 1,500 tons of manganese are used monthly in the blast furnace.

DOLOMITE: The Permanente Metals Corporation's plant at Permanente, California, provides both calcined and raw dolomite for use in the open hearths, and raw dolomite for use in the foundry. About 700 tons are used per month, shipments going via Southern Pacific Railroad.

CLAY: The Alberhill clay deposit near Corona, California, leased by Kaiser Company from the Gladding-McBean Brick Corporation of Los Angeles, provides approximately 8,000 tons per month, shipments being made by Santa Fe Railroad. The Alberhill clay contains both aluminum and silica and is used as a flux in the blast furnace.

FLUORSPAR: Approximately 150 tons are used monthly from a deposit near Beatty, Nevada.

GANISTER: Varying small tonnages are used.

CHROME ORE: Approximately five tons of chrome ore are used per month, the ore being obtained from federal ore reserves in Oregon.

The above ores and minerals are only a few of the major materials now being used at the Kaiser Company's Fontana plant. Upon completion of alloy finishing facilities many other alloying elements will be used. Departmental usage breakdown includes other minor minerals used as follows:

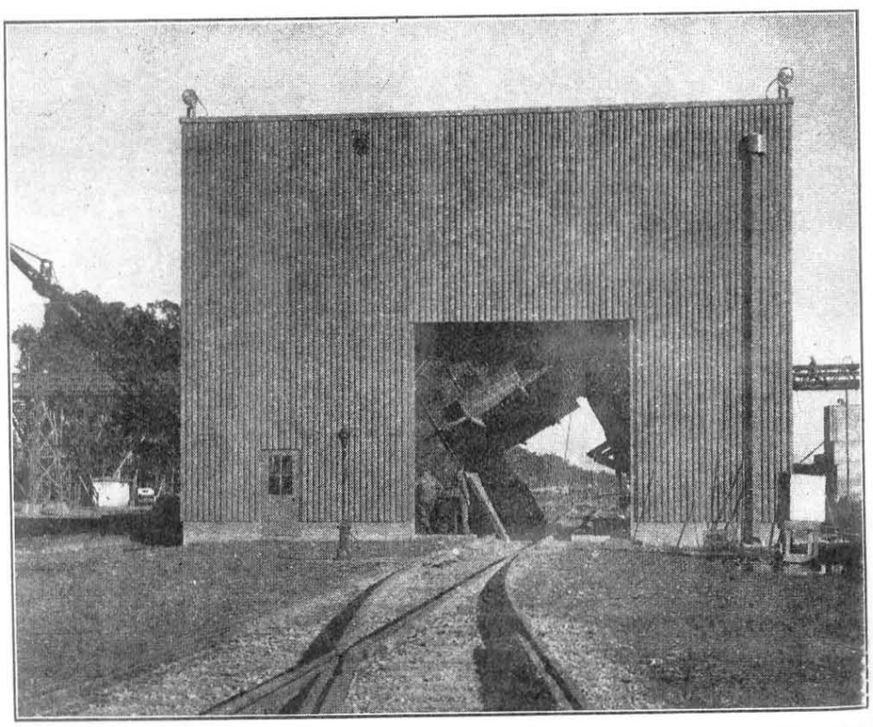
BLAST FURNACE: Iron ore, limestone, coke, manganese, loam, and sand.

OPEN HEARTH: Burnt lime, calcium-silicon, chrome ore, dolomite (calcined and raw), ferro-manganese, ferro-silicon, ferro-titanium, fluorspar, ganister, iron ore, limestone, magnesite, coal (anthracite), loam, soda ash, and lunkerite.

FOUNDRY: Bentonite, bondite, dolomite (raw), ferro-silicon 50 per cent, fire clay, ganite, blutrin, limestone, sand, and silica flour.

ALL departments of Kaiser Company's $100,000,000 steel mill use nothing but the finest and most up-to-date equipment. Among the gigantic machines lately installed is a Link-Belt rotary car dumper of the newest model. It will greatly facilitate the handling of all ores which are used in such vast tonnages. Construction of the car dumper was supervised by William Schoor of the Link-Belt Company of Chicago.

Standard railway ore cars are run into the car-dumper building, then monstrous hooking clamps move downward over the top car frame. The cars are turned over by chain rotor, operated from an over-



Rotary car dumper just installed at the Fontana steel mill of Kaiser Company. This dumper averages 16 standard railroad cars of ore per hour.

*Riverside, California.

head control house. The ore is chute-dropped to a 60-inch by 53-foot 9-inch steel apron variable speed feeder, the largest in the country, and then is carried through a 4-foot 3-inch heavy-duty manganese steel finger-gate to a series of conveyors. These conveyors, through crushing and screening stations, take the ores to their respective storage bins or stockpiles.

NEED OF EARLY ACTION EMPHASIZED BY McFARLAND

THE need of prompt action by Congress on the proposal to extend the premium price plan for copper, lead, and zinc beyond July 1, 1945, was brought out forcibly by Senator E. W. McFarland of Arizona. In speaking on Senate Bill 502 he said that "both labor and industry should be assured that production will continue undisturbed for at least another fiscal year" and that "the government should promptly reannounce the plan for premium payments . . . upon terms not less satisfactory to industry than those heretofore in force."

McFarland stated that immediate action by Congress is necessary, even though the present program does not expire until July, "to relieve the producers of those important sinews of war from their dire dilemma." In his comments upon the subject the senator from Arizona said:

"Unfortunately, the amendment to the Stabilization Act of 1944, which prohibited subsidy payments after June 30, 1945, probably went further than really was intended. While designed to check the wholesale application of consumer rollback and similar subsidy devices, these vital producer subsidies affecting principally copper, lead, zinc, petroleum, and petroleum products were not exempted as previously has been the case.

"Prior to the passage of the restrictive amendment, the Metals Reserve Company had announced the extension of the premium price plan for copper, lead, and zinc until July 31, 1945, a month beyond the limiting date afterward established by the Stabilization Act of 1944. I am informed that certain individual contracts had been made for even longer periods. Obviously the Government has been placed in an anomalous position with respect to the producers with whom it contracted; and, without explicit permission from Congress, it is not able to carry out its contractual obligations.

"The industry, including both employers and employes, is being affected adversely by the uncertainties of the situation. As far as is known to thousands of mine operators, they must close down within the next few months or must start making arrangements to do so. The Metals Reserve Company, I am informed, is in a position to announce the terms of premium payments for the new fiscal year the moment the Congress gives it the green light.

"Producers should know at the earliest possible moment what they may expect, so that they can plan for the future. There never has been a time when full production is so urgently necessary, and we must permit nothing to stand in the way of making the maximum effort. If the ordinary course of events is followed, it will not be possible to provide funds for producer subsidy payments except in an appropriation bill following the passage of the extension of the Emergency Price Control Act, and this may mean that the prevailing uncertainty might continue until May, thus accentuating the already unfortunate adverse effect upon production.

"There can be no doubt that this program has been remarkably effective in saving the Government and the people large sums of money, due to its deflationary effect. Chester Bowles is authority for the statement that up to the first part of last year premiums on copper alone had effected a saving to the consumers of $600,000,000. It has also been stated authoritatively that to date between one and one-half and two billion dollars has been saved in the ultimate cost of finished goods made all or in part of copper, lead, or zinc, of which the Government is the principal user.

"The reasons for continuing the payment of these producer subsidies are so cogent that I feel sure Congress would without question eventually vote the necessary appropriations."

Co-authors of S. 502 were McFarland of Arizona, Murdock of Utah, Scrugham of Nevada, Thomas of Idaho, Thomas of Utah, Murray of Montana, Johnson of Colorado, Hayden of Arizona, and Hatch of New Mexico. A companion bill has been introduced in the House, known as H. R. 2072, by Harless and Murdock of Arizona and Engle of California.

POSTWAR STEEL WEST OF THE ROCKY MOUNTAINS

Further interest in the West Coast steel industry has developed as a result of recent statements by Henry J. Kaiser, president of the Kaiser interests, and by Benjamin F. Fairless, president of United States Steel Corporation, concerning postwar activities of their respective companies. Kaiser has stated that the Fontana plant "it not and will not be for sale."

In addition, Kaiser reports that his company is making a survey of the Columbia Steel Company's Geneva plant at Provo, Utah, which U. S. Steel also is interested in acquiring. (Columbia Steel Company is U. S. Steel's Pacific Coast subsidiary.) Kaiser asserted that if the survey indicates that the Geneva plant would be "a contribution or complement to the Fontana mill, or to the West," his company would "request the same opportunity to make a proposal to the Government for the purchase or lease, exactly as the United States Steel Corporation has announced it will do." Both the the Fontana plant and the $200,000,000 Geneva plant were built with Reconstruction Finance Corporation funds for war production.

JANUARY COPPER FIGURES SHOW SHARP DROP IN OUTPUT

JANUARY copper statistics, as released by the Copper Institute, show a drop in mine and refined output, a decline in deliveries, and a sharp decrease in refined stocks in the hands of producers. Mine output in January amounted to 73,640 tons as compared with 76,799 tons in December, and represents the lowest output in many years. Refined copper production dropped to 67,726 tons, a decline of 14,923 tons. The manpower shortage at the mines, smelters, and refineries was given as the reason for the lowered output.

Deliveries of refined copper to domestic consumers amounted to 145,904 tons, a decrease of 10,896 tons from the December figures. These deliveries were made up of 74,791 tons from domestic refined output and 71,113 tons provided by Metals Reserve Company, as compared with 73,920 and 83,880 tons, respectively, in December.

Since the deliveries of domestic refined copper exceeded domestic refined output, the refined stocks were reduced by 7,065 tons, leaving the total carried by producers at the end of the month at 59,715 tons. These figures do not include the stocks being carried by Metals Reserve.

DENVER ENGINEERING CONTINUES PRODUCTION AND DEVELOPMENT

CONTINUED work is being done by the Denver Engineering Company in the San Antonio-Congress mine in San Juan County near Ouray, Colorado. The crosscut to the Congress ore body has been completed and the old workings have been drained. Large bodies of low-grade lead-zinc-copper ores have been found in the old workings, particularly in the casings around the center high-grade core.

Extensive work on this ore body is being carried on this winter. Meanwhile, shipments will continue to be made to the smelter at Salt Lake City, Utah.

Merle Curtis, formerly of Cripple Creek, is superintendent for Denver Engineering at Ouray and Arthur C. Daman, 1400 Seventeenth Street, Denver, is president and general manager.

NEVADA MINERS BOAST BEST SAFETY RECORD

ONLY one fatal accident in the Nevada mines is the record for the year ended June 30, 1944. Matt Murphy, Nevada mine inspector, says that mine accidents in the state were less than in any other western state. This record he believes is more imposing when one considers the shortage of help and the number of inexperienced men employed today.

However, efforts to better even a good record are being made. Two safety bills have been introduced in the state legislature. One would amend mining laws to require two-way signals between hoisting engineers and skip operators and would also make it mandatory to have two-way signaling devices on all mine trains. The other provides for installation of spray devices for all drilling equipment above or below ground.

gaged in the mining of tantalum and columbium, both of which now are strategic minerals, and is said to be planning installation of a magnetic separator and construction of a small electric smelter. The company address is Box 385, Bouse, Arizona.

Hollis B. Gray, General Delivery, Wickenburg, Arizona, is resuming operations at the old **Camp B** mine on an expanded basis. So far only development work is under way, but it is hoped that a shipping schedule of about 1,500 tons of copper ore per month will be possible in the near future. The Camp B is located about 10 miles northeast of Wickenburg in the Black Hills district of Yavapai County, Arizona. It was reopened under an RFC loan by N. S. Oberon, Wickenburg, the latter part of 1942, following a period of some 20 years during which the property was idle.

Mining of copper-silver-lead ores is being conducted by Thomas Seymour Dalton, Box 384, Prescott, Arizona, at the **Amnity Group.** The property is located in the Castle Creek district of Arizona.

The **Arizona Dredging Company** has been engaged in an experimental sampling program at the Hobbs group of iron claims, located southeast of Wilhoit, Arizona. It is understood that the group is within 20 holes of completing the work. The project is being directed by C. S. Barnes of Wickenburg. The company's mailing address is Box 1429, Prescott, Arizona.

The **Asbestos Mines of Arizona,** Roger Q. Kyle, Box 302, Globe, Arizona, owner, reports that no shipments are being made from the Sloan Creek property at present because winter snows have made the roads impassable. However, the company plans to start shipping again by March 15. The concern has been processing and shipping about a carload of asbestos ore monthly to Pacific Coast markets. The Sloan Creek group is located in the Pleasant Valley district of Arizona about eight miles east of Young. Asbestos Mines of Arizona and other asbestos operators in the district report that an access road from Cherry, via Sombrero Butte, is needed to give the mines an all-winter route and to cut down trucking distance from 110 to about 70 miles. The asbestos company also controls the Miami asbestos group, 45 miles north of Globe in the Sierra Anchas; the Pueblo group, 60 miles north of Globe on the Central Mountain Mesa; the Lucky Strike property, north of Globe; and the Kyle asbestos mill at Globe.

Other asbestos operations in the Young, Arizona, district which are affected by the winter snows are the **Pierce** and the **Triangle** claims. Neither of these has been able to conduct winter shipping. The Pierce claims are operated by Earl Pierce, Young, and are located about 45 miles north of Globe, Arizona. The Triangle asbestos claims are worked by Roy Wilson, Young, and are situated on Cherry Creek near Young. These claims also have been known as the Wilson and Maxwell property.

C. H. (Chuck) Dunning, Route 1, Box 1134, Phoenix, Arizona, has been given an increased copper premium which will permit expansion of his operations on the **Humboldt Lease.** He is installing additional mill equipment, including flotation cells, and plans on working old dumps, heretofore not possible under current prices and A premiums. The Humboldt Lease includes the dumps and tailings at the old Humboldt smelter and mill, Humboldt, Arizona, and comprises ores from the Bluebell and De Soto mines. Dunning acquired a lease on the Humboldt tails from the owner in 1942. W. A. Snyder is mill superintendent.

The **Leadville-Western Copper Company** is reported to be making plans for construction of a milling plant at its **Leadville** mine. The property is located near Courtland in Cochise County, Arizona, and the company has been employing a crew of about 15 men, working in three eight-hour shifts. The Leadville, which is developed by five connected shafts and about 9,000 feet of drifting, has principal values in copper, gold, and silver. C. V. Riccardi, Pearce, is president; Dr. Ralph Murane, secretary and resident general manager; John H. Betts, vice-president in charge of Long Beach office; and Sam Coupal, engineer. The company address is Pearce, Arizona.

Ronald L. Brown, Box 182, Tombstone, Arizona, is maintaining a shipping schedule of about six cars of ore monthly from the **Scribner** mine. The lead-silver ore goes to the El Paso smelter. The Scribner, owned by the Scribner estate of New Orleans, Louisana, is situated in the Swisshelm Mountains of Cochise County, about 50 miles east of Tombstone. The mine equipment includes a gasoline hoist and a 110-cubic foot compressor. Mine workings comprise two 150-foot shafts and one level.

The **Carlota Copper Company** is shipping an average of 50 tons of copper ore daily to the International smelter. The ore is coming from the company's property located in Gila County between Superior and Miami, Arizona, and all operations are directed by John L. Alexander, 530 West Latham Street, Phoenix, Arizona, president and general manager. J. D. McClintock, Box 1754, Miami, is assistant general manager.

"Believe me, if I HAD to pay taxes, I'd do it early!"

The **Kingman Feldspar Company** is producing approximately 1,000 tons of feldspar and silica per month at its mine located 7½ miles from Kingman, in the Wallapai mining district, Mohave County, Arizona. The material is ground at the company's mill about one-half mile east of Kingman before shipping. Quarry equipment is powered by gasoline engine, while the mill is electrically equipped. A crew of 13 is employed, under the direction of C. F. Hendrix, Kingman, mine and mill superintendent. R. W. Lawson, Erwin, Tennessee, is president of the mining company, which is a subsidiary of the Consolidated Feldspar Company of Trenton, New Jersey. A southern California office is maintained at 301 East Mountain Street, Glendale, California.

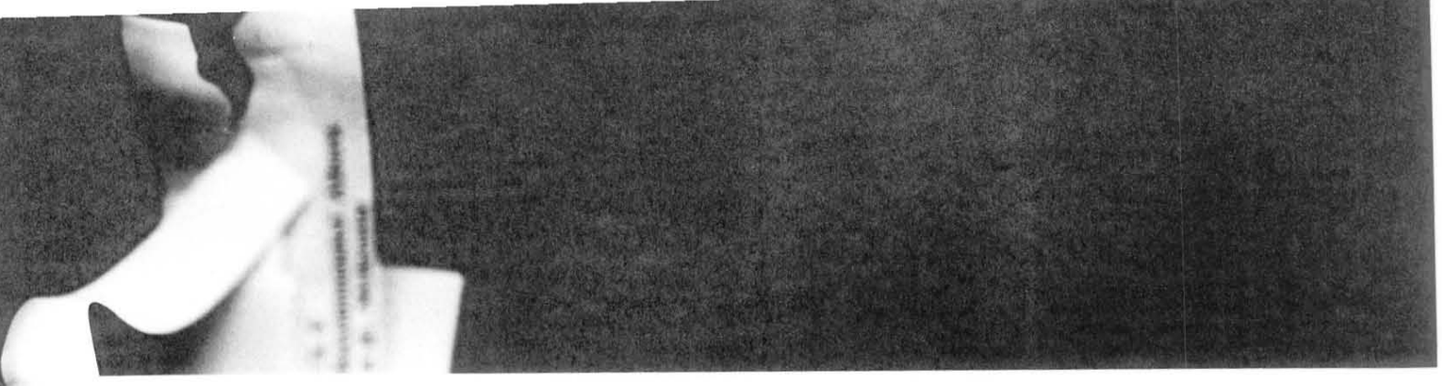
William F. Steinegger, 701 North Seventh Street, Phoenix, Arizona, is engaged in operating the **Lookout** mine in the Camp Creek district of Arizona. Development work now is under way, but Steinegger hopes to ship copper ore in the near future to the Magma smelter. Mine equipment includes a pump and gas engine.

Norman De Vaux and F. A. Bennett, both of Globe, Arizona, have purchased a controlling interest in the lease of Frank Carrow, Globe, and W. J. Forbach, Superior, Arizona, on the **Reymert** mine. It is understood that the new operators already have a bulldozer on the property to repair roads before starting shipments. Forbach is remaining at the mine as superintendent and part owner in the new lease. Forbach recently had acquired a new lease on the property from the Reymert Mining Company, owner, and had resumed operation. He had operated the mine nine years ago but, in May 1941, he assigned his lease to James Tod, 620 West Main Street, Mesa, Arizona. Tod abandoned the project in August of last year. The Reymert is located eight miles southwest of Superior, Arizona.

CALIFORNIA

A considerable increase in the shipments of silver-lead ore from the **Cerro Gordo** mine has been reported by Imperial Metals, Inc., Sam B. Mosher, president, Box 5840, Metropolitan Station, Los Angeles, California. The production has been coming principally from a previously unworked deposit, recently discovered during the company's diamond drilling program. The property is located in Inyo County, California, near Keeler, and has been in production under the present management for over a year. Maurice Albertoli, Keeler, California, is mine superintendent.

A substantial tonnage of chrome ore is being shipped regularly by **Tyson Chrome Mines, Ltd.,** to the Grants Pass, Oregon, stockpile. The production is coming from



the company's French Hill and Mountain View properties located about 22 miles northeast of Crescent City, California, and is trucked a distance of approximately 80 miles to the stockpile. The company has been employing a crew of about 25 men under the direction of John Noce, Crescent City, general superintendent and employment agent. Benjamin C. Mickle, 406 Montgomery Street, San Francisco, California, is general manager and purchasing agent. Other operating officials include Delbert Faulkner, assistant mine superintendent and Roger L. Beals, chief mine engineer. The French Hill property is an old one, having been worked for its chrome as far back as 1882. The Tyson interests shipped considerable high-grade in 1886, transporting the ore on mules to steamers at Crescent City and then shipping to Baltimore by way of Cape Horn. During the last war, the property is credited with a production of more than 8,000 tons of ore.

A new 5,000-yard daily capacity Bodinson dredge has been purchased by the Enterprise Engineering Company to be set up at the **James Creek** quicksilver placer property, 88 miles north of Oakland, California, in the Aetna Springs district of Napa County. In addition, Enterprise Engineering also purchased a three-yard Lima dragline, which will be delivered to the property by April 1. In the meantime, it is expected that the mining company will use a rented dragline of the same type in its James Creek operations, which will be started within a few weeks. The company maintains head offices at 1706 Broadway, Oakland 12, California, and was incorporated early in 1944 for the purpose of engaging in gold and quicksilver placer dredging operations. R. Lee Cate is president and Henry Ott is general manager and dredging engineer.

A. J. Molinari, 29 Laura Street, San Francisco, California, and Alan Dunbar are reported to be negotiating for a lease from the City of Oroville, California, preparatory to re-dredging on about 80 acres of city-owned property, and to have obtained leases from other owners of tailings properties in the area. The tailings, left by dredging operations years ago, will be handled at the Bechtel-Kaiser rock crusher plant near Oroville, also under lease to Molinari and Dunbar.

NO SPECIAL TREATMENT FOR LABOR UNIONS IN IDAHO

The governmental lap-dog, Labor, has received harsh treatment in Idaho. It seems that the district court upheld the constitutionality of Idaho's labor legislation requiring all labor unions to file financial reports with the secretary of state. The law was passed in 1943 by the state legislature, but Labor just couldn't believe its ears. No one yet has been able to make Labor responsible for its own deeds, so it's a bitter blow to the Idaho unions to know that they are going to be treated just like any other organization in these United States.

The Red Star Mining Corporation, a Wisconsin firm, is engaged in rebuilding the camp at the **Crystal** quicksilver mine, which was destroyed by a forest fire last year. Some of the new mining machinery and equipment already is on the ground and development work will be started in the near future. The Crystal mine is located in Sonoma County about 19 miles northeast of Healdsburg, California, and work is directed by H. A. Samson, Box 93, Healdsburg, mine superintendent.

Preliminary sampling work conducted for the **Western Empire Mines** at the old Castac mine is reported to have been satisfactory. The vein averages about four feet in width and is exposed for a distance of 200 feet. Samples are said to have run as high as $80 in gold per ton, and it is estimated that there are some 60,000 tons of $25 ore. The property, a gold producer as far back as the days of the early Spanish operations, was taken over under lease last fall from the Castac Mining Company. All machinery and equipment on the ground was included in the deal. The company has been engaged in road construction work and has drawn up plans for installation of a milling plant in preparation for regular gold mining when the ban is lifted by the War Production Board. Western Empire is headed by A. L. Mecham, Box 262, Santa Barbara, California, president and general manager. N. H. Rice is vice-president and general superintendent. The mine is located in the Santa Barbara National Forest in Ventura County, California.

M. D. Jordan and John Glennon, both of Gibbonsville, Idaho, are reported to be engaged in shipping chlorination tailings from the McArthur and Richards ranches in Nevada County, California. The tailings are said to have run 44 per cent iron, 31 per cent silica, and $11 in gold per ton, and are shipped to the Selby smelter. The operators are making temporary headquarters at Auburn, California.

Dewatering of the **Iron Duke** mine has been completed by Grover Kihorney, 2131 Bonita Drive, Glendale 8, California, and a satisfactory grade of gold ore is said to be exposed in the workings of the old mine. A small crew of about five men is employed regularly. The property was taken over recently from the owner, Mrs. Louise M. Broad, 80 Castro Street, San Francisco, California, and is located near Hornitos in Hunter's Valley, Mariposa County, California.

Continued development work, consisting principally of shaft sinking, is reported at the **Red Cloud** mine at Coulterville in Mariposa County, California, and it is expected that full scale operations will be undertaken as soon as the gold mining ban has been lifted. The mine is worked under lease by R. A. Fredricks, Box 57, Clovis, California, and associates of New York.

J. B. Girder of Weaverville, California, is engaged in working two manganese properties in the Horse Ridge and Post Mountain district of Trinity County, California. He is shipping to the Arcata, California, stockpile.

Ray Sylvester, Box 1435, Weed, California, is starting development of a group of amphibole claims located about five miles from Dunsmuir. He also controls asbestos deposits in Siskiyou County near Yreka, California, and some examination work has been done at that property by the United States Bureau of Mines to determine whether a core drilling program is warranted.

A crew of nine men is employed in diamond drilling exploration work at the **Oxford** mine, situated on the North Fork of the Yuba River, one mile from Downieville, California. Shipment of chrome ores was discontinued some time ago because of poor road conditions, but it is expected that shipments will be resumed as soon as the roads have been reopened. The Oxford mine is controlled by C. L. Best of San Leandro, California, under a twenty-five year bond and option, and work is directed by L. L. Huelsdonk, general manager, Downieville. Best owns the Ruby drift mine at Goodyears Bar, California, and the Gold Bluff mine near Downieville, but both of these properties also are closed down at present.

William H. Pike, La Porte, California, recently was allowed a reduction to $3,400 on assessments against his company, the **Bellevue Mining Company.** The case was presented to the Sierra County Board of Supervisors by Pike's attorney, A. J. Just. It is understood that Just argued that the company's original assessment was not in line with that of other properties in the district and that the company had suffered considerable flood and fire losses.

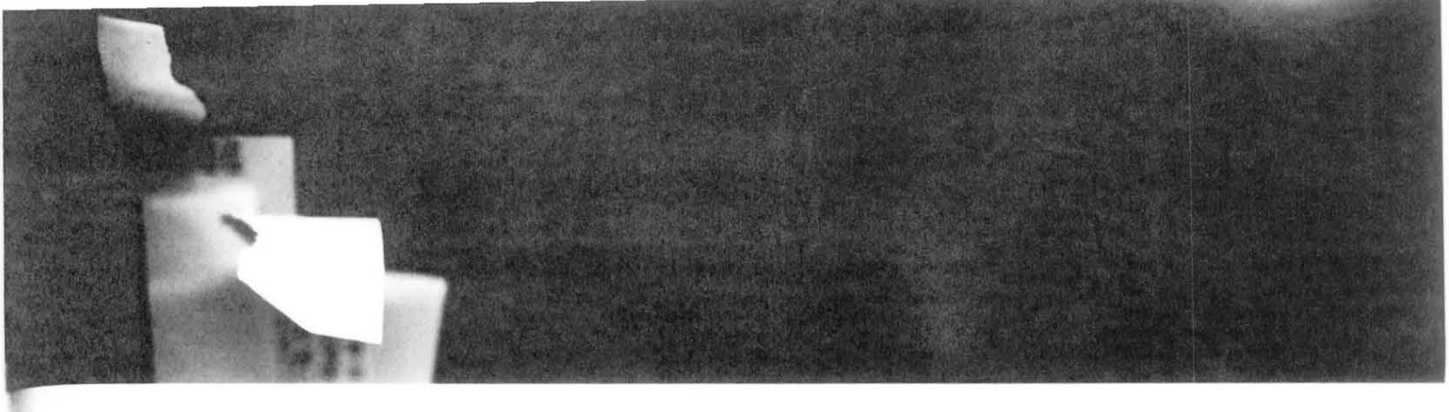
COLORADO

A new concern, **Colorado Fluorspar Mines, Inc.,** with H. D. Tudor, 58 Sutter Street, San Francisco 4, California, president, has been organized to take over and operate the mine and mill of the Colorado Fluorspar Corporation in Brown's Canon near Salida, Colorado. Capacity of the mill will be doubled by the addition of flotation cells and a classifier and the company expects to be handling 100 tons of fluorspar daily. An acid-grade spar will be produced, instead of the ceramic grade of material turned out by the new company's predecessor. Joseph W. Cook of San Francisco is vice-president of the company and S. F. Wickham, now at Salida, will be general superintendent. Roy F. Hickman, also of California, is at the property as assistant superintendent. The new operating group formerly was active at Guerneville, California, with the Sonoma Quicksilver Mines, Inc., of which Tudor is president. The old concern, Colorado Fluorspar Corporation, which was headed by Everett Cole of Canon City, is being dissolved.

According to reports, the **New Hope Company** has resumed operations at its property near Westcliffe, Colorado. The company holds the Golden Crescent, New Hope, and other claims in Custer County eight miles from Westcliffe. Plans call for the rehabilitation of the Wildcat mine and development of known lead-zinc ore bodies as well as exploration for new sources of ore. M. B. Martin of Parkdale, Colorado, and William T. Burris and associates of Pueblo control the company and A. F. Nicholson of Silver Cliff is superintendent. A new compressor has been installed and a crew of eight men is employed.

Because of the manpower shortage, the **Molybdenum Corporation of America** is reported to be operating its Urad mine and mill at half capacity, treating about 50 tons of ore a day. Forty-five men are employed under the general superintendency of Walter J. Eaton of Empire.

Because of the shortage of manpower, the **Resurrection Mining Company** of Leadville, Colorado, is confining its work to the Resurrection ore bodies, producing about 200 tons of ore daily. About the same amount of custom ore is handled in the company's mill. The original milling unit, which had a 300-ton daily capacity, was increased by a 400-ton unit in 1942. At present the old flotation equipment of the first section is being replaced and the newer unit is handling the mill feed. The custom ore comes from the Leadville, Kokomo, and Breckenridge districts. The staff at Leadville includes M. E. Newlove, general manager; A. G. Gunnelson, chief mine engineer; L. N. Caban, mine superintendent; K. L. Tatman, mill superintendent; George Murray, mine foreman; Elzie Ray, night foreman; and W. R. Doyle, master mechanic.



RESOILING OF DREDGED LANDS PROPOSED IN CALIFORNIA

A BILL has been introduced in the California legislature by Senator H. E. Dillinger of Placerville, calling for the resoiling of any dredged lands of agricultural value. In all recent sessions of the California legislature, efforts have been made to restrict or regulate activities of gold dredges, but the present proposed legislation has received the backing of a wide variety of organizations throughout the state, including the State Association of County Supervisors, State Grange, California Roadside Council, California Farm Bureau, civic, fraternal, and labor groups, and many of the state's newspapers.

Senator Dillinger, in discussing the measure, declared that the present practice of the dredges in leaving huge rockpiles on good agricultural land is in effect a practice that kills the goose which lays the golden egg. "They recover one crop of gold, running from $3,000 to $15,000 or higher, and leave a pile of rocks," he said. "Planted with fruit or vegetables that same land would produce $15,000 in a very few seasons and continue to produce ever after."

He also stated that the dredging companies can and do repair the lands when the owner requires it by a clause in the contract and that a few years ago they did some leveling when the public protest became too insistent. According to his estimate, 1 per cent of the gold recovered from the California valleys would repay for such leveling, as the measure does not ask for the resoiling of lands of no value. An amendment to the original measure provides that the decision as to whether the land is of sufficient value to warrant resoiling shall be left to the boards of supervisors in the counties in which the dredging is to be done.

Opponents of the measure claim that resoiling has been practical in only a few isolated instances. In the Lincoln area a small piece of ground which had a deep layer of top soil was stripped of the overburden, the pay gravel scooped out, and the top soil returned. That project, they say, was successful, but resoiling in most cases is impractical as there is insufficient fine material. Attempts at resoiling were made in the Natomas area for several years, they contend, but were unsuccessful as the rain and water from the pond soon washed the fine material down through the leveled rock piles and ultimately exposed the rock tailings.

Dredge operators deny the charge that agricultural lands are being destroyed. They state that only about 5,000 acres or 10 per cent of the 50,000 acres dredged and to be dredged in California can be considered crop land. They also call attention to the fact that the rock tailings left by large dredges have served useful purposes, providing flood control, material for road building construction, and airport runways.

The Dillinger bill, known as Senate Bill 37, has been referred to the senate committee on natural resources and will come before that body after the February constitutional recess.

ADDISON N. CLARK* tracks gadget back to

King Solomon's Mines

Here's the true genealogy of the arrastre, the Gold Rush grinder of gold quartz and its paler argentiferous relative. This account was prepared by an active rooter for Hard Money, and the mining of what it's made of. And, incidentally, it seems King Solomon was a copper magnate too, along with his other attainments of wisdom, etcetera!

IF YOU were to ask the average western mining engineer or executive where the *arrastre* came from, before it was so widely used up and down California's Sierra Nevada during the flaming fifties, you could lay odds of 100 to 1 that he would tell you it came from Mexico.

To that extent, as to the ancestry and genealogy of that famous primitive ore-dressing plant, he'll be right—*in part*. And California's scions of Gold Rush pioneers take pride in the fact that their neck of the California and western woods was where the *arrastre* first began grinding gold out of quartz. The expeditionary force from Mexico's State of Sonora, whence came the name of the picturesque and historic Mother Lode town they founded—county seat of Tuolumne County — introduced the crude mill to the *gringo* gold-seekers who, having found the placer deposits waxing lean, were turning to hard-rock mining.

And what of the name of that primitive predecessor of our stamp mills, ball mills, rod mills, and other primary grinders? Look into your Spanish dictionary. You'll find the noun *arrastre* defined as "the act of leading a trump at cards." Just ahead of that you'll find the verb *arrastrar* defined as "to creep, to crawl, to drag along."

Out of that combination of facts we can build a sort of visual definition of the *arrastre* as we know it—especially we who, rambling through my favorite Bret Harte Hills, have stumbled upon many surviving ruins of the quaint mills that crudely processed auriferous quartz mined almost a century ago.

Take first that verb and its three English equivalents: Western metallurgical practice, in its steady advance through many decades, has done all three to attain its high position of today.

As for that noun definition, in the fifties the *arrastre* was indeed a trump-card for Gold Rush and later California pioneers whose placer diggings had begun to peter out, and who had found croppings of rich gold quartz that had to be crushed and ground for amalgamation with "quick."

In the private office of Walter W. Bradley, chief of the California State Division of Mines, hangs a large framed sepia etching depicting a one-mulepower *arrastre* running full-tilt, with a whiskered miner of the fifties functioning as mill superintendent . . . a long-lashed whip as his emblem of authority. And hard-by on the creek are the two other dominant early-day gold-recovery devices—the rocker and the pan, both likewise in action. Through Bradley's courtesy I have a framed photograph of this etching of those three symbols of early-day California prosperity (when gold mining hadn't been branded a non-essential industry and stymied by swivel-chair mine experts of a bureaucratic administration on the Potomac). A reproduction of that photo appears here, so that readers who may not yet have discovered any old *arrastre* pits in their rambles through the Bret Harte Hills and elsewhere may see what the historic mill looked like, and how it ground the gold out of the quartz.

BUT . . . so far we've tracked the primitive mill only as far back as Old Mexico. And Mexico was not its birthplace. When Don Hernando Cortes and his soldiers of fortune landed on the New World mainland in 1519, at Rio Tabasco and later at the spot where he set up *La Villa Rica de la Vera Cruz* (plain Vera Cruz today), and with his little band of *conquistadores* invaded and conquered the rich Aztec empire of Montezuma, all of the vast treasure of gold they exacted as tribute to their godly Christian monarch was from placer sources. Granular and dust gold, bottled in quills, was legal tender. If the Aztecs had obtained any lode gold, it had been from croppings of rich ore whence the metal had been chipped with their crude stone and obsidian hand tools.

So—where DID this *arrastre* originate . . . this crude quartz-mill the Sonorans of Old Mexico brought overland (in their heads, that is) to the Sonora they founded in California as their front-line mining camp?

It originated at one of the two greatest mining camps named in the Bible—smelting point for the ores from King Solomon's mines.

Does that sound fishy? Sit tight, and I'll give you some solid evidence that will link those fabulously rich mines with the mines (and the old *arrastre*) of our own Golden West.

First, open your Bible (borrow the parson's if you haven't one handy) to Chapter 10 of the First Book of Kings, verses 1 and 2, telling of a social call on Solomon by his would-be girl friend, the Queen of Sheba—who "came to Jerusalem with a very great train, with camels that carried spices, very much gold, and precious stones." (Note: The lady's gold stockpile probably was at Ophir, off somewhere to the northeast, I think—and I'm betting that she didn't have a Fort Knox).

The amorous queen overplayed her hand. As to mineral wealth Solomon had it on her both ways from the Jack. In other words, he was a big shot in the mining industry of his day (882 B.C.) and his mines, lost to history, all but legend through many centuries were what in borrowed Spanish we today call *bonanzas*. And besides being a gold miner, His Majesty was a copper miner.

At his industrial city of Ezion-Geber, at the head of the fingerlike arm of the Red Sea called the Gulf of Aqaba (and lying in the shadow of Mount Sinai, where God gave Moses those two tables of commandments that still regulate our lives) were King Solomon's milling and smelting plants. It likewise was his naval base and shipping port, with Aqaba, present village port on the gulf, less than five miles south. Space scarcity forbids more details here; but if you want them, you can find them at your public library in the January 1944 issue of the National Geographic Magazine, page 233.

Now briefly back to this *arrastre*: Ruins found in northeast Africa (Ezion-Geber's uncovered ruins are right where Egypt, Palestine, and Trans-Jordania come together) indicate, it is reported, that the great-great-great-grandfather of the *arrastre* was the primary grinder used in milling the ores from King Solomon's mines as a prelude to their crude smelting — with hot one-way desert winds in a canyon as blast-creator. On page 238 of that Geographic is a photograph of the ruins of one of those smelters where his engineers produced copper for arms, shields, and temple ornamentation. They smelted iron, too, as proved by analyses of ore and slag found. An Arabic place-name of today, Khirbet-en-Nahas, means "the Copper Ruin," says Nelson Glueck, author of the National Geographic article.

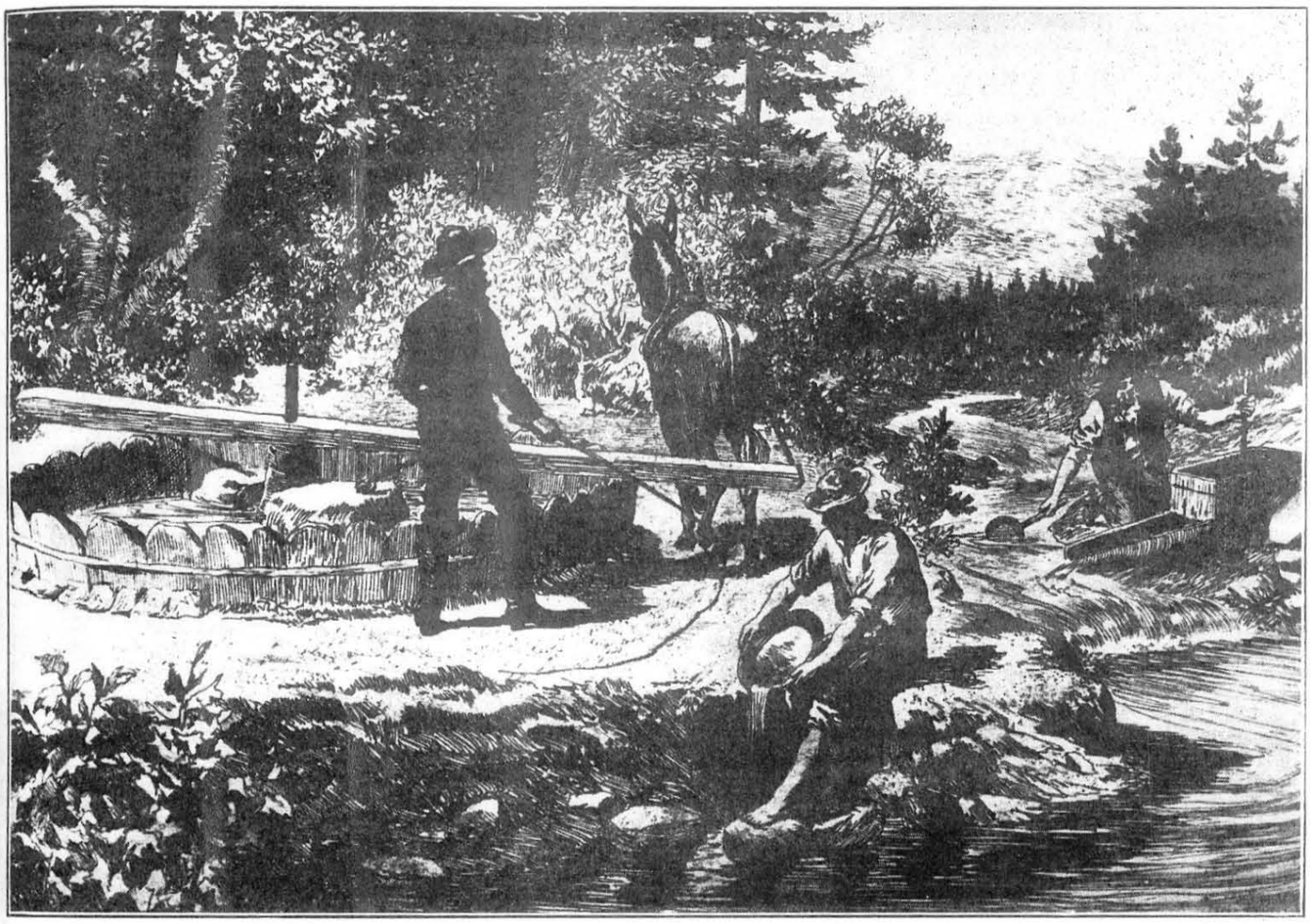
Ere you return the parson's Bible, read Deuteronomy 8:9 as to the famous Promised Land of the Jews—"and you shall inherit a land whose stones are iron, and out of whose hills you can dig copper." Then turn to Numbers 33:35 and you'll see that the Jews in their wanderings, looking for that Promised Land, camped at Ezion-Geber, where Solomon's mining and metallurgical engineers later used the progenitor of the *arrastre*.

SO WHAT? How did the gadget ever get over into Mexico and eventually clear up to California's Mother Lode mining regions?

That's easy. The Egyptians, a progressive people in their heydey, lived next-door to where Solomon's engineers used *arrastres*. In 641 A.D., however, after flaming centuries of wars, the Mohammedans under the Arab General 'Amr Ibn-el-As took Alexandria—and ever since then Egypt has been dominated (latterly with British bossing) by Mohammedans. Naturally, the Moors of western Africa caught onto the

*Consulting Mining Engineer, Oakland, California.

(6.0.t.)



The arrastre and two other famed gold savers—the rocker and the perennial pan—appear in this photograph of the etching which hangs in the office of State Mineralogist Walter W. Bradley in San Francisco. The mill superintendent on this type of plant necessarily had to double in brass as mule-skinner, otherwise chief engineer of the one mulepower prime-mover. This scene, of course, dates back to the dear dead days when there were no advocates of printing press currency as a substitute for hard money.

arrastre from their brethren ruling Egypt, who had picked it up from the conquered mines of Solomon. The Moors, during their occupancy of Spain (from 711 to 1492—the year Columbus reached our present habitat), set up *arrastres* to grind the ores of the mines in Spain. Then, after the Spanish conquest of Mexico, when the *conquistadores* got onto the rich lode-mines of what today are Mexico's northernmost states (both gold and silver mines) their engineers adapted the *arrastre* to their early-day milling and smelting processes.

It was an easy step for the quaint old mill to migrate from Sonora, Mexico, to its namesake Sonora, California.

And there you have the genealogy of the *arrastre*, traced from the mines of King Solomon to the mines of our own Golden West!

I hope that in giving you this genealogy I've taken your mind for the moment off the miseries of meditating on WPB Order 208, current bureaucratic tut-tut against the world's oldest phase of mining; likewise off the proponents of printing-press Montezuma, instead of good old Hard Money as a more rational postwar medium of international commerce and prosperity.

CARSON HILL GOLD REPORTS LOSS FOR 1944 OPERATIONS

THE Carson Hill Gold Mining Corporation, which formerly carried on extensive gold operations at Melones, California, has reported a net loss of $39,895 for the fiscal year ended September 30, 1944. This figure compares with a net loss of $99,408 for the fiscal year ended September 30, 1943, and a net profit of $37,650 in 1942.

The company's grinding and flotation plant was destroyed by fire late in 1942 and much of the Carson Hill mining equipment was liquidated by the Clinch Mercantile Company of Grass Valley, California. The concern reports that during the past two years activities have been limited to cleaning up around the destroyed mill, salvaging and disposing of certain supplies and equipment, and generally preparing the property for a stand-by basis. Mine expenses for the 1944 period amounted to $33,972, as compared with expenses of $40,836 for the previous year.

Carson Hill reports assets totaling $1,487,629 as of September 30, 1944, while production returns on gold and silver sales, less refining charges, etc., totaled $8,858 during 1944. The corporation's financial condition has permitted the following dividend payments: 3½ cents per share, totaling $84,000, December 31, 1942; 4½ cents a share, totaling $108,000, November 15, 1943; and 1¼ cents per share, totaling $30,000, April 15, 1944. The dividends were paid largely from the proceeds of insurance settlements and the sales of salvaged equipment.

The company report indicates that nothing definite is planned for future operations. Owing to the destruction of the mill, and the consequent necessity of rebuilding the plant, probably at a new site and of more modern and efficient equipment, when the mine may again be operated, the directors have found it advisable to dispose of much of the older type machinery. Most of this equipment is reported to have been installed during previous operations of the mine some 25 or more years ago. In addition, ore estimates given in September 1942, indicate a promising position for reopening of the mine after the war, provided operating costs and the price of gold are favorable.

Walter Lyman Brown is president of the Carson Hill concern and head offices are maintained at 206 Sansome Street, San Francisco 4, California.

to be closed down. The mine is located northwest of Superior in Pinal County, and is a lead producer.

Operations have been suspended at the **Dungan** tungsten mine, a property which comprises about 640 acres in the Greenwood mining district about 75 miles southeast of Kingman, Arizona. Some ore, said to run 4.56 per cent WO_3 has been shipped from the Dungan. The mine is owned by J. H. Dungan, Box 52, Kingman, and C. D. Hartwell, general manager, and George H. Smith, assistant general manager, have been associated with Dungan in the operation.

CALIFORNIA

The **Penn Mine Division** of the Eagle Shawmut Mine recently installed larger pumps at the Penn mine, following heavy rainfall which caused apprehension at various properties in the district. The mine is located in Calaveras County about two miles from Campo Seco, California. At present, a diamond drilling program is underway, with William Hutcheson of Angels Camp, California, doing the work under contract. The mine is a copper-zinc producer and the company has been making regular shipments to its Eagle Shawmut 500-ton flotation mill located about 65 miles from the Penn. D. C. Peacock, Chinese Camp, California, is general manager at the Penn and the Eagle Shawmut gold mine, also controlled by the concern. John P. Lowe, Campo Seco, is in charge of mining operations at the Penn property.

It is reported that Federal District Judge Tillman D. Johnson, Salt Lake City, Utah, has ordered the **Walker Mining Company** to submit plans for corporate reorganization under the federal bankruptcy laws. The action followed the recent decision of the court to sustain the half-million-dollar claim of the International Smelting and Refining Company against the Walker company. The Walker, controlled by International, first filed proceedings for reorganization last fall after I. S. and R. had demanded payment of the Walker indebtedness. The Walker copper mine, located at Walkermine, California, has been closed down since October 1941. International Smelting and Refining Company, an Anaconda subsidiary, is headed by C. F. Kelley, 25 Broadway, New York, New York.

Active mining operations are expected to be started in the near future at the **Mt. Raymond** mine located near Madera, Madera County, California. Considerable road construction work and installation of machinery and equipment is reported. Power shovel methods will be used at the mine, which is owned by J. Wesley Smith, Box 777, Madera, and principal values are in lead, silver, and zinc. John A. Hassell, 337 East Seventy-fourth Street, Los Angeles, California, is consulting engineer for the project.

A body of promising commercial-grade tungsten ore, the extent of which is not yet known, has been discovered at the property of the **Tungstar Corporation.** It is understood that the vein which the company had been working terminated in a rock formation, and that subsequent shaft sinking through this formation uncovered the deposit about two feet from the old vein. So far, the company has extended the tunnel for a distance of about 20 feet. Operations will be continued on the new project throughout the winter. Tungstar Corporation has been producing about 100 units of WO_3 daily at its Bishop, California, property, with a total of approximately 75 tons of ore being treated daily in the table concentration and flotation plant. A crew of 88 men is employed under the direction of P. N. Stevens, 6233 Hollywood Boulevard, Hollywood, California, general manager. W. A. Linfesty is general superintendent; James H. Wrenn, mine superintendent; R. E. Simpson, chief field engineer; D. H. Johnson, chief mechanical engineer and master mechanic; and P. Quinn, purchasing agent. Reginald Owen, Los Angeles, California, is president of the Tungstar Corporation.

The **Newmont Mining Corporation** has declared a dividend of 37½ cents a share on the company's capital stock payable March 15, 1945, to stockholders of record on February 23, 1945. The company paid a similar dividend for the corresponding quarterly period of 1944. Charles F.

Ayer, 14 Wall Street, New York 5, New York, is president of the Newmont Mining Corporation.

Joe Fank, Hollister, California, is reported to be working a copper deposit located in the Antelope district of Sacramento County, California. Prior to operating the copper mine, Fank had been engaged in opening an iron property in the Cienega district. He is part owner of the **Santa Marguerite** cinnabar claim in the New Idria district, San Benito County, California.

A crew of seven men is employed at the old **You Bet** gravel mine located near Nevada City, California. It is reported that the new operators have installed a dredge capable of handling 1,000 cubic yards of gravel per eight-hour shift. The dredge is powered by a Diesel unit and it is expected that it can be operated at a much lower cost than hydraulic equipment, used by former operators. The material will be hauled by trucks from the dredge to the washing plant. The You Bet comprises some 1,100 acres in Nevada County, across the line from Gold Run, Placer County, California, and was taken over recently by a partnership composed of Phil P. Fredericks and A. Harold Ferrin, Pacific Diamond Drilling Company, Box 462, Grass Valley, California. Carl Thomalson, president of the Thomalson Drifting Corporation, Oakland, California, is connected with Fredericks and Ferrin. Mine operations are under the direction of Ferrin.

An option on the **Gaston** gold property in the Eureka mining district near Nevada City, California, has been taken by the Tonopah Divide Mining Company. So far, no plans for future operation of the gold mine have been announced, pending completion of the examination work now under way. The mine formerly was worked on a substantial basis by the Gaston Gold Mines, Ltd., and is opened by tunnels and extensive connected workings. The Tonopah Divide concern recently was acquired by Clyde D. Souter, Box 1466, Reno, Nevada, and associates.

It is reported that **Hoefling Brothers** has produced a total of approximately 18,000 tons of ore at its **Big Bend** mine, yielding more than 4,000,000 pounds of zinc, about 621,000 pounds of copper, and considerable lead, since the mine was put into production early in 1943. The firm first started development work at the Big Bend zinc property late in 1942, and shipped the first car of zinc concentrates June 4. 1943. All mining machinery at the Big Bend formerly was used at the Surcease mine, closed down by Hoefling Brothers because of the WPB ban on gold production, and the present production is treated at the old Surcease 125-ton flotation plant. A crew of about 38 men is employed regularly at the Big Bend under the direction of W. E. Messner, general superintendent, Route 1, Oroville, California. Allan E. Jones, Box 786, Sacramento, California, is general manager of all Hoefling Brothers projects. The Big Bend is situated northeast of Oroville in Butte County, California.

"Personally, I think she likes that marine the best. She always sends his letters V-Mail."

Installation of a new hoisting plant and the sinking of a new three-compartment shaft are included in the plans of the **Colorado Fluorspar Mines, Inc.**, a new company headed by H. D. Tudor, 58 Sutter Street, San Francisco 4, California. The concern is operating the Colorado Fluorspar property in Brown's Canon near Salida, Colorado, where S. F. Wickham is general superintendent, assisted by Roy F. Hickman. The company previously had announced its intention of doubling the capacity of the milling plant to 100 tons daily and producing an acid-grade spar.

George N. Tausan, Jr., 8350 Fonnell Street, San Francisco, California, is engaged in opening the **Ogden Armour** asbestos mine. The deposit lies in the Georgetown area of Eldorado County, California.

COLORADO

For the last six months of 1944 the **Colorado Fuel and Iron Corporation** shows a net profit of $1,036,186, against $525,941 for the like period of 1943. Net income for the December quarter in 1944 was $611,710, compared with $446,704 in the December quarter of the previous year. Late in 1944 control of the company was acquired by Charles Allen, Jr., of New York and his associates. Company headquarters are in the Continental Oil Building, Denver 2, Colorado.

A fleet of 20-ton trucks is now in regular operation between the newly completed 250-ton mill of the **Idarado Mining Company** at Ouray, Colorado, and the railroad at Montrose. Each truck makes two trips a day, loading a 40-ton railroad car. The company is producing three concentrates, lead, zinc, and copper. Oscar H. Johnson, Box 5270, Terminal Station, Denver, is president and Charles W. Plumb of Ouray is general manager.

The **New Jersey Zinc Company**, 160 Front Street, New York 7, New York,

BUREAU OF MINES REVIEWS MERCURY INDUSTRY IN 1944

THE Bureau of Mines report on the mercury industry in 1944, prepared by H. M. Meyer of the Economics and Statistics Branch, shows a reversal of conditions. At the beginning of the year supplies were at near record levels, consumption was sharply reduced, and the price was headed downward, upheld in part by Metals Reserve Company purchases. From the producers' viewpoint the situation worsened until mid-year at which time the price amounted to little more than half of the established ceiling price.

Early in 1944 industry stocks stood at the highest levels reached since the Bureau of Mines' monthly surveys were inaugurated in September 1939, and for an indeterminate period prior thereto. Domestic production exceeded consumption from September 1943 through May 1944, both factors in 1944 lagging well behind their performance in 1943. In August production amounted to only 58 per cent of the average monthly rate for 1943. On the other hand, consumption gained sharply in August and for the next several months amounted to 56 per cent more than production. Stocks in the final quarter of the year were at their lowest levels since the monthly mercury reports began.

Government actions in 1944 that conformed to the changing conditions included the discontinuance of Metals Reserve Company purchases of domestic mercury in January, the revocation of the mercury conservation order (that had been eased in September 1943) in February, the withdrawal of mercury from the restrictions of General Import Order M-63 in July, and the release of mercury from the government stockpile to accommodate essential war orders beginning in December.

Consumption amounted to about 43,000 flasks in 1944, marking a decrease of 21 per cent from the 54,500 flasks in 1943.

Production rose 200 flasks to 2,500 flasks in December and consumption remained at the level of 3,900 flasks that has held since August. Figures that may be published indicate that stocks should have dropped further in December, following the pattern of several earlier months. At the end of the year prices had returned to the level of mid-January or to $140 and over a flask. At its lowest level in 1944, in July, the price was down to about $97 a flask.

Production totaled about 37,500 flasks in 1944 and 51,929 flasks in 1943. Of the 1944 output 59 per cent was recovered in the first six months. There were reductions in all states except Arizona, where production was relatively unchanged, and Alaska, where an increase was recorded. Arkansas, where output fell 95 per cent, was proportionately the most severely hit area, followed by Idaho, where the country's second largest 1943 producer was idle for several months before reopening in November, and Nevada, where production was cut in half. California, by far the largest mercury-producing state, suffered much less than most other areas, registering a drop of 17 per cent.

The New Idria mine in San Benito County, California, continued as the outstanding producing mine in 1944; it produced more than the total for its next four competitors. The Reed mine in Yolo County rose from fifth to second place in 1944, its production increasing 86 per cent. The Abbott mine, Lake County, which made spectacular gains in 1943, ranked third in importance as a producer in 1944 with a production rise of 89 per cent; it stood ninth in 1943. The Mt. Jackson mine, Sonoma County, again ranked fourth, but its output and the outputs of the Bonanza, Douglas County, Oregon; Cordero, Humboldt County, Nevada; Hermes, Valley County, Idaho; and New Almaden, Santa Clara County, California, which followed in rank in 1944, showed decreases ranging from 8 to 67 per cent. The substantial increase in output at the Altoona mine, Trinity County, California, raised this mine to ninth place in importance. Production at the Horse Heaven mine, Jefferson County, Oregon, decreased in 1944, but the mine rose to tenth place nonetheless. Producers in the first ten places in 1943 that lost rank in the 1944 grouping were the Klau, San Luis Obispo County; the Sulphur Bank, Lake County; and the Mt. Diablo, Contra Costa County; all in California. Production at each of these properties was less than half of its total for 1943.

Mercury Produced in the United States, 1943-44 by States, in flasks of 76 pounds each

State	1943	1944 (Est.)
Arizona	541	540
Arkansas	1,532	80
California	33,812	28,000
Nevada	4,577	2,290
Oregon	4,651	3,190
Texas	1,769	1,130
Alaska and Idaho	5,047	2,270
	51,929	37,500

REPORT ON HOBART BUTTE CLAYS PLACED IN OPEN FILE BY USGS

RESULTS of the examination of large reserves of aluminum oxide in the Hobart Butte district of Lane County, Oregon, will be put in open file at the Geological Survey offices in Washington, D. C., and Spokane, Washington, and at the Oregon State Department of Geology and Mineral Industries in Portland. The investigations were made jointly by the survey and the Bureau of Mines. Twenty-four holes were drilled with a total footage of 6,896 feet. These showed the deposit to contain 11,900,000 tons of ore containing 29.7 per cent aluminum oxide and 3.1 per cent iron oxide. An additional large tonnage of clay of lower grade is indicated, but is under a thicker overburden than the high-grade. Part of the high-grade is exposed at the surface and the remainder is covered with only a moderate overburden.

A demonstration plant to recover alumina from clay is now under construction near Salem, Oregon, and is expected to treat Hobart Butte ore and material from the deposit near Molalla. The latter deposit also has been examined by the Geological Survey and Bureau of Mines.

SECOND QUARTER BUYING PLAN FOR DOMESTIC MICA IS SET

FULL details of the program for purchasing domestic mica during the second quarter of 1945 have been announced by Colonial Mica Corporation. The prices to be paid are much less favorable than those previously paid by Colonial for domestic mica. The changes have been made in accordance with a War Production Board recommendation and reflect both the more favorable supply position and the decreased consumption for the war program.

Previous prices have involved a subsidy and were established because of a threatened emergency in the supply of mica for war purposes. This emergency is said to have been met by the continued flow of mica from foreign sources, a substantial increase in domestic production, and greatly reduced consumption. According to the WPB, the decline in consumption was marked during the last four months of 1944. December consumption of size 5½ and larger of good stained and better qualities (the sizes and qualities previously in short supply) was only 37 per cent of the average monthly consumption for the year 1944. Consumption of these same sizes and qualities for 1944 was only 69 per cent of the consumption for 1943, and stocks at the end of the year 1944 were about 44 per cent greater than at the end of 1943.

For the period beginning April 1, 1945, and ending June 30, 1945, inclusive, the program will call for the purchase of domestic mica at prices equal to the prices being paid by U. S. government agencies for mica from foreign sources plus import duty, plus an allowance of not less than 10 per cent to cover charges incident to landing foreign purchases in the United States.

Purchases will be made under two classifications: Table A, prepared upon the "sliding scale" system which prevailed before May 24, 1943, and covering full-trimmed ruby muscovite mica; and Table B, covering No. 2 Inferior, or better, quality sheet mica. To qualify for purchases under Table B, producers must agree before April 1, 1945, to sell Colonial their entire production of No. 2 Inferior, or better, quality sheet mica during the three-month period, and must have a production record showing that their mines in the past produced mica of which at least 25 per cent has been No. 1 or No. 2 quality, separately or combined, and of which not more than 75 per cent has been No. 2 Inferior quality. Unless such contracts are signed, purchases for the three-month period will be made only under Table A. Producers who elect to sell to Colonial under Table A will not be required to sell exclusively to Colonial unless existing production advance contracts or equipment leases require such sales.

Under Table A, prices will vary from 25 cents a pound for Grade 6 No. 3 Quality to $38.65 a pound for Grade OOXX Special No. 1 Quality. Under Table B the price per pound is $2.25, f.o.b. shipping point nearest producer's rifting shop, for full-trimmed ruby muscovite domestic mica, having a minimum usable area sufficient to cut a rectangle with a width of at least ¾ inch and a minimum area of one square inch, ungraded as to size, and having mixed qualities none of which is below the quality of No. 2 Inferior.

SAN FRANCISCO GROUP URGES ADOPTION OF MINE LOAN BILLS

THE San Francisco Chamber of Commerce, on recommendation of its mining committee, has adopted a resolution advocating the adoption of pending measures which would authorize RFC mining loans, including loans for the maintenance and rehabilitation of gold mines.

The resolution points out that the gold mine operators are facing increased financial difficulties in maintaining their mines in such condition that operations can be resumed and that "the situation appears to be one justifying federal aid in such financing in order that substantial opportunities for reemployment in these mines may continue to exist after the war, and that the principal industry supporting numerous counties in this state may be restored to a healthy condition."

The resolution specifically endorses S. 106 by Senators Murray, Hayden, and Scrugham, and its companion bill H. R. 1768 by Congressman Engle, and urges early action on this legislation.

HOWE SOUND COMPANY REPORTS CURTAILED WORK AT ALL MINES

THE Howe Sound Company reports that because of the labor shortage in 1944 an inadequate amount of development and exploration work was accomplished during the year at Chelan, Washington. The average number of men working in the mine during 1944 was 25 per cent less than in 1943, and during the month of December the underground force was 38 per cent less than at the beginning of the year. The new extraction shaft below the main haulage tunnel was not completed until late in 1944, so that production of ore of normal copper and gold content was limited to that obtained from development work. Mining was confined largely to low-grade material located below the main haulage tunnel. The concentrator was operated at full capacity throughout the year.

The company's Britannia property in British Columbia produced at about 50 per cent of normal capacity. The labor shortage became acute during 1943 and did not improve last year, but continued static. A contract with the Wartime Metals Corporation, an agency of the Canadian government, under which production costs were guaranteed and a small profit allowed, remained in effect throughout the year, but was canceled as of December 31, 1944.

In Mexico the company operates through its subsidiary, El Potosi Mining Company, which maintained some production of lead and zinc concentrates throughout the year

Development work at El Carmen mine at Batopilas, Chihuahua, Mexico, was continued without interruption.

In 1943 the company leased a property in Idaho. The mine contains promising values in gold, copper, and cobalt, but because of war conditions further work to determine the extent of the deposit has been deferred.

Numerous mines and prospects were examined by Howe Sound engineers and geologists during 1944, but no properties of sufficient value to warrant acquisition were seen.

Dividends totaling $1.75 were declared during the year just past, 75 cents having been paid in March, 50 cents in June, and 25 cents in September and December. Operating revenue for 1944 totaled $9,302,516 and operating income amounted to $2,061,018. Taxes, U. S. and foreign, were $946,591, leaving an operating profit of $1,114,427. Net income for the year, exclusive of depletion, amounted to $818,308 or $1.77 a share.

U. S. BUREAU OF MINES WILL REESTABLISH FIELD OFFICES

THE field organization of the metallurgical and mining branches, U. S. Bureau of Mines, is being revised under the provisions of Administrative Order 417, issued by Dr. R. R. Sayers, director. The plan provides for the reestablishment of 10 field stations throughout the country.

Field divisions of the metallurgical branch will be responsible for the conduct of research on the conservation, preparation, and utilization of metals and nonmetals involving fundamental and applied research, emphasizing the utilization of critical minerals, and for the conduct of related ore dressing functions. Field divisions of the mining branch will conduct engineering examinations, exploratory projects and related studies to discover and prove additional deposits of critical and essential minerals and to conserve known mineral deposits through the improvement of operations in existing mines. Each field division chief shall be responsible to the branch chief in Washington. The field divisions are to be designated as follows:

A. Alaska Division. Comprising the Territory of Alaska, headquarters to be designated by the director.

B. Albany Division. Comprising Washington, Oregon, Idaho, and Montana, headquarters at Albany, Oregon.

C. Boulder City Division. Comprising Nevada and California, headquarters at Boulder City, Nevada.

D. Salt Lake City Division. Comprising Utah, Wyoming, and Colorado, headquarters at Salt Lake City, Utah.

E. Tucson Division. Comprising Arizona, New Mexico, and Texas, headquarters at Tucson, Arizona.

F. Minneapolis Division. Comprising North Dakota, South Dakota, Nebraska, Minnesota, Iowa, Wisconsin, and Michigan, headquarters at Minneapolis, Minnesota.

G. Rolla Division. Comprising Kansas, Oklahoma, Missouri, Arkansas, Illinois, and Indiana, headquarters at Rolla, Missouri.

H. Tuscaloosa Division. Comprising Louisiana, Mississippi, Alabama, and Florida, headquarters at Tuscaloosa, Alabama.

I. College Park Division. Comprising Maine, New Hampshire, Vermont, Massachusetts, Connecticut, Rhode Island, New York, New Jersey, Pennsylvania, Ohio, West Virginia, Maryland, and Delaware, headquarters at College Park, Maryland.

J. Raleigh Division. Comprising Virginia, Kentucky, Tennessee, North Carolina, South Carolina, and Georgia, headquarters at Raleigh, North Carolina.

REPORTS NOW BEING PREPARED ON STRATEGIC DEPOSITS IN ALASKA

SOUTHEASTERN Alaska came in for a number of investigations by the U. S. Geological Survey under its war minerals program during 1944. Comprehensive and detailed studies were made of iron and copper deposits in Jumbo Basin on Prince of Wales Island by G. C. Kennedy. Similar studies were made of the iron-copper deposits at Tolstoi Mountain on Prince of Wales Island by L. A. Warner and Karl Stefansson.

On the mainland, H. R. Gault and R. E. Fellows examined zinc-copper deposits at Tracy Arm between Juneau and Petersburg. These are of the same type as was found in Groundhog Basin near Wrangell and at Moth Bay on Revillagigedo Island. Further work will be done on the Mount Andrew iron-copper deposits on Prince of Wales Island, which previously were examined and mapped in detail by the survey in 1942. Reports on all these properties are in process of preparation.

Brief examinations of mineral deposits in southeastern Alaska were made by W. S. Twenhofel and G. M. Flint, Jr., of the survey in order to appraise the general significance of the deposits and to provide a sound basis for more comprehensive study where indicated. These deposits include asbestos ground at Bear Creek on Admiralty Island; barite on Lime Point on Cordova Bay and at the Castle Islands in Duncan Canal; copper at Kupreanof Mountain, Lake Bay, Nutkwa Lagoon, Point Astley, Port Houghton, William Henry Bay, Trocadero Bay, Copper City prospect on Hetta Inlet, and at the Rush and Brown mine at Kasaan Bay; lead deposits on Coronation Island; lead-zinc at the Mammoth claims near Young Bay on Admiralty Island; magnetite at Hunter Bay.

Geologic maps were made of some of the prospects and samples were collected for analyses.

New York, an Anaconda subsidiary. Albert Mendelsohn, Cananea, is president and general manager of the Mexican firm. Other operating officials include William Wraith, Jr., assistant general manager; A. E. Millar, pit superintendent; Guy H. Ruggles, director of concentration; W. A. Wasley, mill superintendent; Frank H. Day, smelter superintendent; J. T. Wakefield, power plant superintendent; and Michael J. Ashe, assistant power plant superintendent.

ARGONAUT COMPANY REPORTS INCREASED LOSSES IN 1944

THE Argonaut Mining Company, Ltd., has reported a net loss of $50,511 after all charges for the year ended December 31, 1944. This compares with a net loss of $34,578 for the year ended December 31, 1943.

The company's Argonaut gold mine has been closed down since March 1942, and the company has announced that it does not plan any operations as long as the War Production Board L-208 is in force. In the meantime, the property is being kept in condition for immediate operation after the war. The company reports that dividends, interest, and rent income were almost sufficient to provide for normal maintenance expenses. However, the high expense of pumping the water entering the property because of the closing off of the Kennedy mine is considered to be a matter for future action.

Balance sheet items for the 1944 Argonaut report include: cash, $75,694; marketable securities, $425,400; total current assets, $530,864; fixed assets, $992,313; total current liabilities, $10,750; and surplus before depletion, $560,553.

The Argonaut Mining Company is headed by John T. Smith, 1775 Broadway, New York 19, New York, and Alex F. Ross, Jackson, California, is general mine superintendent.

BILL IS BEING PREPARED TO EXTEND TRADE AGREEMENTS

THE State Department, following informal discussions with members of the House Committee on Ways and Means, is reported to be preparing a bill to extend the Reciprocal Trade Agreements Act, which at present expires June 12. It is understood that terms of the proposed extension may give the president power to adjust rates an additional 50 per cent below or above present levels. In the cases of many commodities on which duties already have been cut 50 cer cent, this would make a total possible tariff concession of 75 per cent below the original 1930 rates.

The president, in submitting the Bretton Woods proposal, made the statement that other proposals would be submitted, including "broadening and strengthening of the Trade Agreements Act of 1934; international agreement for the reduction of trade barriers." It is believed that when the bill to extend the Trade Agreements Act reaches the Ways and Means Committee, there will be extended hearings on the matter.

McFARLAND AND SCRUGHAM ASK FOR BOOST IN GOLD PRICE

A MEASURE calling for an increase in the price of gold from $35 to $56 an ounce has been placed before the U. S. Senate by Senators McFarland of Arizona and Scrugham of Nevada. The legislation was introduced following the proposal by the Federal Reserve Board to reduce the gold reserve requirement from 40 per cent to 25 per cent.

According to Senator Scrugham, the bill is his answer to the Federal Reserve Board's proposal. "If the price of gold is advanced to $56 an ounce," he added, "it will permit the same expansion of federal reserve notes as decreasing the reserve ratio to 25 per cent and, to my mind, in a much more healthy fashion."

"This move on the part of the Federal Reserve Board looks to me like a deliberate attempt to start the United States toward an experiment in a 100 per cent managed currency," he stated. "If the metallic backing is to be altered at all it should be revised upward, rather than downward. I believe we have enough gold and silver to support the amount of money required for doing business, but if the Federal Reserve and Treasury experts think we need more money, let's increase the price of both gold and silver before we think of starting toward the perilous path of reducing our money to mere paper."

A similar bill has been introduced in the House by Representative Clair Engle of California. Chairman Spence of the

House Banking Committee to which the Engle measure was referred said that the administration was opposed to a gold price increase. He declared that his committee had a lot of more important business to handle before considering the gold price measure, indicating that the bill will be pigeonholed.

During recent hearings before the Banking and Currency Committee of the Senate, Senator Murdock of Utah had proposed the increase in the price of gold as a means of providing postwar employment. Chairman Marriner Eccles of the Federal Reserve Board replied: "I can't imagine a more useless and expensive way of creating employment."

Senator Scrugham also took sharp issue with W. Randolph Burgess, president of the American Bankers Association, on the latter's statement that increasing the price of gold would be more inflationary than decreasing the gold reserve. He stated that in his opinion, judging from the statements of Eccles and Burgess, inflation already has occurred and that the present proposal is an attempt to adjust the gold reserve to permit still greater expansion of the currency.

"Burgess," commented Senator Scrugham, "stated that he is a hard-money man. Yet he is deliberately playing into the hands of the managed currency clique by committing himself to the principle of shrinking the gold backing behind federal reserve notes. This seems to me completely illogical. I do not believe that increasing the price of gold is one whit more inflationary than gradually traveling down the path to 100 per cent managed currency.

"There obviously is no more danger to war bond holders in a $56 price than in reducing the reserves proportionately. As a matter of fact, the value of gold should increase as world trade expands to form a solid foundation for that trade and to maintain the confidence of the people. Obviously, if currency expansion has reached the point testified to by Eccles and Burgess we must have more gold and at a higher price in order to support it. It was not long ago that we heard complaints about having too much gold—now apparently we have too little and have to spread it thin. Let us stop being inconsistent and go forward with orthodox banking with plenty of metallic reserves."

CONTROLS ARE TIGHTENED ON ZINC AND OTHER METALS

ZINC, which went off allocation on September 15, 1944, has been returned to the lengthening allocation list, according to War Production Board officials, and closer restrictions on the use of aluminum, lead, and tin have been announced. Regulations permitting retail stores and repair shops to purchase copper wire for civilian use have been suspended until July 1, and dealers are urged to conserve and ration supplies on hand.

Officials of the Tin-Lead-Zinc Division said that the total indicated 1945 consumption is 1,078,000 tons of slab zinc, as compared with an indicated production, including imports, of 870,000 tons, leaving a deficit of 208,000 tons. These statistics point to an average monthly shortage of 18,000 tons, WPB said.

Domestic production of zinc concentrates (in terms of recoverable zinc) also were reported to be dropping, with 1945 production estimated at 660,000 tons compared with 715,000 in 1944, while requirements were reported at 890,000 tons for the year. Available imports of 340,000 tons during 1945 will improve the situation, WPB officials said, but reported that only about 50 per cent of this total had been arranged for.

GEOLOGICAL SURVEY STUDIES NEEDLES MAGNESITE DEPOSIT

WILLIAM E. WRATHER, director of the U. S. Geological Survey, has announced that the survey has completed a geologic map and structure sections, together with a brief report, on the Needles magnesite deposit. The property is located in Eastern San Bernardino County, California, and also is known as the Brown-Hubbard deposit. It has been estimated that there is a total reserve of some $480,000 tons in this locality, and the current report particularly covers the economic factors influencing the development of the deposit. Mapping of the property was conducted in 1943 by C. J. Vitaliano and A. J. Bodenlos of the Geological Survey. Interested persons may obtain copies of the report upon request to the director of the U. S. Geological Survey, Washington 25, D. C.

S. K. DROUBAY* summarizes

Drifting With An Improvised Jumbo

Where speed is an essential, and unskilled miners must be used, surprisingly good results can be obtained from the improvised jumbo described in this article. The method was developed and proved on a project which called for approximately 75,000 feet of drifting.

AN occasion during the war emergency called for the rapid development of a mining enterprise which needed approximately 75,000 feet of drifting. As the location was not in a mining district, it was necessary to train a large percentage of the miners right on the job. Development was carried out on three shifts per day, seven days a week, until the program was practically completed. Nearly all drifting was done by the Finnboard method, utilizing automatic feed drifters.

Accompanying sketches represent the improvised jumbo arrangement that was developed. It gave surprisingly good results and enabled the average willing worker to become an efficient drift miner in a very short time.

It is not claimed that this method of drift mining is the most efficient method, especially where established companies have trained departments to see that all economic advantages are employed. However, where speed is of prime importance and individual headings cannot be given the concentrated service and attention that is used in driving tunnels, this method can be used to advantage, even in the hardest ground. The following information is passed on for what it is worth:

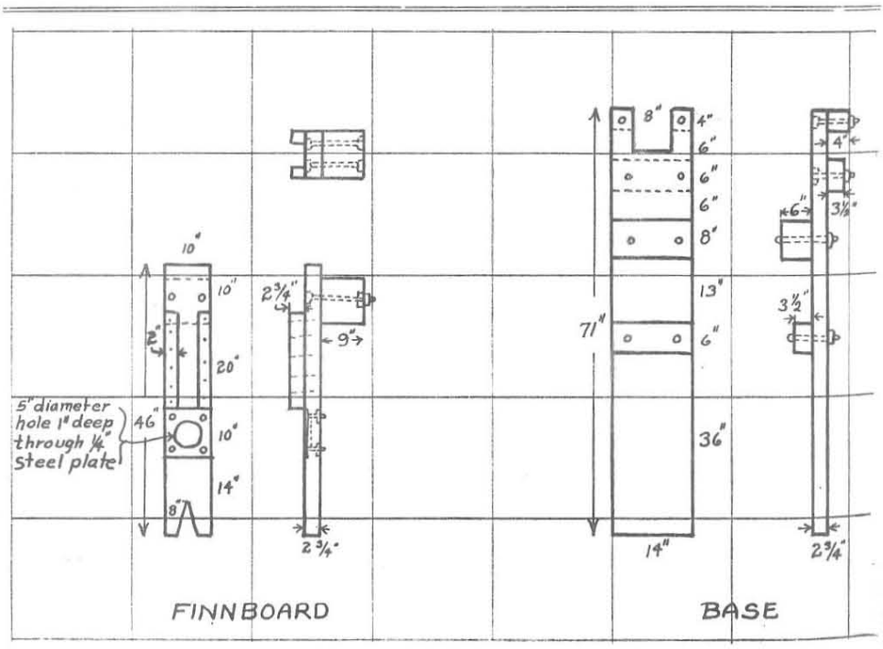
1. Cycle of operation. A two-man crew mucks out the heading, then installs track or moves up slide rails. The lifters and lifter relievers are drilled first. To drill them the Finnboard is set directly on the ground and braced with the base inserted between the end of the Finnboard and the bucket of the mucker. If a burn round is used, the base is placed under the Finnboard and, by blocking the front end to the desired heights (with a powder box supplemented with a few blocks of various thicknesses) and by sliding the base from one side of the drift to the other, the round is drilled up to a height of about 3½ feet. "V" cuts or "up-cuts" may be drilled by blocking the front end of the Finnboard without using the base under it. The mucker is then moved to the face, the base placed on top of the mucker, and the Finnboard and automatic drifter on top of the base. From this position the balance of the round is drilled by adjusting the front end of the Finnboard up and down, and by using a combination of the mucking-machine swing and by sliding the Finnboard from one side of the base to the other.

2. Time of Cycle. The average crew of two men could complete a full cycle during an eight-hour shift. The cycle included mucking out the drift, installing track, drilling the round, and blasting. It was essential that empty cars be supplied promptly during the mucking period, and the full cars removed without delay. Air pressure had to be maintained sufficiently high, equipment had to be in A-1 condition, and an ample supply of sharp bits and drill steel had to be kept on hand. It was not unusual for three crews of two men each to blast 21 rounds per week in one heading. There were cases when a full cycle was gained during the week. The record was 22 rounds blasted in one week with a total footage of 138 feet. The crew drove a switch-back and, for a few rounds, two headings were driven. This was in the softer ground which required from 15 to 20 holes. In harder ground, where 26 or more holes were needed, rounds averaged approximately four feet linear advance.

3. Advantages of the System. (a) By placing an inexperienced man with an experienced miner, the inexperienced man became an efficient miner as soon as he learned to place holes in the right place and run the mucking machine. (b) The automatic drifter keeps itself in line and does not require the time, energy, or skill needed to operate the machine from a bar and arm. (c) By removing all binding effect caused through slight misalignment when drilling from a bar and arm, steel breakage was almost entirely eliminated. (d) Over-all time needed to drill a round is reduced to a minimum because the machine can be kept drilling almost constantly. (e) The average crew very seldom missed a round, even though considerable time was lost waiting for smoke to clear out after blasts. Best results in hard ground were obtained by operating on a two-shift per day basis after headings were in several hundred feet.

4. Disadvantages of System. (a) A certain amount of "fanning" must be done when drilling from the top of the mucker, with the result that a few additional holes are needed. (b) Additional powder is required to break the round in order to compensate for imperfectly placed holes. (c) In hard ground, a fan of bootlegs may be seen in the wall at the end of each round. Slight length of holes beyond the point where the round breaks is needed. (d) A mucking machine is tied up a full eight hours for a drift round, unless a loaded car is substituted (a 30-cubic foot rocker-bottom car was used very successfully).

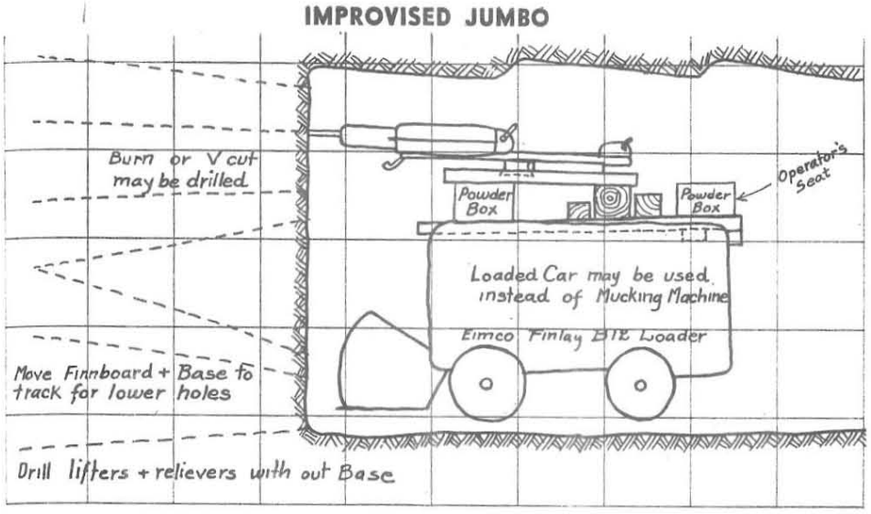
5. Remarks. The system was used in competition with a two-machine commercial jumbo. It took a crew several months to be able to average a longer round per shift, using two machines with jumbo, than the Finnboard crew averaged with one machine. The jumbo required considerably more mining skill. Newly hired drift crews from well-known hard rock mines



Improvised Jumbo for DA35 Drifter, or for CF89 Drifter, if slightly altered. Eimco B-12 Loader

*Manager, South Mountain Mining Company, Jordan Valley, Oregon.

IMPROVISED JUMBO



were occasionally placed in headings with a bar and arm for comparison. It was practically impossible for them to complete a cycle during an eight-hour shift.

6. Credit for developing the technique and successfully using it is due primarily to G. W. De La Mare, now U. S. N., and his associates: Hugh Nicely, now government mining; John Wright, now U. S. Marines; and Loyal H. Lohse, now U. S. Marines.

SOUTH DAKOTA REDUCES SEVERANCE TAX RATES

BY action of the South Dakota legislature, approved by Governor M. Q. Sharp, the severance tax rate on minerals and metals produced in the state has been reduced from 6 per cent to 4 per cent. The change is a direct reflection of the finding that the prosperity of the whole state is largely dependent upon an active and productive mining industry and that anything which can be done to stimulate it improves business in many other directions.

The importance of mining to South Dakota has been demonstrated by L-208, the gold closing order, as much of the mineral wealth is in gold ores, notably the Homestake at Lead. The original 6 per cent enactment was primarily a penalty charge on that company, but it has served, according to reports, to restrict other mining developments and activities.

The reduction in the severance tax rate will become effective nominally July 1, but its full effect on the economy of the state cannot be felt until the WPB order closing gold mines has been canceled or modified. The original move was to reduce the rate to 2 per cent, but in final enactment the bill came out at 4 per cent.

According to Bulletin 15 of the South Dakota Geological Survey, "No state in the union has a greater variety of mineral resources than South Dakota," and it is hoped by proponents of the recently enacted legislation that some encouragement will be given to opening new mines and increasing production. The restrictive production tax has, it is believed, held back mineral and metal development in the area.

STOCKPILING MEASURES ARE SUBMITTED TO CONGRESS

IDENTICAL measures, relating to the acquisition of stocks of strategic and critical materials for national defense, have been introduced in the Senate and House by the respective chairmen of the committees on military affairs, Senator Elbert D. Thomas of Utah and Representative Andrew Jackson May of Kentucky. Both have been referred to the military affairs committees. The fact that the bills were introduced by the chairmen of these committees indicates that they have administration support.

The proposed legislation, which amends the Act of June 7, 1939, creates a stockpile board headed by the secretary of war as chairman and including the secretaries of the navy, state, interior, and commerce. This board would be given control over the security stockpiles.

Under the terms of the measure, the board is directed to compile two lists of strategic and critical materials. Group A, for which stockpiling is deemed the only satisfactory means of insuring an adequate supply for a future emergency, is to include all those materials listed in the Army and Navy Munitions Board's report of January 2, 1945, together with such other materials as the board may designate from time to time. For those materials listed in the ANMB report, maximum and minimum quantities are to be in accordance with Table III of the report (which was not made public) and for those materials added to the list, the board is to fix the maximum and minimum quantities.

Group B is to include materials for which stockpiling is recommended only to the extent available for transfer from government agencies, and is to include those listed in the ANMB report, the maximum quantities being fixed in accord with Table IV, together with such other materials as the board may add to the list. Provision is made for transfer of materials from Group B to Group A. No provision is made for stockpiling materials in Group C, materials not now recommended for stockpiling, which includes Canadian chrysotile asbestos, iron ore, petroleum, radium, and iron and steel scrap.

Provision is made for transfer of all government-owned surpluses of Group A and B strategic and critical materials to the permanent stockpiles established under the act, so long as the amounts do not exceed the maximum stockpile quantities. Exempted from transfer are (1) contract termination inventories which the owning agency has not taken over into its possession; (2) amounts needed to make up deficiencies in current supply for industrial requirements or amounts held in such small lots as to make their transfer economically impractical; and (3) materials in a form or of a quality ill-suited for stockpiling and which cannot be converted economically into suitable stockpile form or quality. Transfers of surplus materials do not require reimbursement of the owning agency, and the Treasury is authorized to cancel outstanding notes of the RFC corresponding to the cost of materials transferred by its subsidiary corporations.

The bills being considered at this time are stated to be extremely important if the principle of stockpiling surplus war metals and minerals is to be made effective during the postwar period, since Section 22 of the Surplus Property Act, providing for a stockpile "freeze" of strategic materials, is effective only until January 2, 1946, unless further legislation is enacted.

The proposed measures further direct the stockpile board to acquire additional quantities of the strategic and critical materials (and authorizes appropriations for the purpose) to bring the stockpiles up to the minimum quantity in each case. Such purchases may be made at prices not exceeding the current open market price and, so far as practicable, from supplies available in excess of the current commercial demand.

The "Buy American" clause of the 1939 Act is continued and the provision for allowing a reasonable time, up to one year, for production and delivery from domestic sources also is included, except where the board determines that it would be inconsistent with the public interest.

The board is authorized to provide for storage and maintenance of the stockpiles, for rotation of materials subject to deterioration, and for the refining or processing of materials into the most suitable stockpile form.

Materials held in the stockpile, and not required for the present war, are to be "held exclusively for use only in the event of a future war emergency declared by or pursuant to an act of Congress." Materials may not be otherwise released except for rotation; by reason of obsolescence for war use due to technological changes; or under specific authorization of Congress. Releases for obsolescence may not be made until six months after a report has been made to Congress, setting forth the pertinent facts and the proposed plan of disposition.

The board would be required to submit annual reports to Congress and, in general, the bills retain in the hands of Congress the direction and control of the long-range stockpiling program.

Mining Men and Their Activities

About men who are well known and prominent in the mining circles of the western states.

J. P. Klein, formerly mine superintendent at the Bullard mine northeast of Aguila, Arizona, now receives mail at Box 571, Ventura, California.

E. C. Kuhry, formerly in charge of work at the Newman mine in Pima County, Arizona, now is receiving mail at Amado, Arizona.

Fred J. Hoff, formerly metallurgist for the U. S. Vanadium Corporation at Bishop, California, is located at present at 1223 York Street, Denver 6, Colorado.

A. A. Sproul, general superintendent for the Vanadium Corporation at Monticello, Utah, has returned to Monticello to reopen the mill after spending the past 10 months in Golden, Colorado.

Boyd S. Jewett has returned to South America from his home at Chico, California, and will resume his duties with the Asnazu Gold Dredging Company at Cali, Republic of Colombia.

Homer D. Erwin, formerly with the Union Mines Development Corporation at Grand Junction, Colorado, is making present headquarters at 184 North Arroyo Parkway, Pasadena 1, California.

Carlton D. Hulin, professor of geology at the University of California, Berkeley, California, is reported to be engaged in special work for the Foreign Economic Administration in India and China.

J. E. Busch of Phoenix, Arizona, who has been field examiner for the General Land Office, with headquarters at Phoenix, for some 20 years, is reported to have resigned from that position recently.

J. G. Andree of Nome, Alaska, who owns a number of gold and scheelite properties on Glacier Creek about nine miles from Nome, is residing in Seattle, Washington, and is engaged in war work there.

Charles W. Fulton, Mono County surveyor, has been named president of the newly established California mining group, the Mono County Miners Association, and will maintain headquarters at Bridgeport, California.

Leonid Bryner, geologist for the Union Mines Development Corporation has returned to Grand Junction, Colorado, where the company headquarters are, after spending about a year in New Mexico and Utah doing field work.

Second Lieutenant James N. Ridenour, geological engineer of Pasadena, California, is reported to be serving as airplane commander of a B-24 Liberator bomber crew, which is completing its final training at Casper, Wyoming. He entered the Army on February 6, 1943.

Fred O. and Logan Gilbert of Gilbert and Tonopah, Nevada, have acquired mining interests in Arizona. They opened the old gold camp bearing their name and located 28 miles west of Tonopah and are currently operating in Mineral and Esmeralda counties, Nevada.

R. W. Duncan reports that he now is employed as a coppersmith in the Puget Sound Navy Yard at Bremerton, Washington, and receives mail at Box 3186, East Port Orchard, Washington. Duncan formerly was employed by the Bagdad Copper Corporation, Bagdad, Arizona.

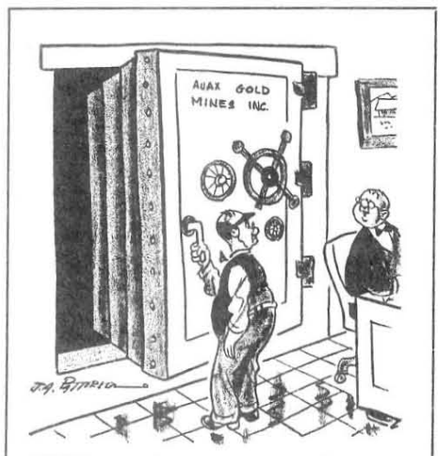
Thomas M. Bains, Jr., formerly chief of the tin-lead-zinc section of the metals and minerals division, Office of Civilian Requirements, War Production Board, Washington, D. C., has gone from his home in San Francisco, California, to 20 West Irving Street, Chevy Chase, Maryland.

George W. Mitchell, who has been engaged as consulting engineer at the Adamson mine of Panaminas, Inc., Bishop, California, has returned to Eureka, Nevada. He will resume his duties as consulting engineer for the Eureka Corporation. which operates the Richmond-Eureka holdings.

George Smith recently returned to Chloride, Arizona, from Nevada, and has resumed his duties as mine superintendent at the old 97 mine. The mine is located in the Cerbat Range about 1½ miles southeast of Chloride and has been operated for some time by **Chester Lauck,** Chloride, and associates.

Bert D. Harden, who has been with Basic Magnesium, Inc., of Las Vegas, Nevada, since November of 1941 as reduction plant superintendent, is now employed by the Chemical Construction Corporation as general superintendent of alumina plant operations in Salem, Oregon. His address is 1689 B Street, Salem.

Victor A. Light, formerly assistant general manager of the Tom Reed mine at Oatman, Arizona, recently was reported to be safe in the Philippine Islands. Light was general superintendent of the Cal Horr mine at Baguio in the Islands before he was interned at the Japanese prison camp at Santo Tomas, Manila.



"While you're in there get me a cigarette, Murchison!"

W. G. Donaldson, who has been on an extended professional trip in Peru, South America, is reported to be back at his home, 50 Alta Road, Berkeley, California. Donaldson is a well-known mining engineer, having engaged in mining operations in Mexico and the Philippine Islands, as well as throughout the western states.

A. H. Bebee, general superintendent of the United Gold Mines and Golden Cycle Corporation's mining interests at Cripple Creek, Colorado, has been appointed to the board of directors of the Colorado Metal Mining Fund. He replaces the late Norris E. Eads of Victor, Colorado, whose term runs through March of 1947.

R. E. Wyer, president and general manager of the Cleary Hill Mines Company of Fairbanks, Alaska, has left Fairbanks and returned to his home in Minneapolis, Minnesota. The company suspended work at its Stepovich tungsten property late in 1944, but was permitted to do a limited amount of work at both its placer and lode gold properties.

Robert E. Landon has resigned after more than five years on the Denver, Colorado, staff of the United States Securities and Exchange Commission, to accept a position as geologist with the General Petroleum Corporation of California. Landon will be working in Wyoming and may be addressed in care of the company, Box 1652, Casper, Wyoming.

Sidney J. Robison has retired from his position of chief engineer of the Universal Atlas Cement Company, and has joined the staff of the Western Precipitation Corporation, with headquarters in the Marquette Building, Chicago, Illinois. He will specialize in the problems relating to the adaptation of the Cottrell electrical precipitators and Multiclones in the heavy industries.

Preston L. Funkhouser, formerly employed by the Itogon Mining Company, Baguio, Mountain Province, Philippine Islands, is reported among internees recently rescued from the Japanese camp at Camp Holmes, Baguio. Funkhouser moved to Oatman, Arizona, after the first world war, and was employed for a number of years at the United Eastern property there.

John Colby of Northport, Washington, is reported to have joined the staff of the Sierra Zinc Company, operator of the Deep Creek or Black Rock property seven miles southeast of Northport. Formerly on the staff of the Red Top and Deertrail Monitor properties, Colby now is assistant to **Frank Mitchell,** managing engineer of Sierra Zinc. Sixty tons of zinc ore are being mined and milled daily.

George H. Ryan, formerly of Utah, recently moved from San Pedro to 26314 Belleporte Avenue, Lomita, California. Ryan was at one time engineer for the Wah Wah Mining Company of Milford, Utah, and more recently in charge of operations for the New Cashin Mines Company near the Colorado-Utah line. For the past year he has been with the U. S. Maritime Commission.

HENRY J. KAISER FORMS NEW ENGINEERS GROUP

ENGINEERS, long associated with Henry J. Kaiser and responsible for the design and construction of some of the world's outstanding projects, have been organized as a permanent group, to be known as the Kaiser Engineers, according to a recent announcement by Kaiser. The new organization will maintain headquarters at the Kaiser Building, Oakland, California.

It is the announced policy of the new company to undertake engineering work in any part of the world. The organization is well rounded, including, as it does, qualified civil, hydraulic, structural, mechanical, electrical, architectural, and metallurgical engineers. It is reported that an experienced staff is available for procurement of materials and equipment, and consulting engineers will be engaged as conditions warrant.

The new company is headed by Henry J. Kaiser, president, Latham Square Building, Oakland 12, California. E. E. Trefethen, Jr., and T. M. Price have been named vice-presidents, while George Havas will serve as vice-president and general manager. George W. Vreeland is chief consulting engineer for Kaiser Engineers and George B. Scheer is chief consulting electrical engineer.

There are reported to be more than 200 members of the staff of the Kaiser Engineers, many of whom were employed on such projects as Boulder, Grand Coulee, Shasta, and Bonneville Dams; the Delaware Aqueduct; the Kaiser steel plant at Fontana, California; the carbothermic magnesium plant of the Permanente Metals Corporation; and the shipyards at Richmond, California, Portland, Oregon, and Vancouver, Washington.

GENERAL ELECTRIC ANNOUNCES NEW JOBS FOR WESTERN HEADS

CHARLES E. WILSON, president of the General Electric Company, has announced that to co-ordinate the company's widely diversified interests and to afford better service to the company's wartime customers, 10 commercial vice-presidents will relinquish their responsibilities for apparatus sales and become members of the president's staff. Three of these are western men. E. O. Shreve, vice-president in charge of customer relations, New York, heads the new staff. For a number of years he was manager of G. E.'s San Francisco office and is well known on the Pacific Coast.

A. S. Moody, formerly commercial vice-president and manager of the northwestern district with offices at Portland, has joined the president's staff, but will continue to make headquarters at Portland. He will be replaced as district manager of apparatus sales by J. R. Moody, special representative for G. E. in Washington, D. C. Murphy previously was assistant sales manager in the Seattle office and later manager of the Spokane offices.

A. L. Jones of the Rocky Mountain district, also a member of the new staff, will continue his offices in Denver and his duties as manager of apparatus sales in the area will be assumed by F. H. Doremus of Denver, formerly Rocky Mountain district manager of the Industrial and Transportation Divisions.

Raymond M. Alvord of San Francisco has been appointed to the president's staff and he also will remain in his former territory. Alvord joined the G. E. staff in 1904 at Schenectady, New York, as a test engineer and was transferred in 1906 to the San Francisco office where he has remained in positions of increasing responsibility. Allen G. Jones, formerly Pacific district manager, Central Station-Transportation Department, will assume Alvord's former duties as manager of apparatus sales in the Pacific district, and will continue to headquarter in San Francisco.

REVISED EDITION OF TAGGART'S HANDBOOK OF MINERAL DRESSING

AMONG the new books available is Volume I of a Handbook of Mineral Dressing by Arthur F. Taggart. It deals with the processes, largely mechanical, involved in the concentration of metalliferous ores and the beneficiation of industrial minerals. The current issue is a revision of the predecessor volume, Handbook of Ore Dressing, published by Taggart in 1927 and out of print for almost a year.

In Volume II of a Handbook of Mineral Dressing, to be published at a later date, it is proposed to treat of the preparation of fuels and of the methods, mostly chemical, by which metalliferous and nonmetallic concentrates are rendered into primary-consumer products. The two volumes are planned thus to constitute a compendium of the arts by means of which the mineral crust of the earth is converted into the forms utilized by manufacturers and ultimate consumers.

The author states that revision of the earlier work has involved complete or substantial rewriting of somewhat more than half of the first edition, comprising the sections on Metallic Minerals, Grinding, Flotation, Sampling and Testing. From 30 to 50 per cent of the material in the sections on Crushing, Screening, Washing, Gravity Concentration, Electrical Concentration, Miscellaneous Methods of Concentration, and Storage and Transport of Materials has been rewritten. In addition, new sections have been added dealing with Industrial Minerals, Cement, Dust Collection and Air Sizing, and Dry Grinding. The remaining technical sections have been revised sufficiently to bring them up to date.

Handbook of Mineral Dressing, Ores and Industrial Minerals, consists of 1915 pages, size 5½ by 8⅜ inches, with flexible binding and illustrations. It is priced at $15.00 and copies may be obtained from the Book Department, The Mining Journal, Phoenix, Arizona.

U. S. BUREAU OF MINES NAMES FIELD CHIEFS FOR BRANCHES

UNDER the plan for reorganization of the Bureau of Mines, the Division of Mining and Metallurgy, under R. S. Dean, assistant director, is divided into a mining branch and a metallurgical branch, and field divisions in both branches are established in the 10 headquarters field offices. The change is designed to effect proper control by establishing a "straight line organization" to replace the previous division by commodities.

The mining branch in Washington will be headed by L. B. Moon with George D. Jermain as assistant. The metallurgical branch will be headed by R. G. Knickerbocker with O. C. Ralston as assistant. The field offices and the mining and metallurgical chiefs in each are as follows:

Alaska. No headquarters established, no personnel named.

Albany, Oregon. (Washington, Oregon, Idaho, Montana) Metallurgical, Bruce Rogers; mining, S. H. Lorain.

Boulder City, Nevada. (Nevada and California) Metallurgical, C. W. Davis; mining, A. C. Johnson.

Salt Lake City, Utah. (Utah, Wyoming, Colorado) Metallurgical, S. R. Zimmerley; mining, Paul Allsman.

Tucson, Arizona. (Arizona, New Mexico, Texas) Metallurgical, Paul M. Ambrose; mining, J. H. Hedges.

Minneapolis, Minnesota. (North Dakota, South Dakota, Nebraska, Minnesota, Iowa, Wisconsin, Michigan) Metallurgical, E. P. Barrett; mining, Edward F. Fitzhugh, Jr.

Rolla, Missouri. (Kansas, Oklahoma, Missouri, Arkansas, Illinois, Indiana) Metallurgical, C. T. Anderson; mining, C. H. Johnson.

Tuscaloosa, Alabama. (Louisiana, Mississippi, Alabama, Florida) Metallurgical, W. H. Coghill; mining, J. R. Thoenen.

College Park, Maryland. (New England, New York, New Jersey, Pennsylvania, Ohio, West Virginia, Maryland, Delaware) Metallurgical, J. H. Zarda; mining, McHenry Mosier.

Raleigh, North Carolina. (Virginia, Kentucky, Tennessee, North Carolina, South Carolina, Georgia) Metallurgical, no personnel named to date; mining, M. H. Kline.

The station at Berkeley, California, is to be retained and the fundamental research work being conducted there will be continued under K. K. Kelley.

was canceled recently and the mine reverted to Mrs. Blankenship. Martin may be addressed at 646 East Fifth Street, Tucson.

H. J. Brunswicker, Box 892, Nogales, Arizona, of the Long Contact Mining Company, recently suspended mining operations at the **Alto** mine, when the workings became flooded as the result of development work. The Alto is a lead property about 14 miles west of Patagonia in Santa Cruz County, Arizona. The company had planned to ship regularly to the American Smelting and Refining Company plant at El Paso.

The Bargin Mining Corporation has made its first shipment of copper-zinc ore from the **Abril** mine near the west end of the Dragoon Mountains near Tombstone, Arizona. The option on this mine, formerly held by Adrion Skinner and Dan Lewis, Box 106, Willcox, Arizona, was purchased early in the year by Chester B. and Frank Higgins, and George Barron, all of Tombstone, who started operations immediately under the name of the Bargin Mining Corporation. Skinner and Lewis still are connected with the work. The Abril is owned by Hal Smith and M. R. Abril, Box 696, Tombstone.

Robert McGee, Box 12, Ruby Star Route, Tucson, Arizona, has taken a sublease on part of the Bulldozer mine from Sherwood Owens, Box 169, Tucson, and it is understood that the new operation will be carried on under the name of the **Bulldozer Extension.** It is reported that McGee already has started shipping from the mine, which is located in the Helvetia mining district of Pima County, Arizona. The Bulldozer is a copper producer.

Oscar Hogsett, Box 527, Patagonia, Arizona, is converting the Patagonia mill from a manganese to a lead treatment plant for the purpose of handling custom ores in the district. He formerly operated the **St. Louis** manganese mine in the Harshaw mining district of Arizona, treating ore from the property at the Patagonia plant, which he leased from Patagonia Metal Mills, Inc. However, his lease on the St. Louis was canceled some time ago. Hogsett has been operating as the St. Louis Mines Company, a limited partnership.

The U. S. Metals Corporation reports that a total of over 10,000 tons of 7.24 per cent copper ore has been shipped from the **Kaibab** properties in Arizona to the American Smelting and Refining Company's Garfield, Utah, smelter. The Kaibab, which is owned by U. S. Metals and operated by Atherley and Ryan, is located at Jacob Lake in the Kaibab Forest of Coconino County, Arizona. Atherley and Ryan is a partnership composed of S. B., Hugh, and D. L. Atherley, and Vincent M. Ryan, all of whom may be reached at Jacob Lake, Arizona, and operations are carried on under lease agreement with U. S. Metals. Roy S. Gangestad, 510 West Sixth Street, Los Angeles 14, California, is president of the owning company.

The Giacoma Brothers, Tombstone, Arizona, are reported to have taken a bond and lease on the **Intervenor** claim, adjoining the West Side property near Gleeson, Cochise County, Arizona. The ground is owned by the Costello estate and Francis Crable, Tucson, Arizona. Little work has been done on the property and the Giacomas are planning shaft sinking and other development work. Considerable machinery and equipment already have been moved in to the mine from Patagonia, Arizona. A. P. Giacoma will direct the operations.

Loren R. Merrill, Hassayampa Hotel, Wickenburg, Arizona, reports that he is resuming fluorspar mining at his property 16 miles from Wickenburg. He has purchased a Dodge truck, which later will be used for ore hauling, and has moved in necessary machinery and supplies. Merrill formerly was engaged in spar mining with Ike Campbell, Wickenburg, but reports that he has his own ore contract now. Merrill's property is known at the **Chilco and Condor** mines.

A. Judd Hall, Box 218, Casa Grande, Arizona, and Ray A. Poquette, 527 West Windsor Road, Glendale, California, copartners and co-owners, are starting operations at their mine holdings in the Reddington district of Pima County, Arizona. The property comprises six copper claims, known as the **San Pedro Cobre** mines, and one vanadium claim, situated about 40 miles northeast of Tucson on the San Pedro slope of the Catalina Mountains.

CALIFORNIA

A diamond drilling program is being conducted at the **White Quartz** mine by the Mitchell Diamond Drill Company, Byron Mitchell, 779 Bryant Street, San Francisco, California. It is being tested for its zinc values. The mine, operated by the Ducommun Metals and Supply Company, B. Campbell, manager, is in the same district as the Blue Moon zinc property north of Hornitos in Mariposa County, California. Head offices of the Ducommun Metals concern are at 4890 South Alameda Street, Los Angeles.

The Inglewood Steel Company, E. Riveroll, Room 806, 403 West Eighth Street, Los Angeles, California, is reported to have completed an examination of the **Oaks** property in California. The mine is owned by G. E. Oaks of Redding, California, and is located in Shasta County. The steel company has reported that the Oaks ore ran 64.40 per cent iron, while the concentrates are said to have tested 80.20 per cent.

The **Kaiser Company, Inc.,** Iron and Steel Division, has contracted for up to 12 freight carloads of limestone daily from the Oro Grande quarries of the Riverside Cement Company. The limestone will be used for steel production at the Kaiser Company's plant at Fontana, California. Kaiser Company, Inc., is headed by Henry J. Kaiser, Latham Square Building, Oakland 12, California. A. B. Ordway is general manager of the Iron and Steel Division and Frank A. Backman is general superintendent in charge of mine operations.

Leases on more than 1,000 acres of sand and gravel land have been obtained from owners by G. L. Tomlinson, 831 Eleanor Avenue, North Sacramento, California, in the interest of the **Pacific Coast Aggregates, Inc.**, 85 Second Street, San Francisco, California. The land, formerly worked by gold dredgers, is located in Placer County near Lincoln and Auburn, California. The Pacific Coast Aggregates company is planning to market the sand and gravel for construction purposes and also intends to recover such precious metals as zirconium, garnet, and ruby, as well as gold. A washing plant for the recovery of these values was installed near Lincoln by Tomlinson last year, and he is understood to have treated considerable old dragline tailings.

The **Twin Pines Milling Company** is continuing to mill ore from the **Western Tungsten** mine 10 miles northwest of Bishop in the Tungsten Hills district of Inyo County, California. The ore is crushed and screened at the mine site and the rough concentrates are then trucked to the plant.

Mining operations are being continued at the old **Milkmaid** mine by Herbert Westlund. The Milkmaid, a gold producer, is located in Shasta County near French Gulch, California, and has been worked intermittently for many years. The most recent lease and option was held by E. E. Erich.

The **Darwin Mines Company**, which for the past year has been treating an average of 90 tons of ore daily at its 125-ton flotation plant, is increasing its mill production to about 117 tons daily. The company has been mining some 125 tons of lead-zinc-silver ore daily, and has shipped a substantial amount of direct smelting ore. The mine is located near Darwin, California, and principal development has been by tunnel methods. The operation is under the direction of Arthur J. Theis, Darwin, trustee. H. E. Olund is resident manager; R. B. Landis, mine superintendent; and A. C. Dundas, mill superintendent. The company employs a crew of about 85 men regularly and has encountered considerable difficulty in obtaining housing facilities in the Darwin, California, area. However, latest reports are that the War Production Board has okehed the construction of 10 more houses, in addition to the 20 government trailers already in use.

Results of tests for sponge iron, made by Inglewood Steel Company at the **Doak** property, have been announced. The sponge is said to have had an iron content of 92.40 per cent, of which 85 per cent was metallic iron and the remainder iron oxide. The ore itself ran 69.10 per cent iron in the testing. The mine, which also is known as the McGill property, was taken over in 1944 by G. M. Gray and associates of Redding, California, from the owner, Mrs. F. V. McGill. The deposits are located about 14 miles north of Redding in Shasta County, California.

R. S. Dean, assistant director of the U.S. Bureau of Mines, has reported that a shipment of 1,000 tons of iron ore has been made from Shasta County, California, to a sponge iron plant at Laramie, Wyoming,

for testing purposes. It is expected that a steel pilot plant will be established in the future at Shasta Dam to demonstrate a local use for iron ore mined in Shasta and nearby counties in California. The plant will be constructed with already-allotted Bureau of Mines' funds, and much of the machinery and equipment has been ordered.

A new mining company, **Ben Day, Inc.**, recently was organized to take over and operate the property of the old Numitor Gold Mining Company in California. It is understood that the concern has acquired some 500 or 600 acres of land situated on both sides of the Bear River less than three miles from Colfax in Placer County, California, and about 70 acres of the holdings have been extensively prospected and developed by independent local mining men. The new company expects to start development operations as soon as wartime restrictions allow. B. N. Rosenbaum, 565 Fifth Avenue, New York, New York, is president of the new company and George E. Day, attorney, Dime Building, Detroit, Michigan, is secretary-treasurer. Walter E. Dorn, Hearst Building, San Francisco, California, has been named as the company's attorney. Rosenbaum, a Wall Street financier, formerly had engaged in considerable mining activities in Mariposa and other counties in California.

The **Bear Creek Tungsten Mining Company** reports that its mine in California was idle throughout 1944, but it is hoped that the property may be reopened this year. The Bear Creek mine was in production in 1943 and the company shipped tungsten concentrates to a Los Angeles, California, plant. H. G. Walker, Healdsburg, California, is superintendent and agent for the company.

It is expected that actual production will be started the latter part of March at the **Noonday** copper mine, recently reopened by S. T. Hilberg, 1461 Fifty-second Street, Sacramento 16, California. Activities so far have consisted principally of dewatering and rehabilitating the mine for operation, and it is said that there are approximately 20,000 tons of 5 per cent copper ore in sight. The ore, which also carries some values in gold and silver, will be treated at the Volo Mining Company's mill at Placerville, California. The Noonday, which was worked as far back as the 1890's, is situated about seven miles from Placerville in Eldorado County, California. L. C. Baldwin is superintendent.

Resumption of tunneling at the Pine Creek mining property has been announced by the **U. S. Vanadium Corporation,** following a short period during which work was suspended due to a labor shortage. The company is reported to be driving the 6.600-foot lateral tunnel in unexplored ground below the present workings. The 1,400-ton milling plant was closed down early in January because of an insufficient tonnage of custom ore, and considerable repair work has been proceeding at the plant. U. S. Vanadium operations at the Pine Creek are directed by M. N. Shaw, Bishop, California, general superintendent. The firm is headed by J. R. Van Fleet, 30 East Forty-second Street, New York 17, New York.

The **California Pyrophyllite Mining Company,** which has been engaged in building a 3,000-foot aerial tram, reports that it is planning to install a Raymond 50-ton mill. The company has an open-pit mining operation in the White Mountains north of Laws, Inyo County, California, and it is said that there are some 5,000,000 tons of aluminum silicate ore in sight. Seven men are employed now. Farrar Matthew, 1124 North Commonwealth Avenue, Hollywood 27, California, is president, and Elliott Williams of the same address is mill superintendent. Robert Wilson, 2813 Hynar Street, Los Angeles, California, is mine superintendent.

COLORADO

A group of gold properties in Clear Creek and Gilpin counties, Colorado, has been merged. The group includes the **Sternberger** property, for which the old Pennsylvania Mining Company was organized originally, and the **Lucania** tunnel and the hydroelectric plant on Fall River. H. de Linde of Idaho Springs is the purchaser. Leopold and Sam Sternberger acquired the placer ground now known as the Sternberger placers over 40 years ago and later took over the Lucania ground and built the hydroelectric plant. It is understood that operations will be undertaken by the new owner in the near future.

MEXICAN MINING EXEMPTED FROM FREIGHT RATE HIKES

STRATEGIC metals and minerals have been exempted from whatever new increases may be allowed Mexico's four largest railroads, as of January 1, 1946, according to a decree issued recently by President Manuel Avila Camacho. The mining industry in Mexico already had been exempted from the new freight rate hikes which the ministry of communications and public works had authorized for the period from January 1, 1945, to December 31, 1945.

It is further announced that the railroads may ask, during 1945, for authorization to increase rates on other types of freight, as well as those now in effect. Such increased rates would go into effect on January 1, 1946, if passed by the ministry of communications and public works. This latest decree by the president also exempts coke from any increases in rates, if the fuel is used exclusively for the mining and metallurgical industry.

NATOMAS COMPANY SHOWS DROP IN 1944 EARNINGS

THE Natomas Company, which has been conducting limited dredging in the Folsom district of California, has reported a net profit of $17,478 for the year ended December 31, 1944, after all charges. This figure compares with earnings of $153,950 for the previous year. A dividend of 50 cents per share was paid on December 1, 1944, aggregating $461,050.

The company reports that it continued regular operation of two of its seven dredges throughout 1944, making no attempt to extend its mining activities beyond those allowed by the War Production Board. The company's annual report shows gross operating returns from gold dredging amounting to $726,053 in 1944, compared with $571,743 in 1943, and a net income from operations of $532,128 in 1944, compared with net income of $263,982 for the previous year. However, it is pointed out that loss on land sales during last year accounted principally for the drop in net profit from all sources. Natomas dredges handled 8,324,560 cubic yards, recovering 20,777 fine ounces of gold, or an average of 8.72 cents per yard, with an average net return of 3.59 cents per yard.

The Natomas-controlled companies, Merced Dredging Company, La Grange, California; the South Platte Dredging Company, Fairplay, Colorado; and San Joaquin Mining Company, La Grange, all were closed down during the year. These companies had discontinued operations on October 15, 1942, in accordance with the WPB Order L-208. San Joaquin sold a portion of its non gold-bearing holdings during 1944 and a dividend was paid from the proceeds. Natomas received $91,000 as its share of the $150,000 San Joaquin dividend.

The Manhattan Gold Dredging Company, Manhattan Gulch, Nevada, continued to operate its one dredge under government permit, and showed a net profit of $39,044 for the year ended August 31, 1944, comparing with a net profit of $98,704 for its prior fiscal year. According to estimates, approximately 3,000,000 cubic yards remain to be dredged at the Manhattan Gulch location. Natomas received a dividend of $10,000 from its stock interest in Manhattan Gold Dredging. The Greenan Placers property in Nevada was not operated in 1944.

The machine shop at Natoma, California, continued operation during 1944 as a sub-contractor on war contracts. Jobs completed aggregated $568,046, compared with $399,339 for 1943. The company's agricultural lands for the most part were leased during 1944 on a cash and crop share rental basis. Income for the year from the vineyard and from rentals of other farm properties averaged $6.90 per acre net, as compared with an average of $5.30 in 1943. In accordance with the company's established policy of disposing of its agricultural lands, the concern sold some 7,900 acres during 1944 at a gross price of $433,366.

Natomas Company is headed by Thomas McCormack, president and general manager, Forum Building, Sacramento, California.

INTENT SHOWN CLEARLY

In order that there be a clear understanding of the **intent** of the United States Senate in passing S. 502—a bill to extend the payment of premiums until June 30, 1946—there is hereby reproduced verbatim a portion of the Senate debate. This is taken from the Congressional Record, March 15, 1945, Page 2303.

MR. MILLIKIN. I invite the distinguished Senator's attention to the language of the bill on page 4, commencing with the word "provided," in line 6, as follows:

Provided further, That the premium price plan for copper, lead, and zinc shall be extended until June 30, 1946, on the same terms as heretofore, except that all classes of premiums shall be noncancelable unless necessary in order to make individual adjustments of income to specific mines.

May I ask also for the special attention of the distinguished chairman of the committee, the Senator from New York (Mr. Wagner). I notice in the report on page 4 the following language relating to that provision:

The provision for making adjustments of individual premiums while prohibiting cancellation across the board is to preserve the present method of adjusting quotas upward and downward to return the producer a reasonable profit plus amortization and other allowances, and at the same time to prevent excess windfalls due to development of richer ore bodies. In making such adjustments in specific cases, it may be necessary to cancel an individual C, B, or special additional copper premium, or later, if costs rise or grade of ore drops, to restore such premiums in whole or in part, but it is not intended that initial A quotas shall be raised. The committee did not wish to prevent necessary flexibility but did want to prohibit using cancellation as a mechanism for forcing mines to shut down. Neither is it intended to interfere with the right to add new classes of premiums if the agencies feel that this will benefit or increase the production of copper, lead, and zinc.

Mr. President, may I inquire of the chairman of the committee whether this report which I have read is the official committee interpretation of the language of the bill?

MR. WAGNER. I think it is.

MR. MILLIKIN. And is that the understanding of the distinguished Senator from Utah (Mr. Murdock)?

MR. MURDOCK. It is my definite understanding that the part of the report read by the able Senator from Colorado particularly referring to the metals program is the committee's official construction of the bill as it relates to metals. However, the committee was very desirous of making it impossible for the War Production Board or any other agency on its own violition to cancel the program, and for that reason we have made the program effective until June 30, 1946, so that the mining industry of the country will be assured that the program will be carried out until that date.

MR. MILLIKIN. I notice in the report that copper is mentioned specifically. The language in the report is not intended to be confined to copper, but extends to all the other metals?

MR. MURDOCK. The bill extends the same principle to the other metals and the report specifically referred to copper as an example.

MR. MILLIKIN. May I ask the Senator further whether the views expressed in the report and the language of the bill have been discussed with the appropriate agencies of the Government so that they understand what we intend to do by this bill?

MR. MURDOCK. The Senator from Colorado is correct in this assumption.

MR. MILLIKIN. I thank the Senator.

S. 502 has passed the Senate and is now before the House, along with a companion bill H. R. 2072. Passage through the House of Representatives will meet hard sledding and it is up to each and every mining man who appreciates the need of continued premiums to write the House members from his state and let them know the vital importance of enacting this legislation immediately so that plans for operation and production after June 30, 1945, can be made. The appeal cannot be made too strong and it should be done promptly.

CHARLES F. WILLIS, Editor
THE MINING JOURNAL

F. CONRAD* reviews

The March of Talc

TALC or steatite, no doubt, is the world's oldest useful mineral formation for it has been associated with mankind from the earliest centuries. In fact, its use antedates that of iron and copper. Occurring in foliated, granular, and fibrous masses, with color ranging from white to gray to pale green, it has been found virtually around the world. Talc is a magnesium silicate, $H_2Mg_3(SiO_3)_4$, with a hardness of 1 and specific gravity varying from 2.6 to 2.8.

The word talc comes to us indirectly from the Persian language (Arabian "talq") and means "to talk." Anthropologists claim that from figures and hieroglyphics carved in soft talc walls of caves we have our first definite proof of man and his ingenuity. For the most part the carvings were of animals, birds, fish, and implements, many of which have changed but little even today.

A few thousand years later, historians relate, the inventive and artistically inclined Chinese, using the easily cut soapstone as material, turned their talents to carving statues of their ancient gods and emperors. Likewise, wishing to embellish such revered characters with more life and color, they concocted the first practical paints using the ground stone as a base for the addition of dyes and oils.

From China, use of the stone spread to Malay, India, Persia, and Egypt. The famous Assyrian cylinder seals, fine and delicate works of art, as well as other ancient signets, were made of talc. Steatite carvings also have been found among the ancient ruins of Rhodesia. In Egypt fine scarabs and other amulets made of the stone, covered with a blue vitreous glaze, were found in tombs of the early kings.

Ancient Greece and Rome next found the value of talc and it was used for some of the finest sculpturing the world has ever known. The Romans, who discovered that talc becomes hard and durable upon dehydration and weathering, also used it with good results in masonry.

The principal early European use for talc was in vessel making since it was found to be highly heat resistant. Historians state that barbaric tribes of Northern Europe fashioned cooking vessels from talc even before the Roman conquest. Years later the material was called "potstone" in England where the potter's trade is still a well-known profession. Potstone, we are told, was the "lapis ollaris" so often mentioned by English writers of old.

In the medieval ages France found that talc, because of its soft and soapy feel, made an extremely pleasant cosmetic, especially when enriched with delicate perfumes. The fad of using talcum was adopted quickly by the English and other Europeans, then journeyed westward with our earliest American pioneers.

The history of man can be traced around the world by the records which he has left in talc. First were the hieroglyphics cut in the soft talc walls of his caves, then the carved figures and statues of the ancients, and later the products of the potter's trade. Today, talc has a wide variety of uses, many of which are essential to the Army and Navy.

The first talc deposits found and commercially mined in this country were in New York. To this day New York is the leading talc producing state of the union. Later, talc deposits were discovered in several of the southern states and as far west as New Mexico and California, where its mining and manufacture is a constantly developing industry.

QUOTING from an article by Bertrand L. Johnson and K. G. Warner in Minerals Yearbook, published by the U. S. Department of Interior, the following data were revealed for 1941:

"Sales of talc, pyrophyllite, and ground soapstone in 1941 were 416,369 short tons valued at $4,701,892 or 48 per cent (134,994 tons) greater in quantity and 56 per cent ($1,693,572) greater in value than in 1940. Sales of crude, sawed and manufactured, and ground all increased in both quantity and value—the greatest tonnage increase being in the ground products.

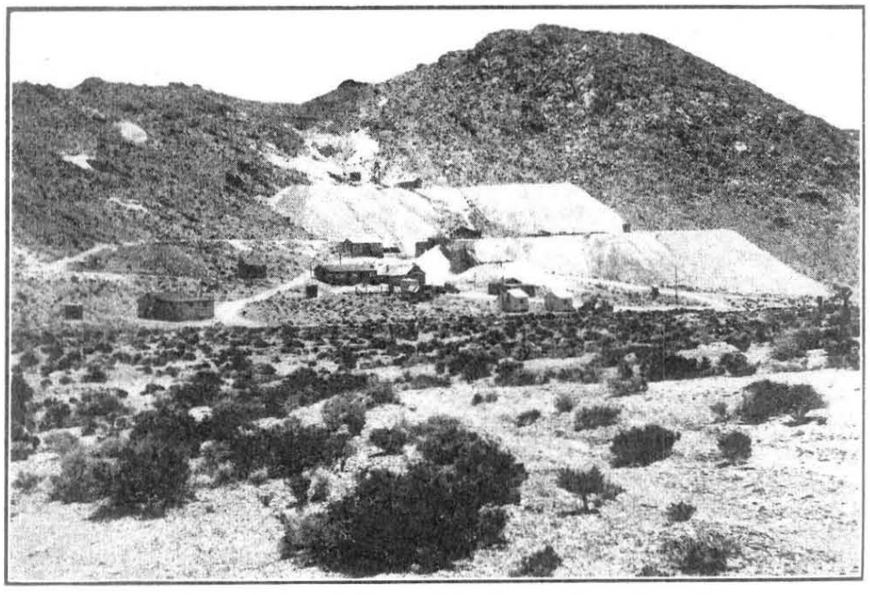
"Eleven states reported sales of talc, pyrophyllite, ground soapstone, or pinite in 1941, the same number as in 1940, but Montana replaced New Jersey as a producer. Western states increased their share of the total domestic sales from 14 to 17 per cent."

In 1942 there were 13 producing states, Alabama and New Mexico being added to the list. However, declines in demand in several industries depressed both the mined production and the quantity sold and used. Sales in 1942 were 387,963 short tons, a 7 per cent decrease from the previous year. Total value of sales, however, was the highest on record—$4,754,076. Eastern states furnish 83 per cent of the sales.

To provide adequate supplies of steatite talc for military uses the War Production Board issued Conservation Order M-239 on October 13, 1942, forbidding the sale, delivery, and use of steatite talc except for war, food, and medicinal uses. This order was modified early in 1943 and certain essential uses formerly forbidden were permitted. By April changed conditions in the industry permitted further amendment to M-239 and provided for a system of inventory control, and released frozen stocks of steatite talc. Stockpiling of steatite talc was started by Metals Reserve Company early in 1943.

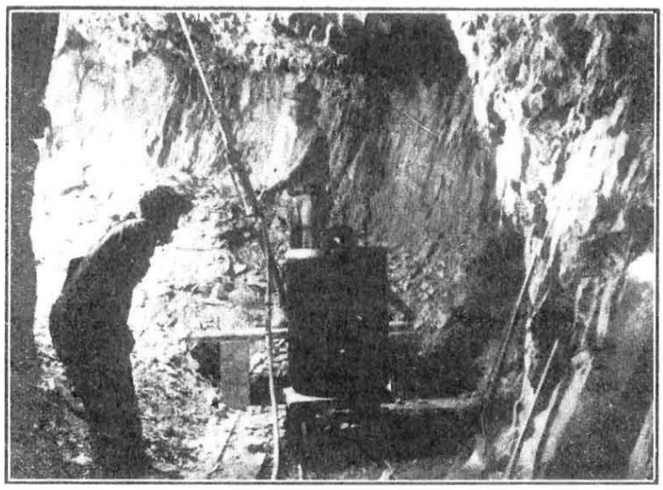
Because of the war, complete production figures for the last two years are not available. However, a direct survey shows that in 1943 the three largest of the western producers—Western Talc Company, Sierra Talc Company, and Southern California Minerals Corporation, all of Los Angeles—collectively mined and processed approximately 110,000 short tons.

Industrial uses of talc, pyrophyllite, and ground soapstone in 1941 and 1942 were

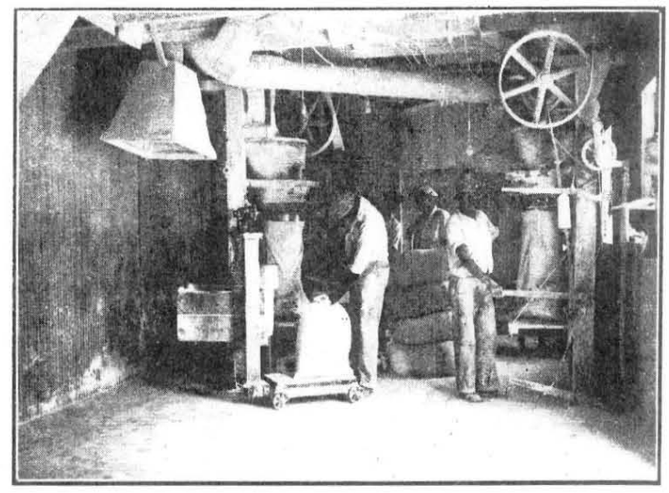


General view of Sierra Talc Company's surface plant.

*Riverside, California.



Starting a raise on D Winze level to meet the main incline at the Sierra Talc property.



Sacking talc with automatic packers at the Keeler, California, plant of Sierra Talc Company.

reported by the Bureau of Mines as follows:

	1941 (Short Tons)	1942 (Short Tons)
Paint	120,319	125,518
Ceramics	78,990	48,372
Rubber	58,114	40,487
Roofing	40,605	48,870
Paper	37,884	30,440
Toilet Preparations	21,119	18,902
Insecticides	10,479	15,810
Foundry Facings	6,705	7,822
Crayons	3,186	1,474
Other Uses Reported	24,280	27,631
Use Not Reported	14,688	22,637
	416,369	387,963

At present, the Sierra Talc Company owns and operates talc properties in the vicinity of Lone Pine, Big Pine, Death Valley, Tecopa, and Keeler in California, and one mine, the Esmeralda, in Nevada. Two mills are in full production, one at Keeler and the other in Los Angeles.

The Southern California Minerals Corporation, owned by W. K. Skeoch and P. E. Thomas, operates three talc properties in California, the Superior mine at Ibex Springs, Excelsior mine at Kingston, and the Calmasil mine at Yucca Grove. This partnership also operates two talc properties near Dillon, Montana, and runs two mills, one in Los Angeles and another at Ogden, Utah. Most of its California ore is shipped to Los Angeles, with Dunn, California, as a shipping point.

Western Talc Company, operating one property, at Tecopa, California, is a pioneer in western talc mining, having operated the same property for over 20 years. On the property three shafts and one tunnel are in use, operations being under the field supervision of Charles Jenkins. According to Jenkins, the Tecopa mine is the source of the high-grade talc which California Institute of Technology approved for use in polishing the reflecting mirrors and lenses of the Palamar Mountain telescope, the largest in the world. This approval was given after the institute had tested samples of the mildest abrasives from all over the world. The Tecopa mine produces talc of the tremolite type.

Industries which formerly were small consumers of talc have developed into major users during the war. For example, the government placed one order with Gladding McBean and Company of Los Angeles for 700,000 square feet of tiling for use in the Canal Zone. Both the Army and Navy today use thousands of barrels of talc-base camouflage paints annually.

And so, from its first use as a sculpturing material by the cave man to tiling, pottery, camouflage paints, rubber fillers, rice polishing, cloth filler, cosmetics, paint ingredients, sinks, stoves, fire brick, electric switchboard and electric appliances, paper filler, leather dressing, pipe covering, soap, lubricants, roofing, insecticides, foundry facing, crayons, and many other uses, talc carves new niches in history and marches on.

CALIFORNIA HISTORICAL PARKS

California's legislature in late March was considering bills for buying and establishing two new state parks. One, appropriating $50,000 to match local contributions, is to buy the historic old Mother Lode town of Columbia, three miles north of Sonora in Tuolumne County, and hold it in perpetuity as a monument to "the days of old, the days of gold, the days of Forty-Nine." . . . Golden days without which California would have remained a Spanish colony many years longer . . . without which the outcome of the Civil War might have been different.

The second bill carries similarly a $10,000 appropriation to create a Robert Louis Stevenson Park on the shoulder of Mt. St. Helena in Napa County where R. L. S. lived in a cabin and wrote "The Silverado Squatter." There silver mining was done in a small way; thus the memorialization would be "bimetallic."

Good idea, that gold mining memorial part, because with the Washington Dynasty's attitude toward that nefarious and superfluous industry, we Americans ere long may be looking back at it as we do today at powdered wigs, hoopskirts, pony express riders, etcetera.

SEC ANNOUNCES NEW RULE AND FORM FOR MINING COMPANIES

THE Securities and Exchange Commission has announced the adoption of a new simplified form, S-11, for the registration of shares of exploratory mining corporations under the securities act of 1933. Adoption of a new rule—240, under section 3 (b) of the act—also has been announced by the commission. The new rule provides for exemption from registration of assessable shares of mining corporations to a maximum of $100,000 in one year. The new rule and form are designed to encourage the financing and development of new mining companies, according to SEC officials.

Form S-11 is for the use of mining corporations which have not engaged in active ore production and have no mining property developed beyond the exploratory stage. The use of the form is limited to corporations which have not been involved in recent successions and are without important subsidiaries. These limitations on the use of the form have permitted considerable simplification over previous forms. At the same time it is believed that a large part of the registrants making primary mine securities offerings will be able to use the form.

Under rule 240, a prospectus must be used in connection with the offering of assessable shares; and a statement of prescribed information must accompany each assessment notice.

Adoption of a rule similar to 240 had been urged by various members of the mining industry and draft copies of the form and rule were submitted by SEC to mining men, mining organizations, attorneys, accountants, and others for review and criticism.

Copies of the new form S-11 and rule 240, with booklet, may be obtained from the Publications Unit, Securities and Exchange Commission, Philadelphia 3, Pennsylvania, or from SEC district offices.

one mile south of Quartzsite. Halsey L. Williams, owner of the milling plant, is serving in the armed forces in France and it is understood that, in his absence, direct management of the mill has been placed with the Willamtho Company, Rex S. Thompson, 911 Stock Exchange Building, Los Angeles 14, California. In the future, the milling plant will treat custom ore from operators in western Arizona. Minor alteration of the equipment is necessary, but the mill will be put into operation as soon as possible. E. P. Jennings of Quartzsite is mill superintendent.

Frank Zappia, 1321 South Seventh Avenue, Tucson, Arizona, and associates have started mining operations on the **Good Enough No. 1** and **2** mines. The property is located in the Las Guijas mining district six miles northwest of Arivaca, Arizona, and adjoins the General Electric Company's mine, known as the **Las Guijas**, on which a large body of high-grade hubnerite was discovered recently by E. Fernstrom of Tucson.

A decision affecting employes of the **Miami Copper Company**, Miami, Arizona, has been announced by the Nonferrous Metals Commission. The War Labor Board ordered a 15-day escape period clause in the contract between the mining company and the International Union of Mine, Mill and Smelter Workers, voluntarily agreeing to maintenance of union membership and the checkoff of union dues. The escape clause provides that a worker may withdraw from the union within a 15-day period and still retain his job. However, if he does not withdraw in that period he must remain a member in good standing for the duration of the contract. Wage increases, asked for by the union, were denied by the commission, but provisions for paid vacations of one week after one year's service and two weeks after five years, and extra pay for night work of four cents an hour for second shifts, six cents for intermediate shifts, and eight cents for third shifts were approved. However, sick leave, severance pay, a guaranteed annual wage, and reclassification of riggers, tailings dump operators, and oilers in the mill were denied by the commission. All adjustments are retroactive to November 24, 1944. R. W. Hughes, Miami, is general manager for Miami Copper.

The Nonferrous Metals Commission of the War Labor Board recently denied general wage increases, severance pay, sick leave, and a guaranteed annual wage for employes of the **Shattuck Denn Mining Corporation** at Bisbee, Arizona. The agency declared, however, that denial of the union's petition would not prevent reopening of negotiations in case of a change in the national wage stabilization policy. Action was deferred by the commission in the case of the union's demand for wage increases in certain classifications in the mill to correct alleged intra-plant inequalities. It is expected that an effort will be made to settle the issue in negotiations between the mining company and the union. The general wage increase asked by the union is reported to have affected 163 employes. The company's general manager is J. A. Wilcox of Bisbee.

CALIFORNIA

The Western Gold Mines, Inc., is reported to have reopened the old **Relief Hill** mine early in March, but so far it is understood that the water supply is inadequate to allow steady hydraulic mining operations. The company is operating under special permit from the War Production Board. The mine, which is owned and operated by Western Gold, is located at Bloomfield, California. C. E. Clark of Bloomfield is mine superintendent, and W. H. Taylor, 943 Russ Building, San Francisco 4, California, is president of the company.

The **Red Star Mining Company, Inc.**, is proceeding with limited hydraulic mining operations under special permission from the War Production Board. The Red Star property is located near Michigan Bluff, California, and the company announces that there is a sufficient water supply to assure a regular sluicing season. A small crew is being employed under the direction of A. F. Erickson, 2510 Chanate Road, Santa Rosa, California, general manager and purchasing agent. S. J. Smith, Box J, Georgetown, California, is assistant mine superintendent. Head offices for the company are maintained at 210 Post Street, Room 911, San Francisco, California.

The **Pacific Atlantic Metals Corporation** is reported to be developing the **Gold Peak-Cowboy** deposit about 15 miles east of Caliente, California, in the Mojave quadrangle. The Gold Peak-Cowboy property comprises nearly 19 claims, with a reported production exceeding $500,000 from high-grade gold-silver ores. The ground was involved in litigation for years, but title to the mine has been cleared. The work is directed by Willard Hales, who recently was appointed to take complete charge of the company's mining and milling operations. The firm's **Black Hawk** zinc-lead mine, which has been developed for the past year under the direction of H. A. Hukill, now is being sampled through an arrangement with the American Zinc, Lead and Smelting Company, D. I. Hayes, Old National Building, Spokane, Washington, western manager of operations. Hukill remains in charge at the mine. Pacific Atlantic also controls the Copper Basin mines and the Edith property in the same district. The company owns and operates a completely equipped flotation mill and reduction plant in Caliente Canyon, 15 miles from Caliente, California, and concentrates from the Black Hawk are shipped to International Smelting, Salt Lake City. Gold-silver concentrates from the Gold Peak-Cowboy will go to the Selby smelter. E. C. Neckerman, 514 Central Building, Pasadena, is president of Pacific-Atlantic.

Increased production is planned at the Guadalupe mercury mine, being operated by the **Laco Mining Company**, H. N. Mason, Route 3, Box 412, Los Gatos, California, president. Principal development is being conducted at the Kelly Cut, where new ore bodies were opened by the Bureau

of Mines' drilling program two years ago. Ore is treated in the company's 80-ton, 64 by 4-foot Gould rotary furnace and condensing system, which was installed late in 1943. The present program of increased operations follows a period during which the concern was forced to cut production because of the quicksilver market conditions. The Guadalupe is located near Los Gatos several miles south of San Jose, California, and has been operated by the Laco concern for more than seven years. It is reported that the mine produced about 9,000 flasks of quicksilver during the first World War and has been a steady producer since. Other officials of the company are George Kirk, vice-president, and Howard Meade, secretary.

In spite of being handicapped seriously because of the labor shortage, the U. S. Flare Corporation is reported to be progressing with shaft sinking at its **Hi-Peak** mine. The new shaft will be sunk 200 feet, 50 feet deeper than the present shaft. Ore is treated in the company's 75-ton milling plant. The Hi-Peak is situated four miles northwest of Inyokern, Kern County, California. U. S. Flare is headed by J. M. Hoyt, Jr., Box 590, San Fernando, California, and Victor J. Hayek, 650 South Grand Avenue, Los Angeles, California, is general manager. Norman Whitmore, 417 South Hill Street, Los Angeles, is consulting engineer. George Stapley and William Lignon are mill and mine foremen, respectively.

A. H. Wild of San Francisco, California, president of the **U. S. Chrome Mines, Inc.,** is reported to be in New York presenting a plan for reorganization of the company, now under consideration. The company closed down its mill and suspended all work some time ago pending the reorganization, which was forced as the result of litigation in which the concern was involved. The company's **Pilliken** mine in Eldorado County, California, is under option for sale, and investigation work pending exercise of the purchase option is said to have exposed a limited amount of high-grade ore, which has been mined and shipped. The U. S. Geological Survey reports are said to show that this property has several million tons of milling-grade ore.

C. A. Burmeister and P. W. Burmeister, both of Cloverdale, California, are maintaining their production schedule of one flask of quicksilver daily from the **Culver-Baer** mine. The partners mine and then furnace the ore alternately. Considerable development work is progressing and it is planned to run a new tunnel into recently discovered ore. The Culver-Baer is located near Cloverdale, and is worked under lease agreement with the Culver-Baer Mining Company.

The **Central Pacific Gold Mining Company,** which has been closed down for some time because of wartime conditions, has announced that it will start limited gold mining operations at its Sure Pay mine in the near future. The property, acquired by the present owners in 1937 from the Sure Pay Mining Company, is located approximately 18 miles east of Oroville in the old Forbestown area of California. Besides the gold values, the Sure Pay ore also carries considerable lead and silver. W. H. Patterson of Seattle, Washington, is president of the company, and Mrs. Laura Munk, 314 West Seventy-eighth Street, Seattle, is secretary and manager.

Clarence Young is said to be increasing his crew at the **Wilhite** placer mine to 10 men, working two shifts. All mechanical installation work has been completed by Ben Wilder and the operators are using a 30-ton Diesel shovel to recover both gold and chrome values. L. P. Kelly, San Francisco, California, and Walter Corman, Portland, Oregon, are Young's partners in the project. The mine is situated at Red Cap Creek near Blue Lake, Humboldt County, California.

The **Bradley Mining Company** has reported that it plans to reopen its Mt.

SCOTCH VIA AUSTRALIA

One thing sure—there's never a dull moment in the mining game or any of its associated businesses. Anything can happen and usually does—sometimes to the good and sometimes to the bad. At least it's not monotonous.

Take for instance the night crew at Great Falls, Montana, who were unloading a carload of zinc concentrates from Australia. Suddenly all work stopped and the men just stood and stared—nestling in the zinc concentrates was a full pint of Scotch, distilled in Perth, Scotland.

Diablo quicksilver mines if an adequate crew can be obtained. It is expected that the company will employ some 25 men in open-cut mining. The property, which was closed down some time ago because of poor quicksilver market conditions, is located near Clayton in Contra Costa County, California. The Bradley concern is headed by Worthen Bradley, 425 Crocker Building, San Francisco 4, California, and Vic Blomberg of Clayton is superintendent of the Mt. Diablo project.

COLORADO

The **Gold Links Mining Company** reports continuous operation of its Little Annie mines and 200-ton flotation plant in Rio Grande County near Summitville, Colorado. The concern is a partnership of George H. Garrey. 1555 Sherman Street, Denver, and B. T. Poxson, 675 Locust Street, Denver. Copper ore is milled at the property and the concentrates are trucked 50 miles to Monte Vista for rail shipment to smelters in Colorado and Utah. A. L. Pierce is general superintendent, assisted by F. M. Stanger.

The **Climax Molybdenum Company** and subsidiaries, 500 Fifth Avenue, New York 18, New York, reports a net profit of $8,455,526 or $3.36 a share. This compares with $9,633,624 or $3.82 a share in 1943. The company's mining and milling operations are at Climax, Colorado, where C. J. Abrams is general superintendent.

Sale of the **North Continent** property in San Miguel County, Colorado, to the **Union Mines Development Corporation,** unit of Union Carbide and Carbon Corporation, has been approved by SEC. The sale includes the carnotite mine, buildings, mill, machinery, and all tools and equipment, proceeds from which will be used by the North Continent concern to liquidate its organization. John R. Van Fleet is president of Union Mines Development and Blair Burwell is vice-president. Both are addressed at company headquarters, 30 East Forty-second Street, New York 17, New York.

Following protests from the Colorado and New Mexico districts involved, the RFC is reported to have approved a $200,000 loan to the Denver and Rio Grande Southern railroad to enable the company to continue serving an area in southern Colorado and northern New Mexico. The road is a narrow-gauge line, but its abandonment would isolate the wool, sheep, cattle, mining, and other industries in Archuleta, Dolores, Gunnison, Hinsdale, La Plata, Montezuma, Ouray, San Juan, and San Miguel counties in Colorado and Rio Arriba and San Juan counties in New Mexico.

The NMC settled a dispute between the **Climax Molybdenum Company,** Climax, Colorado, and the Mine, Mill and Smelter Workers concerning seniority and grievances by ordering five new clauses incorporated in the contract between the two. The union request for closed shop was denied, but voluntary membership with a 15-day escape period, was ordered; the union's demands for a general wage increase, for a guaranteed annual wage, and for sick leave were denied. The company was ordered to pay the usual differential of 4 cents an hour on second shifts, six cents on intermediate shifts, and 8 cents on third shifts. Working on a seven-day week basis, with time-and-a-half for overtime and the sixth day and double time for the seventh day, the company employs about 600 men at Climax. That is the smallest crew employed since 1932. In spite of the labor turnover, inexperienced help, and the war tempo of operations, the company showed its best safety record in 1944 and won its fifth Army-Navy production award. W. J. Coulter, 421 Continental Oil Building, Denver 2, is general manager and C. J. Abrams of Climax is general superintendent.

During 1944 the **Resurrection Mining Company** of Leadville, Colorado, milled 71,434 tons of sulphide ore and 35,558 tons of custom ore in its 700-ton plant and shipped 3,029 tons of oxide ore direct to the smelter. In spite of the labor shortage, some development work was accomplished and had very favorable results. Positive ore reserves at the end of 1944 were only around 8 per cent less than at the end of 1943. The company, which is owned equally by the Newmont, U. S. Smelting, and Hecla mining concerns, reports a net profit of $77,956 for the year just past, after provision for depreciation and cost depletion.

WHAT'S IN A NAME?

It sometimes seems as though the men who named the minerals went out of their way to select confusing names. Below you will find a list of 10 metals. From the two mineral names given to the right of each metal choose the one which contains that metal. A score of 9 to 10 right is good, 8 right is fair.

	A.	B.
1. Gold	Sylvite	Sylvanite
2. Tungsten	Wulfenite	Wolframite
3. Sodium	Hallite	Halite
4. Lead	Cerussite	Sericite
5. Zinc	Willyamite	Willemite
6. Lithium	Spodumene	Spodiosite
7. Manganese	Pyrolusite	Pyrrhotite
8. Uranium	Carnallite	Carnotite
9. Tungsten	Hubnerite	Hullite
10. Nickel	Milarite	Millerite

Answers Will Be Found on Page 24

IDAHO

Placer property in Owyhee and Idaho counties, Idaho, has been acquired by John H. Miller, Box 1084, Red Lodge, Montana, and C. B. Rhodes, formerly of Prescott, Arizona. Operations will be started as soon as war restrictions permit. A new Bucyrus-Erie Diesel-powered 1½-yard dragline has

GEORGE C. HEIKES RETURNS TO PRIVATE INDUSTRY FROM WPB

GEORGE C. HEIKES, who recently resigned as director of the Aluminum and Magnesium Division of the WPB, has joined the staff of Ventures, Ltd. His office is at 917 Fifteenth Street N. W., Washington, D. C.

George C. Heikes

Heikes had been director of the Aluminum and Magnesium Division for nearly a year. He was formerly connected with the OPM, predecessor of WPB, joining the staff in February of 1941.

He served as assistant chief of the Copper-Zinc Branch until the branch was separated when he became head of the Zinc Division. In April 1943 he resigned and returned to private industry. For the next year or so he was associated with the Olin Corporation in Tacoma, Washington, but in July 1944 he was recalled by the WPB to head the Aluminum and Magnesium Division.

He is being replaced in the Aluminum and Magnesium Division by Nigel H. Bell of New York, who has been with the division since November of 1942 and was recently chief of the division's fabrication branch.

H. E. KEYES PLANS RETURN TO METALLURGICAL WORK

MAJOR HARMON E. KEYES has been transferred from active duty to reserve service in the Chemical Warfare Division of the United States Army and has returned to his home at 508 East Culver Street, Phoenix, Arizona. Keyes had been connected with the Chemical Warfare Reserve since 1926 with the rank of a captain, and was awarded his majority when he entered active service on May 20, 1941. During the war, he had been on duty in Bermuda, Florida, Maryland, and Indiana.

Upon receiving his discharge from active service, Keyes spent two months in New York organizing plans to return to metallurgical work. He has specialized in hydro-metallurgy of copper, with particular reference to the leaching of low-grade ores with cheaper methods of extraction. His methods of producing ferric sulphate leaching solvent also have found successful application in the sanitation field, and a plant demonstrating the same principles of production has been in operation at the Phoenix sewage treatment plant for the past 5½ years.

Keyes is a native of Florence, Wisconsin, and attended the Massachusetts Institute of Technology and the University of Washington, receiving from the latter the degrees of B. S. and M. S. (Ch. E.). After a short period spent in the field examining prospects in California, Nevada, and Wyoming, he served in the Chemical Warfare Division in the first World War. Later, he worked for two years as chemist for the Consolidated Mining and Smelting Company in Canada, and returned to the United States in 1920.

Since 1924, Keyes has been employed principally in Arizona, holding such positions as assistant metallurgist with the U. S. Bureau of Mines at Tucson for three years and metallurgist for the Miami Copper Company for seven years. Before leaving to serve in the present war, Keyes made his headquarters at Phoenix.

LABOR GROUPS OFFER TRITE ANSWER TO COPPER SHORTAGE

WITHOUT suggesting any place where additional labor could be found even if wages were hiked to levels beyond the cost-plus defense industries and without recommendation as to how the copper mines, with 1940 ceiling prices, are going to secure the extra funds with which to make work in the industry attractive, the newly formed Copper Labor Advisory Committee of the War Production Board has offered a solution of the copper shortage.

Their answer is, briefly, to make the copper industry so enticing as to wages and living conditions that workmen will desert other just-as-important industries and trek to the mines. Their recommendations gave no hints as to ways and means of doing the best job for the war effort, but were confined to the angle of getting more out of it for those employed.

According to an official OWI publicity release, the Copper Labor Advisory Committee, representing C.I.O. and A.F. of L. at copper mines, mills, smelters and refineries, informed the War Production Board that wage adjustments and a seven-day week in the copper mines and refineries would go far to supply the manpower needed to overcome the estimated shortage of 228,000 tons of copper to meet 1945 requirements.

F. H. Hayes, assistant director of the Copper Division, WPB, who presided, expressed the hope that a good share of the allotment of 10,000 draft deferments for the nonferrous metal industry would go to the essential workers in the copper mines. He told the committee that the estimated shortage would be reduced by approximately 10,000 tons of copper a month if these men are kept in the mines.

Chief among the recommendations made by the Copper Labor Advisory Committee for meeting manpower needs and increasing production were the following:

1. Increase wages to the levels prevailing in other industries in the area with a greater increase to the lowest paid group.
2. Work a seven-day week for the period of the emergency.
3. Provide recreational facilities in the mining camps.
4. Make special allowances for gas and tires for the miners who are living in mining camps 100 miles or more from the nearest city.
5. Revitalize labor-management committees.

Hayes informed the committee that several of the recommendations touched on matters outside WPB's jurisdiction.

The A.F. of L. and C.I.O. representatives urged that government agencies recognize the effects of postwar insecurity on the problem of production in the mines today. They explained that men going to work in the copper mines face the possibility of being isolated in a mining camp with no other work to turn to, if mining is cut down. They therefore urged that postwar prospects and plans be presented to the workers in the copper industry. They suggested that a promise of severance pay or transportation might help bring new workers to the copper mines.

CRIPPLE CREEK GOLD CAN STILL CUT ICE

The Cripple Creek district in Colorado further emphasizes the importance of the forgotten metal (gold—remember?) by giving a carload of it to the Red Cross War Fund. Mined by mining companies and lessees of the district, the ore weighed 94,362 pounds, averaged 0.72 ounce gold per ton, and had a gross value of $1,138. Gross value is what the Red Cross received since there were no handling expenses involved. The Colorado Trading and Transfer Company trucked it to the railroad without charge, the Midland Terminal railroad carried it free to the Golden Cycle plant, where it was treated gratis. And those on the receiving end of the Red Cross won't doubt the value of gold.

MONO COUNTY MINERS ASSOCIATION IS FORMED

THE Mono County Miners Association, Box 779, Bridgeport, California, has been organized in an attempt to create interest among outside mining men and to interest capital in the mineral possibilities of the county. Charles W. Fulton and F. J. Young were selected as chairman and secretary-treasurer of the new group respectively.

Until recently, the Mono County area, covering some 25 by 130 miles, was developed mainly for its gold and silver values. However, the region also has promising deposits of other minerals and metals, such as copper, lead, zinc, cobalt, tungsten, talc, barite, perlite, iron, molybdenum, mercury, manganese, sillimanite, andalusite, etc. Lake Mono, alone, a mineral salt lake 11 by 15 miles in area, is claimed to contain some 74 different minerals which could be commercially developed.

The new organization also anticipates an extensive revival of gold-silver operations in the area after the war, particularly at the old gold camp of Bodie. At one time there were some 32 mines in operation at Bodie, and a recovery of approximately $35,000,000 in bullion has been recorded. As yet, most of these mines are reported by the Mono group to be of only a shallow depth. The old Log Cabin mine, closed down for the duration, is considered by the group as one of the most promising gold quartz properties for future operation, while the Benton district is cited as being particularly rich in silver values.

Jackson M. Owens, Wickenburg, Arizona, is reported to be shipping from the **Lucky Cuss** mine located about 20 miles west of Wickenburg in Maricopa County, Arizona. The ore is going to the Wickenburg Ore Market and is said to run as high as $40 per ton in gold values.

Tom J. Rodgers, Wenden, Arizona, is planning to resume operations at his **Red Hill** property. The mine is located in the Cunningham Pass area near Wenden. The Army had been using the district as a bombing range for some time, but it has now been reopened for mining. The Red Hill is principally a lead producer.

Articles of incorporation were filed recently by the **Mt. Union Mining Company** and the following officers have been named: Vincent M. Ryan, president; W. E. Patterson, vice-president; and J. P. Ryan, secretary-treasurer. Head offices will be at Prescott, and the company is expected to operate the Mt. Union mine in the Hassayampa district of Yavapai County, Arizona, which Vincent Ryan and associates took over last fall. The new company is capitalized at $200,000, with 200,000 shares of stock having a par value of $1 per share. The Mt. Union previously was worked by R. A. Airheart, Box 1623, Prescott, and old reports show ore carrying values in lead, zinc, gold, and silver. The mine has been credited with a production of some $150,000 in gold and silver.

CALIFORNIA

Substantial production is continuing from the **Abbott** quicksilver mine in Lake County west of Wilbur Springs, California. Late last year, the operating concern, the International Metals Development Company, discovered several additional cinnabar deposits at the Abbott and has completed considerable development work, including sinking of the main shaft another 100 feet and driving of lateral workings. International Metals has worked the Abbott holdings since 1940 and is headed by Robert Lytel, 1015 Securities Building, Seattle 1, Washington. Work at the property is in charge of C. O. Reed, Williams, California, assistant general manager.

A substantial amount of development work is said to be under way at the old Contact quicksilver mine, which is being reopened under the name of the **Riley Contact** mine. A new 800-foot drainage tunnel is being driven to connect with the 400-foot level, which is expected to greatly reduce production costs through the elimination of considerable pumping and hoisting, and to improve ventilation. The operators hope to have the mine in production again some time this year. Reopening is directed by H. G. Walker, Healdsburg, superintendent. The mine is situated at Pine Flat, 19 miles northeast of Healdsburg, California. The property originally was acquired and opened by Walker in 1937 and the mine was in production from that year to 1940.

"ROUGH RIDERS"

The infantry should get a laugh out of this one. The men of the armored divisions would appreciate it, too. Employes of a certain lead-zinc mining company in Arizona have been practicing a little "absenteeism" recently because they don't like their means of transportation to and from work. They have been riding with co-workers to the mine, situated about 20 miles from their homes, but complained about the type of vehicles and the fact that the drivers do not carry personal damage insurance.

Well, the insurance business was straightened out all right, but there are still some 14 employes who are holding out. They have been riding in a truck and are complaining of the "hard riding."

Wonder how they'd like to take a little ride in an M-4 tank with anti-tank artillery about to get their range. Or how about slogging through mud and snow for that 20 miles loaded down with a pack, rifle, ammunition, and a few other odds and ends of equipment tacked on here and there. They'd be mighty happy to thumb a lift in a "hard-riding" truck!

Actual production of copper-gold ore has been started at the **Noonday** mine, recently rehabilitated by S. T. Hilberg, 1461 Fifty-second Street, Sacramento 16, California. The ore is hauled by truck a distance of seven miles to the Volo Mining Company's mill at Placerville, California. Workings at the Noonday comprise a two-compartment, 200-foot shaft and a substantial amount of drifting on the 100 and 200-foot levels. The mine is located in Eldorado County in the Diamond Springs district of California.

The **Idaho Maryland Mines Corporation** has announced the reelection of E. L. Oliver, 260 California Street, San Francisco, California, as president. The company also has reelected F. W. McNear and E. T. Zook as vice-presidents and Earl Mannington as secretary-treasurer. The stockholders recently had reelected all directors, with the exception of Albert Crase, who retired as general manager last year, and Errol MacBoyle. MacBoyle, who has been in ill health for some time, was replaced by his wife, while Crase was succeeded by Neil O'Donnell, Box 1208, Grass Valley, California, present general manager. The post of executive vice-president, which previously had been held by MacBoyle, has been abolished and MacBoyle will continue as a vice-president. The company has reported a net loss of $127,270 after all charges for the year ended December 31, 1944, compared with a loss of $341,027 in the previous year. Last March 10, the company was permitted by the War Production Board to hire a maximum of 200 men and to produce up to 7,800 tons of ore monthly, but as yet neither has been attained. During 1944, the company reports a total production of 19,522 tons of ore from its mining property at Grass Valley.

It is reported that Federal District Judge Tillman D. Johnson, Salt Lake City, Utah, who recently approved a claim of the International Smelting and Refining Company for almost $500,000 against the **Walker Mining Company,** has ordered that the assets of the latter be sold to the highest bidder. After an extensive trial in federal court, it was held that reorganization of the Walker concern was impossible and that the expenses of maintenance under receivership should be stopped. The Walker copper mine, located at Walkermine, California, has been closed down since October 1941. The company first filed proceedings for reorganization last fall after I. S. and R. had demanded payment of the Walker indebtedness. Despite the fact that the Walker concern is controlled by International, it was held that the money had been advanced to Walker Mining Company as a loan and not as a capital investment. The International Smelting and Refining Company, an Anaconda subsidiary, is headed by C. F. Kelley, 25 Broadway, New York, New York.

The Harshaw Chemical Company, with headquarters at Cleveland, Ohio, has authorized the construction of a new antimony smelter and oxide plant at the company's **Menardi Metals Division,** El Segundo, California. The plant now is being designed and construction started by the Southwestern Engineering Company of Los Angeles, California. R. A. Lucht, assistant chief engineer of Harshaw Chemical is acting as technical adviser, and Harold B. Menardi, 631 South Inglewood-Redondo Road, El Segundo, manager of the local division, is in direct charge of the project. Construction of the plant will be completed some time in July of this year and the operation of the smelter is expected to add materially to Southern California's production of refined metal products.

Edward McBroom is reported to be continuing limited placer mining with hydraulic monitors at the **Farnsworth** mine. The gold property is located in Siskiyou County on the South Fork of the Salmon River near Cecilville, California, and was purchased by McBroom in 1940.

California-Pacific Chrome, Inc., is planning to enlarge its chrome mill following acquisition of a 1945 contract with the Metals Reserve Company for an unlimited tonnage from the Sousa chrome property. The plant was erected last winter and will have a capacity of 100 tons daily when the new machinery is installed. Open-pit mining methods are used at the Sousa mine and concentrates from the company mill have been delivered to the government stockpile at San Luis Obispo, California. The property is one of the oldest chrome mines in the area and was reopened by the company about three years ago. It is located five miles west of the town of San Luis Obispo.

The **Transierra Gold Mining Company** is purchasing machinery and equipment in preparation for a resumption of mining operations in the near future at the company's North Star mine. The mine, located near Tuolumne on the famous Dead Horse-Eureka Lode, Tuolumne County, Califor-

nia, is opened by a 360-foot shaft and several hundred feet of drifts on the footwall vein. During 1944, the Lombardo crosscut tunnel on the North Star claim, originally driven some 50 years ago, was opened and retimbered, and satisfactory gold values have been reported. The company will use electric power, purchased from the Pacific Gas and Electric Company. Transierra also controls the Laura claim in the same district. The two gold claims were purchased late in 1943 by the Belmont Osborn Gold Mining Corporation from Tacoma, Washington, interests, and shortly afterward the company changed its name to Transierra Gold Mining Company. W. A. Hayes, 1900 Leimert Boulevard, Oakland, California, is president, Dean Steele is vice-president, C. J. Raab, is secretary-treasurer, and Paul Schwarz and Henry J. Bartlett are directors. J. B. Sivori, Tuolumne, California, is mine superintendent.

The Tonopah Divide Mining Company is reconditioning the old **Gaston** gold mine in the Eureka mining district near Nevada City, California, and a small crew of veteran miners is employed in the work. The mine was taken over by Tonopah Divide under option agreement earlier this year. The property formerly was worked on a substantial basis by the Gaston Gold Mines, Inc., but was shut down following the gold closing order. The Gaston, which is opened by several miles of underground workings, has been operated over a period of some 50 years and wide veins of milling gold ore are said to be exposed in the main levels. The Tonopah Divide concern is controlled by Clyde D. Souter, Box 1466, Reno, Nevada, and associates.

The Enterprise Engineering Company has started dragline dredging operations at the **James Creek** quicksilver property. At present, the company is using a dredge moved in to the property from San Andreas, California, but it is expected that a new three-yard Lima dragline dredge will be delivered to the James Creek deposits in April. The placer property is located about 88 miles north of Oakland, California, in the Aetna Springs district of Napa County. Head offices of the company are at 1706 Broadway, Oakland 12, California. R. Lee Cate is president and Henry Ott is general manager and dredging engineer.

The Nonferrous Metals Commission of the National War Labor Board has denied a request for wage increases for employes of the **American Smelting and Refining Company** in the San Francisco, California, plant, as well as for a guaranteed annual wage, sick leave, and severance pay. In addition, it is understood that demands for wage increases in the company's Los Angeles plant were withdrawn by the International Union of Mine, Mill and Smelter Workers, following A. S. and R.'s agreement to a simplified wage structure. Head offices of the company are at 120 Broadway, New York 5. At the San Francisco offices, 405 Montgomery Street, J. D. MacKenzie is general manager and J. T. Roy is smelter superintendent.

The **Pacific Mining Company** has reported a net loss of $127,325 after all

charges, including interest accrued on advances from the parent company, for the year ended December 31, 1944. Production revenue for the year amounted to $146,115 and the operating loss totaled $75,842. The company's Jenny Lind and Pine Tree gold mines in California are closed down, and the shutdown expense on these mines is listed as $5,724 during 1944. Last year, the Pacific Mining Company continued with its Union tailings dump operations at Copperopolis, California, under lease agreement, and also has operated the Newton copper mine at Ione, California, since July 1, under an agency agreement with the lessees of the property. The company is making regular shipments of copper ore and concentrates from both operations to a Salt Lake City smelter. Pacific Mining, a subsidiary of the Alaska Juneau Gold Mining Company, is headed by P. R. Bradley, Jr., Jamestown, California.

COLORADO

The **Vanadium Corporation of America,** 420 Lexington Avenue, New York, New York, reports a net profit of $459,713 for 1944. This equals $1.13 a share and compares with $616,605 or $1.52 a share in 1943. A dividend of 25 cents a share has been announced, paid on April 12 to stock of record April 5, 1945. The company is mining about 85 tons of vanadium ore daily at Placerville, Colorado, and milling it at Naturita, 45 miles away. Operation of the 100-ton plant at Monticello, Utah, was resumed recently.

The search for higher grade ore by the **Midnight Mining Company** of Aspen, Colorado, has resulted in the location of an ore body showing high silver value. While not as high-grade as that ore mined in 1942 and 1943, it is better than the material mined during 1944. Production figures for 1944 show that both the quantity and quality of ore produced were lower than in the previous year. Premiums on lead and zinc production in 1944 totaled $12,710. L. E. Russell of San Diego, California, is president of the company and Fred T. Willoughby of Aspen is vice-president and general manager.

Only one shift is being worked in the mine of **Telluride Mines, Inc.,** at Telluride, Colorado, because of the labor shortage. Small quantities of hubnerite are reported to have been found during 1944 and all zinc concentrates contain cadmium values. The company would nearly double production if underground miners could be obtained. Harold S. Worcester Telluride, is president and general manager.

According to reports, a second appropriation for the Leadville tunnel at Leadville, Colorado, is being asked. Congress previously appropriated $1,400,000 for the project which is designed to unwater strategic mineral properties of the Leadville district. Of this about $1,000,000 is stated to have been spent. Completion of the tunnel is scheduled for mid-1945, but work has been hampered not only by the manpower shortage, but by soft ground and underground water which had to be bypassed. John Austin of Leadville is manager for the Stiers Brothers Construction Company which is doing the work under contract with the U. S. Bureau of Mines.

The **Shenandoah-Dives Mining Company** has announced that its head offices have been moved to 616 Finance Building, 1009 Baltimore Avenue, Kansas City, Missouri. The former address was 1000 Grand Avenue Temple, Kansas City. James W. Oldham is president of the concern, which is mining and milling about 500 tons of ore daily at Silverton, Colorado, where Charles Chase is general manager. If additional manpower were available the company would increase production to milling capacity which is 750 tons a day.

The **National Lead Company,** 111 Broadway, New York, New York, has declared a regular quarterly dividend of 12½ cents on common stock, payable March 31 to stockholders of record March 9, 1945. The regular quarterly dividend of $1.50 on CL-B preferred will be paid May 1 to stock of record April 16. The company reports net income last year of $7,563,754, equal to $1.79 a common share. This compares with $5,200,877 or $1.03 in 1943, but includes $2.241,287 non-recurring income received from the company's disposal of its entire holdings in the Patino Mines and Enterprises Consolidated and in the General Tin Investments, Ltd. National Lead operations in the West are conducted through its St. Louis Smelting and Refining Unit in Colorado and New Mexico and through its Bariod Sales Division in California and Wyoming.

Between 40 and 50 tons of fluorspar concentrate are being produced daily in the recently completed 100-ton plant of the **Kramer Mines, Inc.,** near Colorado

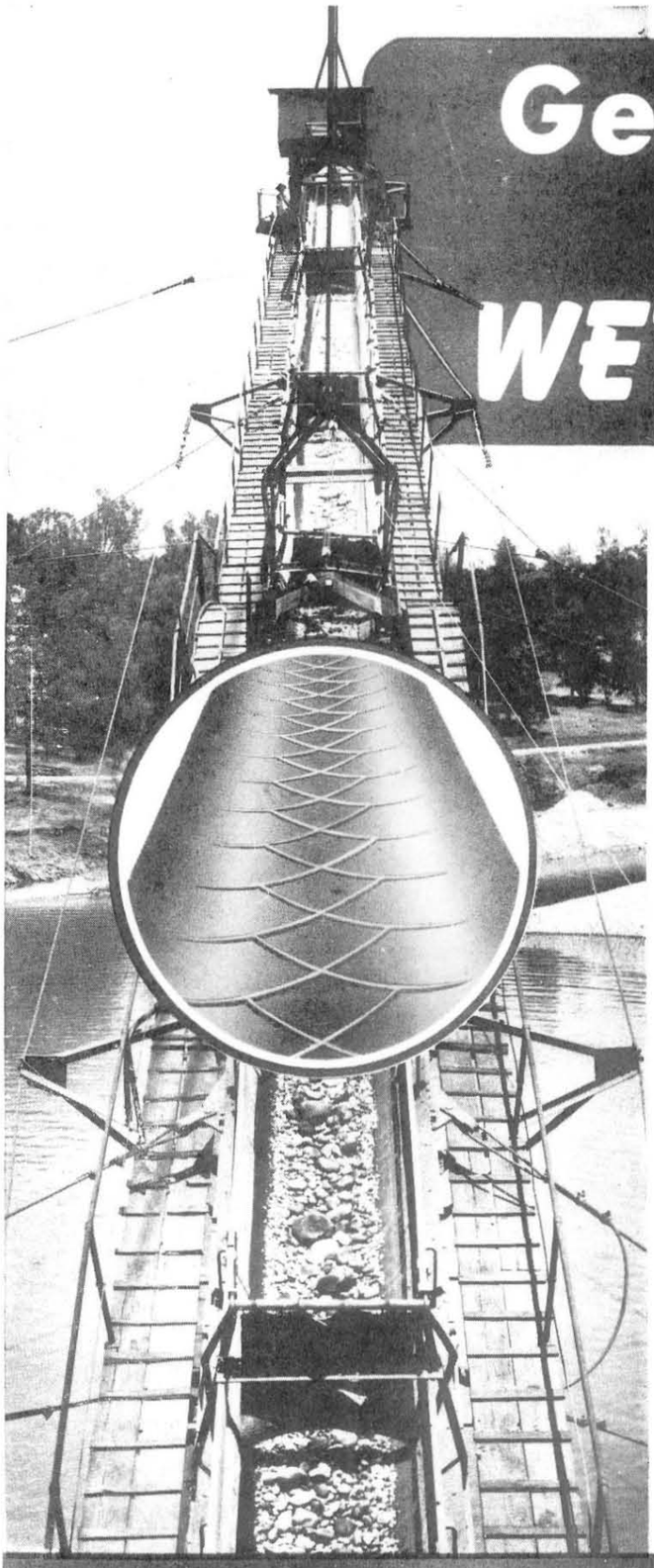
MINOR DIFFERENCES

Due to the straying of coal miners to metal mines and vice versa, there now exists a considerable overlap in terminology. Some differences which, in general, still exist, are listed below. Can you match the metal mining terms on the left with their coal mining equivalents on the right? For this one 14 to 15 right is good and 12 to 14 right fair.

METAL	COAL
1. stull	a. parting
2. mine	b. room
3. siding	c. prop
4. hanging wall	d. shaft bottom
5. footwall	e. ladder road
6. stope	f. pit
7. head board	g. socket
8. inclined shaft	h. roof
9. outcrop	i. vein
10. station	j. floor
11. stoped out	k. blossom
12. spiling	l. cap piece
13. manway	m. forepoling
14. seam	n. slope
15. bootleg	o. drawn

Answers Will Be Found on Page 24

Get a grip on WET LOADS



LIGHTNING
Ribbed Conveyor Belts
PREVENT LOAD SLIPPAGE

A slipping load greatly shortens the life of a conveyor belt . . . just as a tire wears faster when the wheel is out of alignment. Slowly, but surely, this added abrasion wears the surface away. So, for longer belt life . . . prevent slippage.

Lightning Conveyor Belts have a patented raised "tread" that grips wet rocks and rubble and holds the load tight. That's why you will find them on so many gold dredges such as the Yuba dredge pictured here.

Whenever you have a wet load or difficult delivery situation, you'll find Lightning Conveyor Belt unequalled for the job. In fact, no matter what your conveying problem may be—wet or dry load—there's an American Rubber Conveying Belt engineered to fit the job.

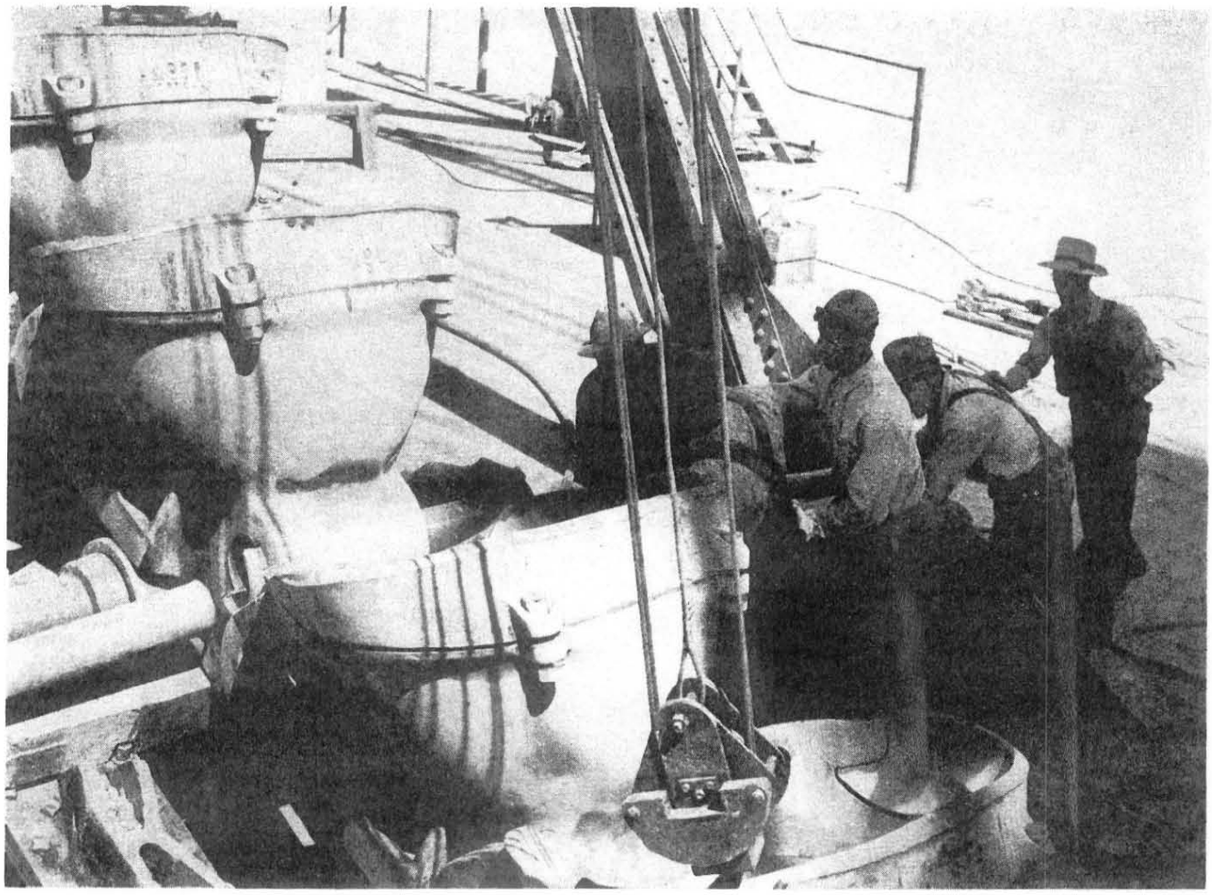
Typical dredge-stacker belt showing wet gravel load on a Yuba dredge operating in a California placer gold field. Inset: Detail of patented Lightning Conveyor Belt...the belt with the "tread" that grips and holds the load, wet or dry.

The AMERICAN RUBBER Mfg. Co.
OAKLAND, CALIFORNIA
ALSO MAKERS OF IMPERIAL, AMERICAN, MUNICIPAL AND TIGER FIRE HOSE

THE AMERICAN RUBBER MFG. CO. • OAKLAND CALIF •

4-30-45 [p 45]

TIME FOR A CHANGE!



Maintenance crew changing bucket pins on an 18 cu. ft. Yuba dredge.

It's time for a change, on a placer mining dredge, when bucket pins are worn to a point where the metal remaining in the pin body is dangerously thin. A badly worn pin becomes a threat of lost time. Lost operating time due to broken bucket pins, perhaps with a bucket line dropped in the pond, can be avoided by using only pins made from tested steels carefully forged, machined and heat treated.

Yuba's experience with heat treated alloy steels dates back to 1912. Since then, many thousands of Yuba bucket pins have been furnished to dredge operators 'round the world. Steady improvement in wearing quality has resulted from experiments made by Yuba with alloy steels and their treatment. The average life of Yuba bucket pins has been greatly increased, and all Yuba bucket pins are guaranteed against breakage for 90 days after being placed in service.

Yuba's facilities for finishing and treating steels have been greatly improved because of the war work in its plant. Under present regulations, dredge parts can be furnished when orders are accompanied by proper WPB authorization. Perhaps Yuba can be of service to you.

ARMY E NAVY

YUBA MANUFACTURING CO.

351 California St., San Francisco 4, California, U. S. A.

AGENTS: Alluvial Dredges, Ltd., Renfrew, Scotland; London, England—Sime, Darby & Co., Ltd.

CABLES: Yubaman, San Francisco—Yardage, London

YUBA DREDGES

PROVED DEPENDABILITY ROUND THE WORLD

California, recently returned to that city from a professional trip in Honduras, Central America. For years, Gould has been connected particularly with quicksilver mining operations in California, Nevada, Oregon, and Alaska.

Earl Kielgass, who had been employed by the Inspiration Consolidated Copper Company, Inspiration, Arizona, before going into the service, is reported to have been promoted from second to first lieutenant. Lieutenant Kielgass is a P-47 pilot in Europe and has about 60 combat missions to his credit.

Cooper Shapley, president of La Purisima Fluorspar Company, Box 1, Deming, New Mexico, reports that he has been examining fluorspar properties in the Wickenburg, Arizona, area, owned by Ike Campbell and others. In addition, he has taken an option on a mining property located near Wenden, Arizona.

G. W. Irvin, who operates the Elma mine of the old Central Copper Company holdings at Dos Cabezos, Arizona, has changed his mailing address to Box 105, Willcox, Arizona. His associates in the operation, **C. A. Wombacher** and **L. E. Stickradt** receive their mail at Boxes 43 and 44, Dos Cabezos, respectively.

Robert L. Loofbourow, formerly connected with the El Potosi Mining Company in Mexico, now is associated with the E. J. Longyear Company. His new duties will be in the mine development field under the supervision of **J. Murray Riddell,** manager of Longyear's mining division, 1701 Foshay Tower, Minneapolis, Minnesota.

Clyde E. Simpson, who has been mill operator and shift boss for the Bagdad Copper Corporation, Bagdad, Arizona, is located at 5016 North Bowdoin Street, Portland 3, Oregon. Before joining the Bagdad staff last fall, Simpson had been employed as mill shift boss for the Climax Molybdenum Company, Climax, Colorado, for several years.

Charles C. Tappero, now a lieutenant colonel in the U. S. Army, has been at his home at 829 Emerson Street, Denver, Colorado, on leave. Formerly with the Colorado Fuel and Iron Corporation at Pueblo and at the Aztec mine in New Mexico, Tappero joined the Army early in 1941. He is a member of the Class of 1935 of the Colorado School of Mines.

W. W. Von Cannon of Sandpoint, Idaho, was reelected president of the Whitedelf Mining Company at a recent meeting of stockholders. **Compton I. White** of Clark Fork, Idaho, and Washington, D. C., continues as vice-president, and **James E. White** of Clark Fork is treasurer. Other directors are **Truman Ward** of Washington, D. C., and **George S. Moss** of Brooklyn, New York.

Winston W. Spencer, chief engineer for the Goodnews Bay Mining Company, has left Seattle, Washington, to go to the company's property at Platinum, Alaska, where preparations are being made for the resumption of production this season. The company's 1944 output of platinum was slightly higher than 1943 production and a small amount of gold was recovered.

MERRILL IS NEW CHIEF OF METAL ECONOMICS DIVISION

THE appointment of Charles White Merrill, a mining engineer, as chief of the Metal Economics Division of the Bureau of Mines has been announced by Dr. R. R. Sayers, director of the bureau. Merrill has been associated with the bureau since 1928 when he joined the staff of the Economics and Statistics Branch as a mineral economist. Since 1933 he has served as supervising engineer of the bureau's Economics and Statistics office located at San Francisco, California.

Charles W. Merrill

Merrill succeeds Thomas H. Miller, who recently was made assistant chief of the Economics and Statistics Branch of the Bureau of Mines.

A native of La Crescenta, California, Merrill entered Stanford University after his discharge from service in the tank corps at the end of World War I. He was graduated with an A. B. in geology in 1922 and received the degree of mining engineer from the same institution two years later. Prior to joining the Bureau of Mines, Merrill was employed as mine engineer, geologist, chief sampler, shift boss, and superintendent of various mines in California, Nevada, Utah, and Idaho, as well as in Sonora, Baja California, and Sinaloa, Mexico. In 1932 he was commissioned a captain in the Army's Specialist Reserve, and assisted in the solution of strategic metal problems.

Merrill is a member of the A.I.M.E., serving as chairman of the San Francisco section in 1940-41; Mining and Metallurgical Society of America, for which he helped organize a western section and served as secretary-treasurer; and the San Francisco Engineers Club. For a number of years he has been a lecturer on mining at Stanford University. He has written extensively on the economics of mining in the western states, particularly on gold, silver, copper, lead, and zinc, and has been a regular contributor to the Minerals Yearbook, the bureau's annual review of mineral industries of the United States.

R. K. Kulp has joined the staff of the Electro Metallurgical Company at its New York offices, 30 East Forty-second Street, New York 17. He was formerly director of research for the Jessop Steel Company. The Electro Metallurgical Company is a unit of the Union Carbide and Carbon Corporation.

U. B. Hough, West 1503 Ninth Avenue, Spokane, Washington, has donated his scientific library to his alma mater, the University of Valparaiso at Valparaiso, Indiana, where he was graduated in engineering in 1887. For over 50 years Hough has been engaged in engineering practice in Spokane, 12 years of which he was employed by the Bunker Hill and Sullivan interests of Idaho.

Ralph W. Adams of Winnemucca, Nevada, has been appointed general superintendent of the Riley scheelite property located about 40 miles northeast of Winnemucca. He was formerly in charge of the Richmond-Rose Creek tungsten mines which have been closed. **Melvin Brunner** is mine foreman at the Riley and **Charles R. Morris** is mill foreman. Operations are on a 200-ton daily schedule.

Edward A. Bannister, Route 4, Yakima, Washington, was reelected president of the Yakima-Shoshone Mining Company, which holds the Nellie mine near Osburn, Idaho. The other officers also were reelected: **Charles E. Marr** of Spokane, vice-president, and **Sidney Livesey** of Yakima, secretary-treasurer. **Charles E. Horning** of Wallace and **J. J. Kroetch** of Harrison, Idaho, complete the board of directors.

Arthur C. Brinker, since 1942 general manager of Mina El Oro, Chilecito, La Rioja, Argentina, has returned to New York, as the property is closed down for the duration because of the difficulty of obtaining necessary supplies. Brinker formerly was manager of the Buena Tierra Mines at Santa Eulalia, Chihuahua, Mexico, and later for East Africa Goldfields, Ltd., Tanganyika Territory, British East Africa.

Maynard E. Montrose, who recently resigned as vice-president of the Lane-Wells Company of Los Angeles, California, was elected president and general manager of the Marion Steam Shovel Company at the annual meeting of directors at the company's offices in Marion, Ohio. Before joining the Lane-Wells staff in 1935, Montrose had been associated with the General Electric Company for 13 years.

I. G. Irving, consulting mining geologist of Butte, Montana, recently moved to Washington, D. C., and is addressed at Route 4, Baltimore Road, in care of C. Savage, Rockville, Maryland. He has been appointed mining engineer with the Copper Division of the War Production Board. Before leaving Butte Irving was manager of the Quartz Hill Leasing Company, now shut down temporarily, in which he holds an interest.

Frank J. Luedke, 104 Sixth Avenue, Spokane, Washington, has been elected president of the Highland Surprise Mining Company at Wallace, Idaho, replacing **Benjamin H. Shelton** of Spokane. **A. C. Struthers** is vice-president and **H. M. Heumann** of Wallace, secretary-treasurer and general manager. **Adam J. Reinhart** of Almira, Washington, and **Arthur Chelde** of Coeur d'Alene, Idaho, complete the board of directors.

Dwight L. Myers has gone to Washington, D. C., to assume his new duties as industrial specialist for the tin, lead, and zinc division of the War Production Board. His mailing address is Box 1316, Washington 13, D. C. Until recently, Myers had been chief field engineer for the Kaiser Company, Inc., at its Vulcan mine, Kelso, California, and before that held an engineering position with the Resurrection Mining Company, Leadville, Colorado.

in the Cerbat Range north of Kingman, Mohave County, Arizona, and values are principally in lead, zinc, copper, silver, and gold. C. D. McGovern of Chloride, Arizona, is in charge of the mining operation under production contract with Langley.

A. B. Mitchell, 1444 East Washington Street, Phoenix, Arizona, is reported to be continuing shipments of ground mica from the **Thomasville** mine. The property is situated south of Buckeye in Maricopa County, Arizona.

Development work is being conducted at the **Tintic** mine by the owner, Harold Hawks, Box 193, Chloride, Arizona. The Tintic is a lead-zinc-gold-silver property in the Wallapai mining district of Mohave County, Arizona. The mine was discovered in 1878 and is credited with a metal production record of some $100,000. In 1943, when it was being worked by Joseph G. O'Brien of Chloride, a Reconstruction Finance Corporation loan was granted and considerable development work was completed. Hawks also has been interested in the Morning Star gold-silver-lead mine in the Cerbat district.

The National Mining and Milling Company is reported to be engaged in adding another unit to its milling plant at the **Arizona Quicksilver** mine in the Sunflower district of Arizona northeast of Mesa. The company started operating the Arizona Quicksilver in 1943 and actual production was begun on May 21, 1944. The new 60-foot Gould rotary furnace was in regular operation late last summer. George L. Machris, 1206 Maple Avenue, Los Angeles, California, is president of the National Mining and Milling Company, and offices also are maintained at 614 Title and Trust Building, Phoenix, Arizona.

Dale Haining, 722 East Sheldon Street, Prescott, Arizona, is engaged in shaft sinking operations at the **Combination** mine and is continuing shipments of lead and zinc ores. The Combination is a part of the old Poland property and is located in the Walker mining district of Yavapai County, Arizona.

Diamond drilling is reported well under way at the old **Silver King** mine, acquired recently under bond and lease by Wilbur A. Nelson, consulting engineer of Washington, D. C., Francis B. Speaker, also of Washington, and the firm of Sprague and Henwood, Inc., Scranton, Pennsylvania. The Sprague and Henwood concern is conducting the drilling program. The property is situated about four miles northeast of Superior and is owned by Bat Gays, Box 713, Superior.

The **Havasu Lead and Zinc Mining Company**, operating the W. I. Johnson mine in Havasu or Cataract Canyon, near the Indian Village of Supai, Coconino County, Arizona, has purchased two 25-ton concentrating mills to handle lead and zinc ores, respectively. Installation of the mills and additional machinery is under way. The company is increasing its crew considerably and also is erecting more camp facilities. Robert Morgan, a graduate of the Colorado School of Mines, is general superintendent, and John McKnight is mine foreman. Henry Green is in charge of construction work. As yet, no mill foreman has been selected.

The Arizona Supreme Court has sustained a 1943 tax valuation of $7,094,340 fixed previously by the Yavapai County Superior Court on the United Verde Branch of the **Phelps Dodge Corporation**, Jerome, Arizona. The Yavapai court had cut the valuation from $14,572,110, which had been fixed by the Arizona State Tax Commission, and the county was ordered to refund to the company $89,968 in taxes which Phelps Dodge had paid under protest. In addition, a similar case on the commission's 1944 valuation of the United Verde property is stated to be pending at this time in the Yavapai County Superior Court. J. B. Pullen, Clarkdale, is general superintendent of the United Verde Branch of Phelps Dodge.

CALIFORNIA

Mining claims and a washing plant at Foresthill, Placer County, California, recently were purchased by Robert Bowles of San Francisco, California, and a new dragline and other equipment will be installed as soon as possible so that gold mining operations can be started when the government ban has been lifted. The property formerly was worked by the **Placeritas Mining Company**, W. D. Ingram, Foresthill, president, but has been closed down during the war. The Placeritas dragline has been used by the government in war work.

An average of 30 tons of barite is being mined daily by the **Industrial Minerals and Chemical Company** from its Spanish mine at Washington, California. L. R. Moretti of 836 Gilman Street, Berkeley, California, is president and general manager and R. J. Penrose of the same office is general superintendent. H. C. Riggs is mill superintendent.

Joe Frank of Hollister, California, is engaged in developing commercial ore at the **Antelope** copper mine, situated about 33 miles southeast of Hollister in San Benito County, California. The mine is developed by about 800 feet of tunnels and crosscuts, with some of the copper sulphate ore assaying as much as 5 per cent copper. The property is an old one, having been discovered in 1854, and has been owned by H. V. Underwood, Hollister, and associates.

It is reported that the operators are engaged in sinking a new shaft near the ledge at the **Tellurium** mine, and it is expected that the shaft will be sunk 100 feet before drifting to the ledge is started. The mine is located near Pine Grove, California, and carries values in gold, silver, and lead. The operators are Charles Brockman, Box 695, Jackson, California, and Dr. Frank O'Neill, Oroville, California.

Mining operations are proceeding at the **Sousa** chrome property at Chrome Hill five miles southwest of San Luis Obispo, California. The mine formerly was worked by underground mining methods, but was converted to an open-pit mining operation because of the critical labor shortage. Ore from the property is treated at the milling plant installed last July by the operator of the mine, Todd B. Elliott, Box 100, San Luis Obispo, California.

It is reported that promising gold ore has been encountered as the result of development work at the **Brush Creek** mine located on the North Fork of the Yuba River near Goodyears Bar, California. A one-stamp mill is in operation at the mine. The property is being worked by Alfred L. Merritt, 2015 Garber Road, Berkeley, California, under lease from Fred F. Cassidy, president and manager of the Alpha Hardware and Supply Company, Nevada City, California.

The **Zenda Gold Mining Company** has reported that the valuation of its cash, marketable securities, and government bonds totaled $40,000, as of December 31, 1944. This figure is equal to 1¾ cents a share on the outstanding capital stock. The company controls gold-silver properties at Caliente and Calico, California, which are closed down for the duration. The Zenda Leadville Mining Company, controlled by Zenda Gold, engaged in diamond drilling at its lead-silver property near Leadville, Colorado, during 1944. W. F. Staunton, 517 I. W. Hellman Building, Los Angeles, California, is president of both companies.

Regular shipments of chrome ore are being made to the Yreka government stockpile from the **Peg Leg** property. The mine is located in the Fort Jones mining district of Siskiyou County, California, and is operated by H. E. Ellickson, Yreka, California.

WHY NOT MINERS FOR MINES?

We have been wondering how this story will appeal to the many western mine operators who have been struggling against the odds placed on essential metal production by the critical labor shortage.

It has been reported that Governor Hector Hidalgo of Guanajuato, Mexico, and Section No. 4 of the national miners' union have solved the problem of finding employment for 1,000 Guanajuato miners by enlisting them in contingents of farm and railroad laborers which Mexico is sending to the United States under the wartime manpower supplying agreement between the two governments. The miners had been dismissed because of the suspension of work by some mining companies in the state and the sharp paring of working personnel by others, and the report states that the Guanajuato government, the union, and many mining employes had been seeking to relieve the serious unemployment problem.

That in the face of repeated efforts on the part of American operators to obtain just such labor from Mexico! We readily admit that we aren't "government efficiency experts," and maybe that's why we fail to see the wisdom of putting miners on farms and railroads, when so many operators, bogged down under government demand for metal production, are begging for additional labor.

The **Golden Feather Dredging Company** has been engaged in construction of a road at the company's new operating location on the Middle Fork of the American River in Placer County, California, and a small crew is dismantling the dredge and other equipment at the former operating site in the Oroville district of California. The work is being done under special permission from the War Production Board, and the company estimates that the present project will run for some six years. E. A. Wiltsee, Room 1002, Wells Fargo Building, San Francisco, California, is general manager and S. J. Norris, Jr, Auburn, California, is mine superintendent.

A. E. Beauregard, Box 702, Bishop, California, is reported to have completed installation of a 25-ton milling plant to treat ore selectively mined at the **Black Rock** tungsten mine. The Black Rock is located in Inyo County 35 miles north of Laws, California. A portion of the property is said to be leased to Aaron Smith.

Operations are well under way at the dredging project being conducted by **Sierra Placer Mines, Inc.**, six miles north of Camptonville in Yuba County, California. The company was incorporated last year in Nevada and is headed by Fred W. North of Los Angeles. O. H. Kayser is in charge of the mining operations.

Utter and Peterson, Bishop, California, who recently bought the **Marble** tungsten property, are reported to have started active mining operations. Mine and mill machinery and equipment used by the former operator and owner, Robert W. Kelso, Box 728, Bishop, have been purchased by the new operators. The mine is located near Bishop in Inyo County,

California. The Utter and Peterson partnership is composed of A. H. Peterson and John Utter.

The Gilzean brothers, Warren M. and J. A., of Junction City, California, have resumed hydraulic mining operations at their **Red Hill** mine. The property is located near Junction City. Warren Gilzean is directing work.

The **Central Eureka Mining Company** has reported for the year ended December 31, 1944, a net loss of $122,352. The company's miscellaneous revenue amounted to $26,096, while maintenance expenses totaled $148,448. C. C. Prior, president and general manager, 111 Sutter Street, San Francisco, California, stated in the annual report that maintenance of the company's gold properties in the Sutter Creek area of California is being carried on as efficiently and extensively as labor and material shortages will allow, pending resumption of operations when the ban on gold mining has been lifted.

COLORADO

A decision of the NMC has been affirmed by the WLB, directing the **U. S. Vanadium Corporation** at Rifle, Colorado, to continue portal-to-portal pay and night differential pay of 4, 6, and 8 cents an hour. The request for two weeks' vacation with pay after two years' employment for workers at the company's holdings at Naturita, Colorado, was denied, since these employes now have one week after one year and two weeks after four years. Muckers' pay was increased 7 cents to 82 cents an hour and miners' pay 7 cents to 90 cents, plus the night differential.

The **Climax Molybdenum Company,** 500 Fifth Avenue, New York 18, New York, reports that sales during the first quarter of 1945 were considerably above those in the like period of 1944 and also were greater than in the final quarter of 1944. Stockholders in the concern were told by Max Schott of New York, president, that the postwar outlook for molybdenum was very favorable in the light of the enormous amount of construction that would take place.

The **Shenandoah-Dives Mining Company** of Silverton, Colorado, reports that production during 1944 amounted to 142,763 tons of ore which averaged $11.21 a ton or a total of $1,598,838. This compares with $1,232,750 in 1943 from 156,763 tons of ore milled, averaging $7.86 a ton. Gold production last year amounted to $856,435; silver, $91,006; lead, $142,711; copper, $39,152; and zinc, $86,830. The decrease in mine production is due to the labor shortage. The lack of experienced miners and trainmen to move the ore resulted in the use of some of the available labor to increase development work. The surface dumps were not milled, another result of insufficient help. Much of the company's development program was focused on the 1,200 drift, where ore values were found to be less than those in the two levels above. However, raises will be put up to obtain more information. On the 200 level a limited amount of drifting was done on the 4177 vein with encouraging results. According to contract the company continued development of the Silver Lake-Iowa ground of the American Smelting and Refining Company. Charles Chase of Silverton is general manager of the company.

More regular shipments from now on are expected from the **Minnie B.** mine on Mt. Guyote near Breckenridge, Colorado. Harold G. Horn of Breckenridge reopened the mine last year after it had been idle for many years. A drift from the main tunnel opened shipping ore. A road was built to the mine, ore bins and bunkhouse constructed, and a compressor and blacksmith shop installed.

IDAHO

For the first three months of 1945 the **Federal Mining and Smelting Company,** 120 Broadway, New York 5, New York, reports an operating profit of $532,775. The third month figures are estimated and no

HORSE HEAVEN QUITS OREGON OPERATIONS AFTER FIRE

THE Horse Heaven Mines, Inc., of Horse Heaven, Oregon, has abandoned operations. Operating continuously from 1934 until its plant was destroyed by fire in November of 1944, the company was one of the principal producers of quicksilver in Oregon during that period. The work was abandoned after it was decided that developed ore was in insufficient quantity to justify rebuilding under the present high costs and uncertain market conditions.

J. Edgar Pew of Philadelphia, Pennsylvania, and connected with the Sun Oil Company, is president of the Horse Heaven concern, and S. H. Williston of San Francisco, California, is vice-president and treasurer. Operations were under the general superintendency of F. E. Lewis, Horse Heaven.

ADAMS RETIRES FROM ACCIDENT DIVISION, BUREAU OF MINES

WILLIAM W. ADAMS, an authority on accident statistics, retired as chief of the Bureau of Mines accident analysis division on February 28, 1945. He has spent 38 years in federal service, 34 of which have been with the Bureau of Mines. Virtually all of the bureau's statistical publications on fatal and nonfatal accidents in the last 25 years have been prepared by Adams.

With the transfer of the division of mineral research and statistics from the Geological Survey to the Bureau of Mines in 1925, Adams became assistant chief of the division. Subsequently, the bureau's activities in that field were broadened and today its reports on accidents are considered among the most reliable and comprehensive published. To further the study of accidents and establish a competitive basis among mining companies, Adams in 1925 established, in cooperation with the Explosives Engineer magazine, the present National Safety Competition which he has conducted annually since that time.

Because of his wide knowledge of statistics on fatal and nonfatal accidents and his keen interest in safety, Adams served on many important committees of various sections of the National Safety Council. He also is a member of the A. I. M. E. and American Statistical Association.

ALUMINUM COMPANY OF AMERICA REPORTS CONSOLIDATED INCOME

THE Aluminum Company of America, 801 Gulf Building, Pittsburgh, Pennsylvania, reports a consolidated net income for 1944 of $31,693,480 or $5.46 a common share, which compares with $42,901,570 or $7.95 a share in 1943. The company's shipments during the year were the highest in its history, the volume exceeding 1943 shipments by 8 per cent. Substantial expenditures were made during the year for additions and improvements and the company is taking steps to increase the scope of its markets since it will have a considerable reconversion problem. Its western plants are located in California, Oregon, and Washington. Roy A. Hunt of Pittsburgh is president.

Thornton, 25 Broadway, New York 4, New York, and T. H. O'Brien, Inspiration, is vice-president and general manager.

Shipments of copper-zinc ore are being continued steadily from the **Abril** mine to the Shattuck Denn milling plant at Bisbee, Arizona. The mine is located on the west end of the Dragoon Mountains near Tombstone, Cochise County, Arizona, and the lease and option on the property were purchased early this year by Chester B. Higgins, Frank Higgins, and George Barron, all of Tombstone. Operations were started immediately under the name of the Bargin Mining Corporation and shipments began in March. The former lessees, Adrion Skinner and Dan Lewis, Box 106, Willcox, Arizona, still are connected with the venture. Six men are employed. The Abril is owned by Hall Smith and M. R. Abril, Box 696, Tombstone.

CALIFORNIA

The **Western Metals Company** has acquired a $15,000 lease and option on the **Five Point** mine in the Nine Mile Canyon area of California, owned by Emory L. Bales. The company is particularly interested in a deposit of pure garnet needed for bearings in the aviation industry, but other materials also will be recovered. Last year, Western Metals was mining and shipping manganese ore from property near Ruth in the Mad River mining district, and early this year it was reported that the company was engaged in investigating several gold and rhodonite properties in California. Work is directed by by W. H. Snider, 326 Treat Avenue, San Francisco 10, California, general partner and superintendent of the Western Metals Company.

Operations will be started at the **Opal** tungsten mine in the Gold Lake area near Blairsden, Plumas County, California, as soon as necessary mining machinery and supplies can be obtained. R. C. Racer, mine operator of Van Nuys, California, who is interested in the project, reports that commercial-grade scheelite ore has been exposed in the shallow workings of the mine.

The Third District Court of Appeals at Sacramento, California, has reversed a decision of the Nevada County Superior Court by ruling against the **Empire Star Mines Company, Ltd.**, plaintiff in a suit brought against the California Employment Stabilization Commission. Empire Star was seeking to recover unemployment insurance taxes paid on lessees working in the company's mines. The county superior court had ruled that the lessees, who mined gold ore in the North Star mine, were not subject to the unemployment insurance law as they were contractors, not employes, and therefore independent of the company's control. The appeals court, however, pointed out that the company did have control of the lessees and could terminate their leases or agreements at any time. The litigation developed some

time ago when several of the lessees were discharged because they refused to give up a lease and work for the company on a wage basis. The company had paid the taxes for some time under protest. John R. C. Mann, Grass Valley, is general manager.

The U. S. Geological Survey has completed a mapping program at the **Hi-Peak** mine of the U. S. Flare Corporation as a part of the survey's general investigation of tungsten deposits in the United States. A map of the surface geology along with geologic maps of the mine workings and a brief descriptive text, now are available upon request to the Director, U. S. Geological Survey, Washington 25, D. C. The Hi-Peak mine is located four miles northwest of Inyokern, Kern County, California, and U. S. Flare has been conducting considerable development work at the property. The mining company is headed by J. M. Hoyt, Jr., Box 590, San Fernando, California, and Victor J. Hayek, 650 South Grand Avenue, Los Angeles, is manager of the mining division. Norman Whitmore, 417 South Hill Street, Los Angeles, is consulting engineer.

The **U. S. Vanadium Corporation**, J. R. Van Fleet, 30 East Forty-second Street, New York 17, New York, president, is installing a rotary calcining unit at its Pine Creek plant at Bishop, California, to facilitate scheelite nodulizing for smelting. In the meantime, the company is proceeding with driving of the 6,600-foot tunnel at the Pine Creek mine, and later will conduct core-drilling and an extensive development program. The plant has been closed down since last fall, but it is expected to be back in operation by August. Pine Creek activities are directed by M. N. Shaw, Bishop, general superintendent. Other operating officials include Arch F. Boyd, assistant superintendent; W. R. Jones, mine superintendent; and J. W. Galloway, mill superintendent.

The **Natomas Company** reports that it is employing a total of 300 men, 40 of whom are engaged in dredging operations in the Folsom district of California. The remainder of the employes are working in the company's machine shop at Natoma, California, which has been operated since the war as a sub-contractor on war contracts. The company is running regularly two of its seven dredges under special permission from the War Production Board. The dredging concern is headed by Thomas McCormack, president and general manager, 607 Forum Building, Sacramento, California. R. G. Smith, Natoma, is dredge superintendent and chief mine engineer.

The Fisher Research Laboratory, with offices at 1961 University Avenue, Palo Alto, California, is reconditioning the **Spread Eagle** group of claims about five miles northwest of Mariposa, California. The Spread Eagle vein, which is credited with a production of approximately $200,000 in gold, varies in width from 20 inches to 7 feet. It is reported that considerable milling ore has been exposed in the old workings. Extensive operations by the Fisher company are planned after the war, but at present only a small crew is employed. The Spread Eagle claims are a part of the holdings of the old Whitlock Mines Corporation, a Boston, Massachusetts, firm, and now are held under lease by Fisher Research from the firm of Brobeck, Phleger, and Harrison, Crocker Building, San Francisco, California.

MINING AROUND

Answers to Questions on Page 20

1—G-g	5—D-k	9—B-a
2—E-d	6—A-b	10—F-e
3—C-i	7—H-l	11—D-j
4—I-c	8—B-f	12—G-h

Castro Chrome Associates is reported to be negotiating for marketing chromite concentrates and it is expected that mining will be resumed shortly at the Castro mine, San Luis Obispo, California. The mine and mill were closed down last December when the company's contracts with Metals Reserve Company were terminated. In all, 548 cars of concentrates were shipped to MRC after the operation was started three years ago, and more than $1,000,000 worth of concentrates and ores have been produced by the company. The company's concentrator, which treats the Castro ore, was put into operation in March 1942, and is located at Goldtree Station on the Southern Pacific Railroad. Castro Chrome Associates is a partnership, composed of Maxwell C. Milton, 232 Montgomery Street, San Francisco 4, California, and Durand A. Hall, Merchants' Exchange Building, San Francisco 4, general partners.

The **Pioneer-Lilyama Mines** is said to be planning installation of another complete flotation unit at its 250-ton flotation mill which serves the Lilyama mine. The company previously had confined its activities to copper production, shipping a lower-percentage copper concentrate in order to save the gold content. However, discovery of another ore deposit, running about $23 in gold per ton brought about the decision to enlarge the plant for gold recovery. The mine is located in the Pilot Hill district of Eldorado County, California. The company, formerly operated under the name of the Volo Associates, is controlled by Mrs. Freda McGill, E. L. Reeves, and O. H. Griggs, general manager. A. Rosborough of Columa, California, is general superintendent and Reeves serves as chief mining engineer and geologist.

The diamond drilling program at the **White Quartz** mine is reported to be disclosing commercial-grade zinc ore. The work is being conducted by the Mitchell Diamond Drill Company, Byron Mitchell, 779 Bryant Street, San Francisco, California. The mine is controlled by the Ducommun Metals and Supply Company, 4890 South Alameda Street, Los Angeles, California, and is situated in the same district as the Blue Moon zinc property north of Hornitos, Mariposa County, California. Byron Campbell is general manager.

Ore is being shipped from the Queen of Sheba mine of the **New Sutherland Divide Mining Company** at the rate of about 60 tons daily, and the material is trucked from the mine to Manix, California, for shipment to the smelter by rail. Princi-

pal values are in lead and silver, with some gold, and the property is situated west of Shoshone in Inyo County, California. About 15 men are employed regularly, but production will be increased as soon as a large crew can be obtained. The company resumed operations last fall at its Queen of Sheba and Carbonate mines and shipments were started in December. Mine operations are directed by John L. Desmond, Shoshone, and John Gallois, 310 Sansome Street, San Francisco 4, California, is president of the company.

COLORADO

The **Colorado Fuel and Iron Corporation,** W. A. Maxwell, Jr., Continental Oil Building, Denver 2, Colorado, president, reports a net income for the March quarter of the current year amounting to $787,839 or $1.40 a share. This compares with $663,-224 or $1.17 a share for the March quarter of 1944. A dividend of 25 cents a common share was declared, payable May 28 to stock of record May 10, a like amount having been paid in previous quarters. The company recently listed its common stock on the San Francisco Stock Exchange.

For the three months ended March 31, 1945, the **Climax Molybdenum Company,** 500 Fifth Avenue, New York 18, New York, reports net profit of $3,085,945, equal to $1.22 a share. This is after all charges, including $1,379,231 for federal income tax and surtax, but before provision for depletion or discovered increment. The postwar outlook for the company is very favorable, according to Max Schott of New York, president.

A pilot milling plant will be installed at the Blue Bird mine near Nederland, Colorado, by the **Great Western Gold and Silver Mines Corporation,** a reorganization of the Great Western Silver Mines Corporation and the Silver Syndicate. The U. S. Mining and Milling Company, which is headed by C. W. Savery of Denver, also has an interest in the new venture. Walter A. Moore of Nederland is president and general manager of the Great Western company and has been interested in the Blue Bird property for some years. He is believed to have found a method, which includes selective flotation, which will recover successfully the silver values from the bromide ores of the property. Work was resumed at the Blue Bird about May 1.

The **New Jersey Zinc Company,** 160 Front Street, New York 7, New York, has declared a dividend of $1 a share, payable June 9 to stockholders of record May 18, 1945. The same amount was paid in June of last year and the March dividend of both years amounted to 50 cents. New Jersey's western mine interests are handled through its Empire Zinc Division and are located in Colorado and New Mexico.

A dividend of 3 cents a share was paid by the **Rico Argentine Mining Company**

currency stabilization, and estimated that it would permit tariffs to return to the approximate average level of the old Underwood tariff law. Opponents, led by Representative Knutson of Minnesota, contend that a further reduction in tariffs might bring ruin to hundreds of small industries.

CHROME AND MANGANESE ORE DEPOTS TO CLOSE JUNE 30

OFFICIAL announcement has been made by Metals Reserve Company that purchases of chrome and manganese ores at several of its depots will be discontinued after June 30, but that deliveries will be received up to and including December 31 at the purchase depots at Batesville, Arkansas, and Grants Pass, Oregon. According to Federal Loan Administrator John W. Snyder, present deliveries are "insufficient to warrant continued operation" of the plants in question.

The depots which are to discontinue chrome and manganese purchases are those at Parker and Phoenix, Arizona; Anderson, Arcata, Auburn, Fresno, Quincy, San Luis Obispo, Tracy, and Yreka, California; Butte and Phillipsburg, Montana; and Seneca, Oregon. Snyder stated that average deliveries of ores at these depots in the first four months of 1945 did not exceed 125 tons.

A later statement will have to be made as to prices to be paid at Batesville and Grants Pass. Snyder said that a bill, now before congress, if passed, would permit payment for purchases, after June 30, at a higher than Office of Price Administration ceiling. If the bill is not enacted prior to June 30 prices will be based on OPA ceiling.

Under the new program no change will be made by Metals Reserve in specifications, but contracts have been lowered to 50 tons. That is, contracts for as small a quantity as a single 50-ton car lot will be considered. Also, on all ores contracted for Metals Reserve will pay the freight to the nearest open stockpile or to the nearest sales point designated. No contract will be issued for delivery of ores after December 31, 1945.

FIELDS GETS ARIZONA AND MEXICO OPERATIONS STARTED

MINING operations are being resumed at the Copper Glance group of claims in Arizona, following authorization of an advanced premium for the operator, Howard H. Fields of La Colorada, Sonora, Mexico.

The Copper Glance group is located in the Twin Buttes mining district of Pima County, Arizona, and Fields is operating under an option and lease from the owner, the Twin Buttes Mining and Smelting Company of Milwaukee, Wisconsin. Fields has been engaged for some time in unwatering the Copper Glance. He also has taken over the Copper King and Minnie groups in the same district, which have not been developed. He expects to employ a crew of from 15 to 20 men when regular operations are under way, and will ship direct to a smelter. E. G. Frawley, 347 Walnut Street, Nogales, Arizona, is associated with him in the venture.

Fields also has reported that a new 25-ton milling plant is in regular operation at the La Colorada mine located at La Colorada, Sonora, Mexico, and the second car of high-grade concentrates has just been shipped to the El Paso, Texas, smelter. The La Colorada operation is conducted under the name of Nuevas Minas Prietas, S. A., which is leasing from the owning company, Cia. Minera Creston Colorada, S. A., William C. Taylor, La Colorada, president. A crew of 75 men is employed under Fields' direction. Principal values are in lead, silver, and gold. Principals in Nuevas Minas Prietas, in addition to Fields, include Armando Varela, Cananea, Sonora, Mexico; Ben Williams, Douglas, Arizona; and Spencer Shattuck, Bisbee.

AMC SEEKS INFORMATION ON REVOCATION OF GOLD ORDER

IN an endeavor to obtain an official statement on the lifting of Order L-208, the gold closing order, Julian D. Conover, secretary of the American Mining Congress, addressed a letter to WPB Chairman Krug recently in which he referred to WPB's announced program for the "progressive freeing of the national economy from wartime controls" and inquired whether the revocation of L-208 is included in current VE-Day plans.

"To the best of our knowledge," Conover wrote, "gold mining is the only productive industry which has been shut down

The Manufacturers Tell Us

Change in Company Name—Westinghouse Electric and Manufacturing Company on May 12 changed its name to Westinghouse Electric Corporation. The change in name had been under consideration for several years as the former full name was long and unwieldy. Thus when stock reclassification made it necessary to print new stock certificates, the company's board of directors deemed it the appropriate time to adopt the new name. In order to conserve paper, the name change on most printed forms will be made gradually, as existing stationery supplies are exhausted.

Morganite Self-Lubricating Bearings—These bearings, according to the Morganite Brush Company, Inc., Long Island City 1, New York, are available in compositions of carbon, graphite, or both, and also are supplied, if necessary, with various metallic contents for special applications. Among the features of these bearings are self-lubrication and immunity to acids, alkali, and most solvents, together with low coefficients of friction and expansion.

Operating speeds to 50,000 r. p. m. with thrust loads to 30 p. s. i. or loads to 2,000 p. s. i. at slower speeds are said to be possible, with little danger of warpage and change of shape. Because of inherent self-lubrication they are recommended for inaccessible locations. Their immunity to high temperatures (to 850 degrees F.) makes them adaptable to use in steam turbines, drum dryers, and other units where ordinary lubrication usually is impaired or a contaminating influence. A comprehensive folder will be sent on request without obligation.

Plant Expansion—Expansion of plant facilities and consolidation of sales offices have been announced by the Rucker-Vaughn Company, 4228 Hollis Street, Oakland, California. The company manufactures the Vaughn line of pressure regulating valves and gas and oil burning equipment, as well as the Arnold lubricator, an air tool specialty. Production capacity has been stepped up and new developments include an improved service department for the complete rebuilding of used valves, and full valve maintenance service.

Hoist and Scraper—Two folders, describing in detail the No. 11½ Vulcan-Denver utility hoist and the Vulcan-Denver slushing scraper, have been issued by the Vulcan Iron Works Company of Denver, Colorado.

Features of the hoist include compactness, portability (with a weight of only 850 pounds), unbreakable steel frame, ball bearings throughout, and simple and handy control. Complete specifications, showing rope pull, speed, and capacity of drum also are included.

Simplicity is given as the keynote of design in the slushing scrapers with only four main castings, made of manganese steel. Specifications also are given for the scrapers and both folders are well illustrated.

Water Hose for Alaska—A special type of one-inch water hose has been developed by the Goodyear Tire and Rubber Company for use in the recovery of gold and other minerals in Alaska. The hose is said to be particularly suitable for exploiting mineral deposits to a depth of nearly 40 feet in the frozen areas of the far north.

In preparing the ground for mining, pipes with outlets for water are driven to the depth of the proposed operations. The surface ends of the pipe are linked by the new type Goodyear hose to a supply of cold water which is pumped into the frozen ground. The water retains sufficient caloric heat for thawing the ground and in about 10 or 15 days the area is softened sufficiently to be workable, after which dredges and hydraulic mining equipment take up the task.

The new hose is designed especially to resist the actinic rays of sunlight and is built to resist damage from kinking and from extremely low temperatures in winter months.

Welding Dis-Similar Metals—A well-written and well-illustrated booklet describing the Ampco-Trode welding technique is available for free distribution by Victor Equipment Company, 844 Folsom Street, San Francisco 7. Ampco-Trode electrodes and filler rods, for both gas and electric application, have been perfected primarily for the welding of copper alloys and the joining of dis-similar metals. They are products of Ampco Metal, Inc., Milwaukee, Wisconsin.

WESTERN STATES COUNCIL URGES PROGRAM FOR STEEL

STEEL-CONSUMING interests of 11 western states have demanded immediate action by the federal government to insure private operation of western steel mills and lower steel prices in the post-war period. Formulation and adoption of recommendations to that end were announced by Kenneth T. Norris, chairman of the steel committee of the Western States Council, following an all day session of his committee in Los Angeles.

The committee listed seven points which needed immediate attention: (1) Lowering steel prices in the West to a level comparable with prices in other industrial centers of the nation; (2) Turning over to private operators as soon as possible war-built steel mills so the properties at Geneva, Utah, and Fontana, California, may be kept in continuous operation; (3) Banning of "phantom freight" charges or other factors not related to actual costs; (4) Fair estimates of value of the Geneva mill and adjustment of RFC loans made to construct the Fontana plant, so that neither plant will have an advantage over the other from the standpoint of capital cost to the private owner; (5) Abolishing present steel pricing formula so that the consuming public of the West will benefit from private operation of the mills; (6) Establishment of western steel prices based upon the cost of production at western mills; (7) Reduction of freight rates on finished steel from the Geneva mill to western markets before disposition of the mill.

According to Norris, three steel producing companies are seeking to operate the West's war-born steel mills in the postwar era. These, he said, are the United States Steel Corporation, Henry J. Kaiser, Inc., and the Colorado Fuel and Iron Company.

MERCURY CONSUMPTION IN MARCH ROSE 1,000 FLASKS

MARCH consumption of mercury moved upward sharply with a total of 6,100 flasks as compared with 5,100 in February. For the five-month period ended in December consumption averaged 3,900 flasks a month, according to the Bureau of Mines.

Part of the March gain is attributed to the greater length of the month, but the general advance is due to gains in the manufacture of red mercuric oxide for battery use. The March consumption rate has been exceeded only twice, in October and November, 1942, when the total was 6,200 flasks in each month.

March production also was greater than that in February, but the gain merely coincided with the longer work period and marked a continuation of the higher average rate for that month. The March total was the largest attained since June 1944, but amounted to less than one-half of the quantity consumed.

Stocks in consumers and producers hands were reduced somewhat from the revised totals for February. The fact that a large amount of metal was in transit from Spain had a depressing effect on the price and the quotation was reduced from nearly $166 a flask in February to $162 in March.

SLAB ZINC DELIVERIES SHOW DROP DURING APRIL

SLAB zinc statistics issued recently by the American Zinc Institute showed a decline of about 20,000 tons in deliveries to domestic consumers during April. Total domestic deliveries were 74,313 tons, compared with the all-time record shipments of 94,296 tons in March.

The decline is attributed partly to the fact that the metal went back on strict allocation in April and also to the fact that, in anticipation of WPB restrictions, consumers had bought heavily in March. Difficulty in obtaining steel for producing galvanized products and the desire of consumers to keep inventories down to the smallest practicable minimum also are given as reasons for the April decline.

During the first four months of 1944 total deliveries, including a small export shipment and drawback account, amounted to 344,158 tons as compared with 285,912 tons in the corresponding period of 1944.

Due to the fact that shipments were smaller, the decline in stocks at the end of April was correspondingly smaller, showing only about 6,000 tons to a total of 168,539 tons. Production at the smelters and refineries was smaller in April with a daily rate of 2,274 tons. Total production during the month amounted to 68,223 tons, against 71,739 tons in March. During the first four months of 1945 production aggregated 275,177 tons, a decline of 55,224 tons from the same period in 1944.

Robert Payne, mine superintendent, Box 256, Chloride. The Mines Operating Company is working the Tennessee under an operating agreement with the Tennessee Schuylkill Corporation.

The **Welcome Consolidated** gold property near Iowa Hill, California, is expected to be back in operation in the near future, following the winter shutdown. Limited operations at the Placer County gravel property have been allowed for some time by the War Production Board. The Welcome Consolidated is worked by William Boerkircher and Louis Mayer, both of Iowa Hill, under a partnership agreement.

The **Newmont Mining Corporation** has reported an estimated net worth per share with securities at market or fair value amounting to $48.16 for the quarter ended March 31, 1945. This compares with $47.31 as of December 31, 1944. Head offices for the company are maintained at 14 Wall Street, New York 5, New York, and Charles F. Ayer is president. W. A. Simpkins of Grass Valley, California, is the concern's western representative.

The Nonferrous Metals Commission recently ordered severance pay, shift premiums, and collar-to-collar pay for the employes of the **Keystone Copper Corporation,** operating at Copperopolis, California. The directive followed a dispute between the corporation and the International Union of Mine, Mill and Smelter Workers, which was settled by negotiations after the War Labor Board had assigned a mediator to the case. Demands for a closed shop and a general wage increase of 17 cents an hour were withdrawn by the union when the company agreed on maintenance of membership with a 15-day escape clause, severance, shift premiums, and collar-to-collar pay. Under the new agreement, workers with one or more years of service will receive one week's wages on termination of employment through a reduction of the force or suspension of operations. The severance pay will be in addition to earned vacation pay. Extra pay at the rate of 4 cents an hour for the second shift and 8 cents an hour for the third shift will be paid night workers. The collar-to-collar pay is reported to amount to approximately one-half hour's pay each day. The Keystone mine is operated by the Lava Cap Gold Mining Corporation under the name of the Keystone Copper Corporation, of which Otto Schiffner, Nevada City, California, is president.

The **Natomas Company** has reported for the three-month period ended March 31, 1945, a net profit of $39,211, after all charges except income taxes. This figure is equal to 4 cents a share on 922,100 capital shares outstanding, and compares with earnings of $54,776 or 6 cents a share on 929,775 shares outstanding for the three-month period ended March 31, 1944. The company is running regularly two of its seven dredges in the Folsom district of California under special permission of the War Production Board, and its machine shop at Natoma, California, is operated as a sub-contractor on war contracts. The dredging concern is headed by Thomas McCormack, president and general manager, 607 Forum Building, Sacramento, California, and R. G. Smith, Natomas, is dredge superintendent and chief mine engineer.

William M. Marchbank, Mariposa, California, has reported that plans are being made for reopening of the **Blue Glory** gold mine as soon as possible. Future work will include the construction of a mile and a half of access road, and shaft sinking and drifting will be done. The property is owned by Marchbank and his three sons, Lee, Ray, and Allen, all of whom are permanently addressed at Mariposa, but who, at present, are employed in defense work. The property was discovered by the Marchbanks in 1933 and some high-grade ore was shipped direct to the smelter in 1934. Since then, very little work has been done at the mine, which is located near the Hites Cove mine close to Mariposa.

A small crew is being employed in limited gold mining activity at the **Brush Creek** property and will be increased when regular gold operations are resumed. A D88 Caterpillar Diesel electric generator set is listed among machinery and equipment recently moved in to the mine site on the North Fork of the Yuba River near Goodyears Bar, California. The mine was taken over last fall by Alfred L. Merritt, 2015 Garber Road, Berkeley, California, under lease from Fred F. Cassidy, president and general manager of the Alpha Hardware and Supply Company, Ne-

vada City, California. Denman Dorr, Box 55, Bowman, California, is mine superintendent at the Brush Creek.

Jack Leonard, Downieville, California, recently sold five mining claims comprising about 100 acres to W. F. Parmley of Bakersfield, California. The gold property is located on the North Fork of the Yuba River in California and considerable development is planned by Parmley.

It is expected that gold mining operations will be started in the near future at the old **Monte Carlo** property. The mine was leased recently by William H. Gruber, Downieville, California, from the owners, Steve Dondero and Antone Lavezzola. The mine is located in Sierra County near Downieville on Clark's Canyon Creek, and has been idle for several years.

It is reported that mining operations have been suspended for the summer months by the **New Sutherland Divide Mining Company** at its Queen of Sheba and Carbonate mines west of Shoshone in Inyo County, California. The concern has been shipping ore regularly from the Queen of Sheba at the rate of about 60 tons daily. The material was trucked from the mine to Manix, California, for shipment to the smelter by rail.

The **Newmont Mining Corporation** has declared a dividend of 37½ cents a share payable on June 15, 1945, to stockholders of record on May 25, 1945. The company paid a similar amount on March 15 of this year. Charles F. Ayer, 14 Wall Street, New York 5, New York, is president of the Newmont Mining Corporation. and W. A. Simpkins of Grass Valley, California, is western representative.

The **Rand Mining Company,** a partnership headed by I. D. Budd, Randsburg, California, is erecting a washing and concentrating plant at the Sonora mine in Baltic Gulch near Randsburg. The company has arranged for use of the water system of the Yellow Aster Mining and Milling Company, Randsburg, in preparation for extensive tungsten and gold mining operations. At present, a crew of six men is employed, but about 18 men will be needed when capacity operations are started. Headquarters for the new firm are maintained at Randsburg.

W. E. Woodbury is operating two 11-inch hydraulic giants at the **Rex** mine near Weaverville, California. The Rex is located in Trinity County and Woodbury has continued profitable sluicing operations on a limited scale since the beginning of the war.

Construction of a portable washing plant at the Hoefling Brothers' **Spud Patch** tungsten placer operation is being completed. It is announced that the new unit may replace or add to the stationary plant which has been used so far at the Atolia, California, operations. Over-all placer work is being done by Hoefling Brothers, but production also is augmented by subleasing on lode ground. The company recently leased the properties of the Atolia Mining Company, Placers Concentrators, and American Gold and Tungsten Corporation in the same area. Milo W. Horner, Atolia, is superintendent of operations.

GRIEF IN BRIEF

A miner's life at best is one succession of woes, which are absorbing topics of conversation to him. Can you identify the pet gripes of the following individuals? If you get them all right you have been in the mining game too long.

1. Geologist	A. Empty bins
2. Surveyor	B. Pumps
3. Sampler	C. Faults
4. Metallurgist	D. Hard moiling
5. Accountant	E. Grounds
6. Stockholder	F. Loose Rock
7. Mechanic	G. Taxes
8. Safety engineer	H. Everything
9. Mine inspector	I. Dividends
10. Electrical engineer	J. Bent spads

Answers to Questions Will Be Found on Page 32

Allan E. Jones, Box 786, Sacramento, California, is general manager of the Hoefling Brothers mining activities which include also zinc production from the Big Bend mine in Butte County, California.

COLORADO

Granting of $485,000 for the continuation of the Leadville tunnel at Leadville, Colorado, is reported to have been recommended to the Senate by the director of the budget. The bore, which is designed to drain a wide area, has passed the 5,300-foot mark and its rate of progress is improving. Soft ground and underground waters slowed the work, however, so that the tunnel is not expected to be completed this summer according to the original schedule. Over $1,000,000 of the initial appropriation of $1,400,000 has been spent on the project, which is not half finished. John Austin is in charge at Leadville for the Stiers Brothers Construction Company, contractors for the U. S. Bureau of Mines.

The **Chaffee County Fluorspar Company,** N. J. Nicholson of Denver, Colorado, president, is planning to put into service an old shaft which has been rehabilitated and reequipped. New crushing and sizing equipment has been installed, so that a metallurgical grade of fluorspar now can be produced as well as the ground spar currently being turned out in the company's flotation plant in Brown's Canyon 11 miles northwest of Salida. Frank Seeley, Salida, is plant manager and Hugo E. Bryan, also of Salida, is mine foreman. Roy F. Hickman, Salida, is consulting engineer.

For the quarter ended March 31, 1945, the **New Jersey Zinc Company,** 160 Front Street, New York 7, New York, reports a net profit of $1,357,442 or 69 cents a share. This compares with $1,354,929, also equal to 69 cents a share, earned in the like quarter of 1944. The net profit is after provision for contingencies and a reserve for employes' special additional compensation. In the West, New Jersey

retroactive for 1944; check-off; grievance procedure; seniority; and premium wage payments. The wage premiums call for regular scale between 4:01 a. m. and 12 noon; 4-cent an hour premium between 12:01 p. m. and 8 p. m.; 8-cent an hour premium between 8:01 p. m. and 4 a. m.; and the fourth or intermediate shift, starting work between 4:01 p. m. and 8 p. m., 6 cents an hour premium. For the **American Zinc, Lead and Smelting Company** and the **Metaline Mining and Leasing Company,** this agreement is binding from March 16. A similar contract was signed by the union and the **Pend Oreille Mines and Metals Company,** retroactive to February 1, 1945.

ENGLE URGES LIFTING OF GOLD CLOSING ORDER L-208

AN early rescission of L-208, the gold closing order, was urged by Representative Clair Engle of California in a recent address before the House of Representatives.

"For almost three years the gold mines of this country have been closed down as nonessential to the war effort, while the mines in other countries, some of them desperately involved in this war, have continued full blast," Engle declared.

"No industry in this country has suffered under an order similar to that inflicted upon the gold mining industry. Other industries closed down by the war have been able to translate their capital and equipment into other lines of production, but no such steps have been possible for the gold miners. As a consequence, the gold mining operators have had to stand idly by and watch their mines fill up with water, the tunnels cave in, and many gold mining properties representing life-times of investment and work of these people have been totally sacrificed and lost to them. Others have spent thousands and thousands of dollars trying to keep their mines timbered up and trying to keep the water out of their mines in order to save their lifetime investments against the day when they would be permitted to again operate. All of this—the payment of maintenance, taxes, and other expenses—has been borne by the miners alone without government assistance, but the mortality rate among the gold mining operations has been heavy.

"We have, therefore, looked forward with extreme anxiety to the day when gold mining could be resumed. When reconversion was first talked of last summer and fall, the WPB was contacted in regard to the resumption of gold mining and we were given a definite assurance by Chairman Krug that WPB planned the lifting of the ban on gold mining at the end of the hostilities in Europe.

"Recently a committee has been set up, known as the Committee on Period One, for the purpose of determining which orders should be lifted on VE-Day. Among these—and there are 300 or 400 altogether—is Order L-208, closing the gold mines. The list is currently being circulated among the various government departments for their comment. I understand that the WPB and the War Manpower Commission have both recommended against lifting the gold closing order.

"This adverse recommendation is based upon the proposition that there is a critical need of lead, copper, and zinc for war production and it is claimed that permitting the resumption of gold mining may draw men out of the lead mines, in particular in Arizona, Colorado, Idaho, and Utah. My information is that this is not true and that the lead operators in those four states themselves have stated that they will not lose any manpower by reason of a lifting of the gold mining ban.

"There is a limit to the sacrifice which the gold-mining people should be requested to make on one pretext or another by the WPB and other agencies. No industry has suffered such extensive loss as the gold-mining industry and simple justice demands that this outrageous order, which was never justified in the first place, should be repealed."

Engle urged that those members of the House who represent gold producing areas, and particularly those from Arizona, Colorado, Idaho, and Utah, should join in "demanding immediate justice for the gold-mining industry of the country."

GRIEF IN BRIEF

Answers to Questions on Page 26

1—C	4—A	7—B
2—J	5—G	8—F
3—D	6—I	9—H
	10—E	

CALIFORNIA SENATE DEFEATS DILLINGER DREDGE MEASURE

RESOILING of dredged lands in California is a defeated issue, as far as the 1945 session of the state legislature is concerned. Final action was taken when Senator H. E. Dillinger of Eldorado County asked the Senate to consider a motion to withdraw from committee his measure, S. B. 37, calling for resoiling of land dredged for gold. The Dillinger motion was defeated by a vote of 25 to 9.

Earlier in the session the Senate's committee on natural resources had voted to table the measure and had refused to reconsider its action. Dillinger then appealed directly to the Senate. He declared that gold dredging has been going forward since 1897 in 20 or more California counties with hundreds of square miles of valley and agricultural lands destroyed through the operations. He asserted that resoiling can be done for a cost ranging from $65 to $150 an acre, or roughly 1 per cent of the gold recovered.

Senator Fletcher, the chairman of the natural resources committee, took the position that regulation of dredging activities was up to the county supervisors, particularly since only three or four counties in the state were involved. He concluded his statement by saying:

"If any state legislation is passed, it should not apply to dredging alone, but should also include the unsightly gravel pits and many thousands of acres of oil soaked lands."

Senator Johnson, in commenting upon this experience, wrote the following letter to me as secretary of the Colorado Mining Association:

"The lack of interest in the mining industry in Washington is appalling. The other day when the Senate reduced the amount of the gold reserve from 40 per cent to 25 per cent, the yellow metal had few friends in the Senate.

"Upon my amendment to increase the price of gold rather than reduce the per cent, I got one vote—my own. It was the greatest shock of my life.

"The Federal Reserve wants 'security' backing rather than gold, because securities pay interest and gold pays nothing. The drift towards a managed currency is swift and certain and apparently no one gives a damn."

I also desire to quote from a letter I received from Senator Murdock on May 15 after the bill had passed the Senate. The Senator states, "It is my opinion that the metal mining industry of the West lost one of the greatest opportunities it ever had to do something for itself when it allowed S. 510 to be passed without a well-organized and vigorous fight to increase the price of gold rather than to decrease gold reserves. I predicted months ago out in my home state that this Congress would be confronted with this type of legislation. I predicted then that our gold base was entirely too small to support world credit and money. My prediction was that we would either have to raise the price of gold or decrease required gold reserves.

"When the bill was presented, I began contacting representatives of mining groups and western Senators in the hope of getting some support for my position that we should raise the price of gold, not decrease reserves. I was alarmed at the total lack of interest and indifference in my proposal to raise the price of gold.

"In committee I offered my amendment, but only received the support of one Senator. The bill is still pending before the House. Something might be done to dynamite the mining industry from its attitude of indifference, but I found that I was unable to do this. In my opinion, there is much more logic in increasing the price of gold than decreasing gold reserves, but a Senator has to have some backing from interested people or he finds, as I did, that he is only a voice crying in the wilderness."

In calling this meeting of the Western Economic and Mining Affiliates, Inc., it is the hope of the sponsors that we will prove to these Senators, first, that the people of the western part of the United States do care, and that they are interested in opposing "the drift which is swift towards managed currency." Also that we will give our Senators in Washington real support on matters of this kind which threaten our destiny when they come before the Senate of the United States, and that we will also support those enlightened congressmen who saw fit to petition the War Production Board and other federal agencies to immediately rescind L-208.

L-208 ORDER MODIFIED FOR WEST END COMPANY

THE West End Mining Company, 1921½ Maple Avenue, Los Angeles, California, has started the development of two gold properties, following relaxation of the War Production Board Order L-208 for these particular operations. The properties are the old Julius group of claims in Arizona and the Apex mine in California.

The Julius property comprises 28 claims situated 1½ miles west of Quartzsite, Arizona, and formerly was held by the Quartzsite-Arizona Mining Corporation. West End is engaged at present in core drilling this property for gold values and it is expected that the exploration program will be completed within the next six months. Work is being directed by S. Williams of Quartzsite.

The Apex gold property is located near Susanville, California, and has been owned by the West End interests for the past 15 years. The mine comprises six claims, four of which are patented, and principal operations consist of sinking a 300-foot shaft. The Apex development program is directed by the company's general manager, J. C. Ballard of the Los Angeles office.

The company also has a copper operation in Arizona, the old Ray-Arizona property. An extensive core drilling program, involving putting down 25 holes to a 200-foot depth, is proceeding at the mine. The copper property, which has been owned by the company since 1927, contains 16 claims near Ray, Arizona. Ted Phillips, Box 428, Ray, is in charge of the work.

West End Mining Company also is conducting development work in Nevada.

UTAH TUNGSTEN DISCUSSED IN UNIVERSITY REPORT

TUNGSTEN reserves in the Cottonwood and American Fork mining districts of Utah are the subject of Bulletin No. 24 which is published by the University of Utah. The report is based on the work of the Utah Engineering Experiment Station, working in cooperation with the State Department of Publicity and Industrial Development. The pamphlet, which was written by Arthur L. Crawford and Alfred M. Buranek, also discusses the influence of scheelite on the character of secondary molybdenum minerals.

Although tungstenite was discovered in the Emma mine in the Little Cottonwood district some years ago, it was regarded as a curiosity and no effort was made to find or commercialize scheelite or other tungsten minerals until around 1939. With the introduction of ultra-violet light for prospecting and the war need for tungsten, considerable progress was made in ascertaining the tungsten values available in the area. The report covers three properties, the South Hecla, which shows the most promise; the Mountain Lake mine; and the Metals Coalition property which appears to be more marginal than the other two.

The report contains a full description of the properties, work done, and suggestions for future prospecting, as well as a geological description and history of the formations.

laboratory ore testing, plant designing and construction, and engineered and constructed a number of important mining and milling installations in the Islands, including those for North Camarines Gold Mining Company in Luzon, Mine Operations, Inc., on the Island of Masbate and Davao Gold Mines in Mindanao.

MEXICAN LABOR UNIONS CONTINUE AS ACTIVE FORCE

MINE labor unemployment is not looming large in Mexico, according to the labor ministry. It cites as an example the fact that all of the 1,100 men thrown out of work by the recent shutdown of Cia. Minera Kildun, S. A., Matehuala, San Luis Potosi, Mexico, have found jobs with mining enterprises in the central and northern districts.

Mexican labor continues to be active. The latest manifestation of unrest is the invitation of the National Workers Council to the National Miners' Union to quit the powerful confederation of Mexican Labor and join with it. The council has broken off with the confederation, explaining that it does not approve of certain of its policies, presumably a continued leftward leaning. The miners' union is considering the invitation. If it bolts the confederation, that will be a big loss to Mexico's largest labor organization. The union is its largest single member with a claimed membership of some 85,000 in mining and associated industries.

Embargoing of mining properties in wage-claim suits continues. It is reported that the Peregrina mine, important gold-silver producer of Cia. Minera de Guadalupe, S. A., Guanajuato, Guanajuato, Mexico, has been embargoed by the Guanajuato labor authorities in connection with a pay claim of 16,000 pesos ($3,350) of a country schoolmaster who avers the mining company has not paid him in several years.

Workers won in a recent strike threat against Cia. Mexicana de Explosivas, S. A., Dinamita, Durango, Mexico, which is one of the leading suppliers of blasting materials and other explosives for the mining industry. The dispute was settled with the granting of a 25 per cent wage increase and the agreement has been approved by the labor ministry.

Miners in several sections have complained to the federal government about a new form of deficient railroad service which hampers the movement of ore and forces the accumulation of cumbersome stockpiles. The complaint cites the "excessive slowness" policy of freight and passenger train employes of the National Railway, as a form of sabotage indulged in because of disagreements between the railroad, Mexico's largest, and its employes.

The National Railroad Workers Union has promised President Manuel Avila Camacho that it will order its members to discontinue the policy and run trains on scheduled time. "Excessive slowness" has caused much embarrassment to shippers and receivers, particularly at Monterrey, Nuevo Leon industrial center, where, it is reported, there is a congestion of 1,980 freight cars, each laden with urgently needed goods.

THE GOOD OLD DAYS????

We were beginning to feel a little bit sorry for ourselves, having to struggle with this problem of eating out. The first difficulty, of course, is finding a restaurant that has food; the second, stretching your purse to pay for it. Well, we've reformed now; no more complaining about the price of eggs, etc. We took one look at a copy of a menu from the Eldorado Cafe, Placerville, California, in the gold-rush days of 1850 and promptly decided that we were lucky by comparison. The menu is reprinted here in the hope that it will help some other suffering gourmands.

SOUP	
Bean	$1.00
Ox-tail (Short)	1.50
ROAST	
Beef, Mexican (prime cut)	1.50
Beef, up along	1.00
Beef, plain	1.00
Beef, with one potato (fair size)	1.25
Beef, tame, from the States	1.50
VEGETABLES	
Baked beans, plain	.75
Baked beans, greased	1.00
Two potatoes (medium size)	.50
Two potatoes (peeled)	.75
ENTREES	
Sauerkraut	1.00
Bacon, fried	1.00
Bacon, stuffed	1.50
Hash, low grade	.75
Hash, 18 carat	1.00
GAME	
Codfish balls, per pair	.75
Grizzly, roast	1.00
Grizzly, fried	.75
Jack rabbit (whole)	1.00
PASTRY	
Rice pudding, plain	.75
Rice pudding, with molasses	1.00
Rice pudding, with brandy peaches	2.00
Square meal, with dessert	3.00

N. B.—Gold scales at the end of the bar. Payable in advance.

SURVEY ISSUES REPORT ON SHAFTER MINING REGION

IT has been reported by William E. Wrather, director of the United States Geological Survey, Washington, D. C., that a report on the geology and ore deposits of the western part of the Shafter district, Presidio County, Texas, has been completed. The study, which is accompanied by seven preliminary maps, has been placed in the agency's open files at Washington, D. C., and at Rolla, Missouri, as well as in the office of the postmaster, Marfa, Texas.

For many years, the Shafter district has been important for its silver output, while lead and zinc have been produced in the area only on a small scale. However, the present wartime demand for lead and zinc determined the survey to make a study of the district in an effort to encourage increased lead-zinc production. The work was directed by A. E. Weissenborn and J. S. Cullison, survey geologists.

WAR PRODUCTION BOARD to permit

Gold Mines of Nation to Reopen

AFTER two years, eight and one-half months of enforced idleness, the gold mines of the United States are given permission to resume operations. The War Production Board announced on June 16 the revocation of L-208 effective July 1. The action will permit reopening of gold properties which have been shut down since October 8, 1942, when the War Production Board issued its much criticized order L-208. Officials justified that order by the statement that it was "to conserve manpower for the more urgently needed war metals—copper, lead, and zinc."

While the gold closing order is being revoked, the War Production Board makes it clear that the action will provide gold mines with no priorities to obtain either manpower or new equipment, thus making it rather doubtful as to whether mines which have been idle for such a long period of time can possibly get into quick action under present conditions.

Gold mines, it is stated, will be handled as are other non-serialized mines on which supplies for maintenance, repairs, and operations automatically have an AA-5 rating. Under present conditions the AA-5 rating is sufficient to obtain most supplies, with the exception of lumber and timber, but is not sufficient for new equipment and many repair parts.

Under P-56, the regulation which applies to non-serialized mines, anything under $500 for a complete unit takes an MRO rating without special application. Anything costing more than that for the complete unit requires application on WPB Form 1319 which is an application for new machinery and equipment. Six copies of this form must be filed but, even if approved, it still has the AA-5 rating.

When an AA-5 rating is not high enough to secure delivery of specific equipment required for maintenance, repairs, and operation, it is possible for the non-serialized mines to file an application for a higher rating on WPB Form 2910 but, if the experience of the gold mines is the same as that encountered by non-serialized base metal mines, very few such applications will be approved.

The War Production Board has stated that by July 1 it expects gold mines to be able to place orders and accept delivery without priorities on most mining, construction, and equipment items and controlled materials as long as such deliveries do not interfere with rated orders. To accomplish this the board is proposing and expects the approval of an amendment to P-56, to be effective July 1.

NO priorities on manpower are being offered to gold mines and while in some sections of the United States there may be some manpower available, in general there is a tremendous labor shortage in the mines, even though the wage rates now being paid by the base metal mines are much higher than were formerly paid by the gold mines.

On June 16, the War Production Board announced the revocation of the gold mines closing order, L-208, effective July 1. By that date WPB expects that gold mines will be able to place orders and accept delivery, without priorities, on most mining, construction, and equipment items and controlled materials as long as such deliveries do not interfere with rated orders. To accomplish this the board is proposing an amendment to P-56.

Arizona base metal mines are stated to be 4,500 short in their manpower requirements at the present time and to be working at from 60 to 65 per cent of capacity. While there have been some releases of manpower in war industries, it has not been helpful to the mine manpower situation in that the war industries are releasing principally marginal labor, women, and those physically handicapped. Even those few who might be available have not been seeking jobs in the mines due to the fact that they are waiting to be placed in recently acquired skills which call for higher hourly rates.

The manpower available to the gold mines therefore will be largely limited to older men (above 65), veterans of World War II whose employment is not restricted, and those physically handicapped. All men between the ages of 18 and 65, except veterans, are under control of USES as to where they shall work.

Gold mines are required, as is the case with all industry, to have certificates of availability for all of those employed, except veterans of World War II. If eight or more men are employed they must be referred to the mine through the USES. If less than eight men are employed such referral is not necessary and only a certificate of availability is required.

It is thus evident, according to good authority, that, in most sections of the United States where there are gold mines, the revocation of L-208 will prove to be little more than a gesture—yet it will provide the opportunity for the gold mines to make plans and to resume when manpower and equipment conditions right themselves in the future.

Senator James E. Murray of Montana has pointed out that the revoking of L-208 is "merely giving gold mine operators a 'hunting license' for otherwise idle labor and materials. However, it does permit the companies, which have been in great difficulty preserving their assets, an opportunity to get their affairs in shape for reopening and gradually go back into business as they may be able to secure men and materials not otherwise needed in the war effort."

In demanding that L-208 be revoked, Senator Murray said, "The gold closing order has been a complete failure since its original issuance. It has failed to bring about the transfer of workers from gold mines to other mining operations, and did not result in the transfer of any substantial amounts of equipment. Furthermore, the closing of gold mines has worked great hardships on the gold mining industry, inasmuch as certain cost factors continued on owners of such properties even

MINE PRODUCTION OF GOLD IN THE UNITED STATES—1941 and 1944

STATE	FINE OUNCES 1941	FINE OUNCES 1944	VALUE $35 an Ounce 1941	VALUE $35 an Ounce 1944
Western States and Alaska				
Alaska	695,467	50,840	$24,341,345	$ 1,779,400
Arizona	315,392	116,500	11,038,720	4,077,500
California	1,408,793	113,500	49,307,755	3,972,500
Colorado	380,029	113,727	13,301,015	3,980,445
Idaho	149,816	24,800	5,243,560	868,000
Montana	246,475	48,390	8,626,625	1,693,650
Nevada	366,403	117,200	12,824,105	4,102,000
New Mexico	27,845	6,914	974,575	241,990
Oregon	96,565	1,050	3,379,775	36,750
South Dakota	600,637	10,841	21,022,295	379,435
Texas	306	.....	10,710	.....
Utah	356,501	338,560	12,477,535	11,849,600
Washington	84,176	47,370	2,946,160	1,657,950
Wyoming	478	.....	16,730	.....
Eastern States				
Alabama	30	.....	1,050	.....
Georgia	311	4	10,885	140
North Carolina	3,244	17	113,540	595
Pennsylvania	2,422	2,095	84,770	73,325
South Carolina	15,508	.....	542,780	.....
Tennessee	227	263	7,945	9,205
Vermont	.....	46	.....	1,610
Virginia	240	144	8,400	5,040

while they were closed down. In addition, the action on the part of WPB had the effect of depreciating the value of investments which large numbers of persons throughout the country had in these properties.

"The additional supplies of gold which would have been realized during the period the gold closing order was in effect would have been of real benefit to the economic system of the country. At the present time our once large stocks of gold have been depleted to low levels—and during the reconversion and postwar period additional heavy demands will be made on our gold supplies."

L-208 was issued October 8, 1942, ordering the nation's gold mines to "cease breaking new ore after October 15." The order covered all mines in which gold was produced, including those of Alaska and other territories, except mines which previously had been accorded preferential priority because of their byproduct output of such metals as copper, lead, and zinc.

Small mines which turned out less than 1,200 tons of commercial ore in 1941 and placer mines which treated less than 1,000 cubic yards of gold-bearing gravel during the same year were exempted under the closing order. They were, however, restricted as to future production in treating not over 100 tons of ore or 100 cubic yards of gravel in any one month.

While the "fables" at that time were to the effect that the order would release a pool of more than 10,000 miners, it was later revealed that in October 1942 there were less than 3,000 employed in all the gold mines that would be affected, that not over 500 of them were miners or muckers, and that it was questionable how many of them could be diverted to other mines.

Later figures revealed that the stopping of the gold mine operations in the United States, with its tremendous loss of new wealth, probably did not net over 300 men to other mines and that many of them would not continue to stay with the mining industry. Figures from Butte, Montana, mines indicated that while they secured approximately 150 miners, mostly from the gold mines of South Dakota, there were less than 40 still in their employ a month ago.

IT is the general opinion that L-208 was a "complete flop" which not alone seriously injured the owners of gold mines and the communities in which gold mines operated but greatly reduced the production of new wealth in the United States.

Showings of the ineffectiveness of L-208 and the fact that it was not accomplishing that purpose for which it was said to have been ordered were made frequently to the War Production Board—yet no action was taken to modify the order.

In connection with L-208 and in replying to the fact that it did not accomplish that for which it was purportedly designed, Donald Nelson, chairman of the War Production Board, stated: "When we did it we believed that it was the right thing to do. We didn't study it. Sometimes the

(Continued On Page 39)

NON-CANCELLATION PROVISO REINSTATED IN SUBSIDY BILL

HOUSE and Senate conferees have agreed to accept the McFarland amendment to S. 502, the $1,500,000 subsidy measure, and retain the non-cancellation proviso for copper, lead, and zinc premiums for the fiscal year ending June 30, 1946. This feature of the Senate bill was stricken from the measure by the House Banking and Currency Committee and the differences in the two bills had to be reconciled in committee, where sponsors of the amendment were successful in securing its reinstatement. Both the Senate and House have accepted the conference report.

While waiting for conference committee action on the measure, Metals Reserve has been issuing emergency contracts to bridge the gap pending passage of the extension. The present bill expires June 30, 1945.

The House passed the measure by a roll call vote of 246 to 22 without the McFarland amendment, but Senator McFarland and other western senators announced the Senate conferees would insist upon retention of that section. The western mining industry has spent large sums for development to meet war needs when it was impossible to import these metals and minerals, McFarland said, and because of the peculiarities of mining, a 90-day contract cancellation clause would have been insufficient. In copper, for instance, more than 90 days elapse from the date the ore is mined until it is treated, shipped, refined, and ready for sale.

"Even 90 days' notice would not permit the making of definite plans to effectively and efficiently carry on mining operations and would not permit the recovery of the money expended for developing and blocking out ore," he said.

A total of $88,000,000 to stimulate production of copper, lead, and zinc from high-cost mines is authorized by the measure, and an additional $100,000,000 is allocated for the production of miscellaneous strategic materials. For materials and commodities produced outside the United States, a fund of $80,000,000 was authorized.

Crown King. Driving of a long drift well under the old Lincoln workings is being contemplated, with the amount of the work to be restricted by wartime conditions. The drifting ultimately is expected to give several hundred feet of backs and will be entirely on the vein. Miller is trustee for the property.

The old **Poland** group of claims has been purchased by W. F. Pritchett, Box 1370, Prescott, Arizona, who has been operating the property under lease for the past three years. The mine is located on Upper Big Bug Creek in Yavapai County, Arizona, and principal values are in gold, silver, lead, and copper. The Poland group comprises 22 patented claims and is a part of the old Murphy estate.

The **Johns-Manville Products Corporation** is closing down its operation at Chrysotile near Globe, Arizona, according to an announcement by the vice-president, A. R. Fisher. The reason given for the suspension of Arizona asbestos production is that operations are no longer profitable under the great decrease in demand for asbestos, and substantial supplies of the product have been accumulated at eastern plants. It is reported that the mill building and processing mill machinery and portable equipment will be transferred to other Johns-Manville operations, while the Diesel-powered plant, air compressor, and other miscellaneous supplies will be sold to operators in the district. Special separation pay is being given all employes remaining on the property until the final shutdown. Frank Knuckey, Box 1943, Globe, has been general manager at Chrysotile.

CALIFORNIA

James O. Greenan, 206 North Virginia Street, Reno, Nevada, has taken an option from Roscoe Wright, Box 62, Goldfield, Nevada, on a group of four talc claims located in Inyo County, California, in the Ubehebe district. Tests were conducted recently by Greenan and James E. Atkinson, 2414 Telegraph Avenue, Berkeley, California, consulting mining engineer and geologist, and it is reported that commercial quantities of high-grade talc, suitable for use in the manufacture of cosmetics, as well as deposits of steatite, used for high-frequency radio electric insulation, were indicated. Production is expected to be started as soon as trucking arrangements to Keeler, California, nearest shipping point, can be made.

John Hunter and Roscoe Wright, Box 62, Goldfield, Nevada, who recently were reported to have discovered a deposit of andalusite on Tin Mountain in Inyo County, California, have announced that the report was erroneous. Subsequent analysis of the ore showed that the material did not contain high-grade andalusite, as had been first reported by a University of Nevada mines student.

Two monitors are in regular operation at the hydraulic mine of the **Red Star Mining Company, Inc.**, near Michigan Bluff, California. The operation is being conducted under special permission from the War Production Board. Tests of the property are said to have indicated an average value of 57 cents per cubic yard, and the placers are reported to contain approximately 10,000,000 cubic yards of gold-bearing material. The company maintains head offices at 210 Post Street, Room 911, San Francisco, California, and A. F. Erickson, 2510 Chanote Road, Santa Rosa, California, is general manager and purchasing agent. S. J. Smith, Box J, Georgetown, California, is assistant mine superintendent.

WISDOM OF GEMS

We know that man has been interested in gems since the days of the early lake dwellers. Crude pierced garnet pebbles have been found in the ruins that were once their homes. Much has been learned about gems since that time. Of each of the 10 pairs of sentences about gems, one is false. To test your knowledge, see if you can pick out the true statements. Six right is fair, eight is good and anything over eight proves you a gem expert.

1.
A. Sapphires have the hardness of 8.
B. Sapphires are found in several colors.

2.
A. Goshenite is white beryl of gem quality.
B. Beryl crystals are orthorhombic.

3.
A. Green zircon closely resembles emerald.
B. The color of most blue zircons is produced by heat treatment.

4.
A. Demantoid is the name for one type of green garnet.
B. Blue garnets come from Africa.

5.
A. Opaque quartz is sometimes cut into gems and called "moonstone."
B. Feldspar is softer than quartz.

6.
A. Nephrite and jadeite are both forms of jade.
B. All true jade is green.

7.
A. Red tourmaline is called rubellite.
B. Tourmaline has a high double refraction.

8.
A. Alexandrite is green by daylight and red by artificial light.
B. Alexandrite is a form of chrysotile.

9.
A. Staurolite crystals are often twinned.
B. Staurolite gets its name from the asterism often displayed in the cut stone.

10.
A. Serpentine has the hardness of 5.
B. Bowenite is a form of serpentine, sometimes used as a gem.

Answers to Questions Will Be Found on Page 24

L. L. Huelsdonk, Downieville, California, has contracted with Antone Lavezzola for delivery of 10,000 feet of mining timber, to be used at the **Gold Bluff** mine. The gold property is located in Sierra County near Downieville and has been closed down, except for maintenance and repair work, for some time. The Gold Bluff was purchased by C. L. Best of San Leandro, California, in 1943, for the purpose of conducting extensive gold mining after the war. Huelsdonk is general manager for Best.

Satisfactory recovery of gold and chrome values at the **Wilhite** placer mine is reported by Clarence Young, Eureka, California, and associates. A 30-ton Diesel shovel and other equipment were installed by Ben Wilder this spring, and a crew has been working two shifts daily since that time. The mine is located at Red Cap Creek near Blue Lake, Humboldt County, California. L. P. Kelly of San Francisco, California, and Walter Corman, Portland, Oregon, are Young's partners in the mining venture.

The **Mountain Copper Company, Ltd.**, is continuing to make shipments of copper and zinc concentrates from its Hornet mine about 17 miles northwest of Redding in Shasta County, California. The ores from the Hornet are treated in the company's selective flotation plant at the mine, and regular shipments of pyrites are continuing to sulphuric acid manufacturers in the San Francisco Bay area. In addition, Mountain Copper has a plant at Martinez, California, for the manufacture of chemicals and fertilizers. The concern is a British corporation which conducted large-scale gold mining operations in Shasta County for many years before the outbreak of the war. William F. Kett, 216 Pine Street, San Francisco, is general manager.

The Tonopah Divide Mining Company is conducting limited mining operations in the lower tunnel of the **Gaston** gold mine, and also is continuing with exploratory and reconditioning work. The lower tunnel is in almost 5,000 feet and intersects a ledge at about 1,500 feet below the outcrop. The company recently opened two veins between 2 and 10 feet wide, which carry free milling gold. The Gaston is situated northeast of Nevada City in the Eureka mining district of California, and is under option to Tonopah Divide. The company is controlled by Clyde D. Souter, Box 1466, Reno, Nevada, and associates.

The Hecla Mining Company's subsidiary, Red Cloud Mines, Inc., is maintaining production at the **Blue Moon** mine at the rate of about 200 tons of zinc ore daily. The mine is located five miles north of Hornitos, Mariposa County, California. The ore, which also contains small values in copper, silver, lead, and gold, is treated in an old gold mill which the company leased and converted to a flotation unit when the Blue Moon operation was started. R. H. Dunn is mine superintendent of the Red Cloud work, and other operating officials include R. F. Hollis, assistant mill superintendent; J. R. Christopher, master mechanic; and William K. Gorsuch, chief chemist; all of whom may be addressed at Hornitos.

Custom milling operations at the **Big Butte** mine, which were suspended last fall, have been resumed, and several small shipments of custom ore are being treated. The Butte Lode Mining Company, which closed down its gold mining and milling operations at the Big Butte in November of 1942, was given permission last summer by the War Production Board to continue milling operations on a limited scale. The WPB special requirements included a limit of 100 tons of gold ore per month from each operator, and it also was provided that the mill handle only ores from mines which were operating before the L-208 order was issued. The milling plant is located near Randsburg, California, and Jack Kreta is mill superintendent. The company's general manager is E. L. Wegmann of Randsburg.

Mining operations will be started this summer at the **Claycroft** mine located near Downieville in Sierra County, California, The operator is Bert D. Elliott, who makes his home at Huntington Beach, California.

Harcourt and Wren, M. M. Harcourt, manager, Box 808, Sacramento, California, consulting engineering firm, will direct the preliminary development program at the **Vine Spring** and **Experimental** gold properties for the owner and operator, Julian R. Sanchez, 2735 Folsom Street, San Francisco, California. Both mines are located near Columbia, Tuolumne County, California, and considerable clean-up work and retimbering already have been completed at the Vine Spring by Sanchez. Mining machinery, including a hoist and compressor, have been moved in and a lease was acquired on a nearby milling plant. Sanchez, with a group of associates, had been connected with the Vine Spring operation several years ago.

It is expected that gold mining operations will be started by the **La Marquis Mining and Milling Company** as soon as possible. The company is reported to have taken an option on a property located in the famous Tuttletown district on the Mother Lode in California.

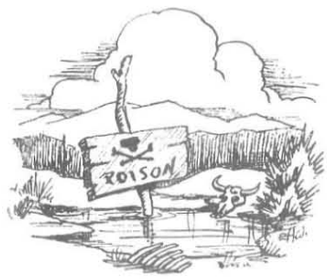
The **Enterprise Engineering Company** has announced that it is adding a second shift to double capacity of present dredging operations at the **James Creek** quicksilver property. The company has been washing 1,500 yards of gravel per eight-hour shift, recovering values of 75 cents per yard, based on the current price of $150 per flask for quicksilver. Operations were started at the lower end of the company's two-mile lease on James Creek in Napa County, California, and the recovery values are expected to improve as the dredge moves up the creek. The cinnabar concentrates recovered through dredging will be treated in a 20-ton Herreshoff rotary furnace, just purchased by Enterprise Engineering. The company leased the James Creek placer holdings in the Aetna Springs district last fall and the project will require three years for completion. Officers of Enterprise Engineering include R. Lee Cate, president, and Henry Ott, general manager, both of whom may be addressed at the company headquarters, 1706 Broadway, Oakland 12, California.

JOHN D. MITCHELL tells of

Lost Mines and Buried Treasures

THE BLACK ANT CONSOLIDATED MINING COMPANY, INCORPORATED

OLD-TIME cow men seldom abandoned their chosen profession to engage in mining operations. These two did. We will call them Jack and Bill because those were not their real names. These two partners owned a little spread over in New Mexico, not very far from Billie the Kid's old stamping ground.



They read in the Kansas City Star that miners in California and other parts of the West often made rich discoveries by panning the gravel in ant hills. The ants, finding the small nuggets of gold deep down in their tunnels, would carry them to the surface along with pieces of rock.

So what was more natural than for these two old cow men to get all "het up" when they found shiny pieces of metal in an ant hill right in their own back yard. After building a monument of stone near the ant hill and placing a location notice in a tobacco can in the monument, they took a copy of the said notice to the County Recorder to be recorded. The notice read in part: "We the undersigned citizens of the United States do hereby locate and claim 1,500 feet along the course of this ledge, lode, or mineral bearing ground—750 feet in a northeasterly and 750 feet in a southwest direction together with 3,000 feet on each side of the center at which point this monument is located—etc."

This done, with picks and shovels borrowed from the section foreman at the nearby railroad station, the two old-timers began mining operations. The shaft was started on top of the ant hill and when a depth of 10 feet was reached it was found necessary to timber in order to hold up the loose dirt that was continually sliding into the shaft. Being short of money, they mortgaged the cow outfit to raise the funds with which to buy timber and carry on the mining operations.

At a depth of 22 feet the ant trail leveled off and started under a dry wash. Here the old-timers started drifting under the wash. The dirt was loose and they found it necessary to timber all the way. After buying more 6 by 6's and lagging they continued on for a distance of 47 feet to the far side of the dry wash where the ant trail started upward. Not to be outdone the miners started an upraise and timbered it all the way to the surface, a distance of 22 feet. Here the ant trail started up the side of the hill on the surface. In order to get his wind after breaking through, Jack followed the trail up the side of the small hill and sat down on an outcropping of green-looking rock. Growing from a crevice was a small bush from which was dripping a liquid resembling syrup. The ants were all around it picking up the small pieces of bright colored ore which were covered with the sweet syrupy liquid. Here then was the vein that they had sunk two 22-foot shafts and tunneled 47 feet across the wash to find. And to make things worse they were broke.

Scraping a little more money together they again started work on the outcrop. The ore was rich in copper and silver and by selling a few tons at a time they managed to get out a carload of ore. The town lawyer advised them to incorporate a company in order to protect their interests. So what was more natural than to call their bonanza "The Black Ant Consolidated Mining Company, Incorporated."

The document prepared by the lawyer authorized the partners to carry on general mining operations, build mills, smelters, pipelines, lay out townsites, build railroads, operate steamship lines, and many other things too numerous to mention.

At the depth of 28 feet the ore pinched out to a small seam and they were never able to find any more of it. From the sale of the carload they realized enough money to pay off the mortgage on their cow outfit and found themselves right back where they had started.

The ants had carried the small pieces of rich ore into their burrow, eaten the sugar off, and then carried it out and thrown it on the dump. Jack and Bill thereafter stuck to ranching and never again ventured into the mining business.

All that now remains of The Black Ant Consolidated Mining Company, Incorporated, is the caved tunnel across the dry wash, the two shafts and the upraise. After that it was woe betide to any ore-packing ant that ever got in the way of those two old cow pokes.

* * * * *

Editor's Note: The above is one of a series of stories on Lost Mines and Buried Treasures, compiled by a most competent researcher on the subject. These stories, along with many others, will be published later in book form and thus made available as a complete collection.

DOMESTIC TALC DEPOSITS USED BY ARMY AND NAVY

TALC suitable for making steatite radio and electronic equipment for Army and Navy use has been derived exclusively from deposits in this country since early in the war because of the discovery of new domestic sources and the expansion of known deposits, the Bureau of Mines has disclosed. Before the war, only one domestic mine yielded material suitable for steatite ceramic insulators. The principal raw materials had been imported from France, Italy, and Manchuria, with some imports from India.

Although several eastern producers provided talc sufficiently pure for general purposes, such as the paint, ceramics, rubber, roofing, and paper industries, only one operation, in Inyo County, California, supplied the required grade for use in equipment, and for spark-plug covers needed for high-altitude operations.

A survey launched by the bureau in cooperation with the Geological Survey in December 1941, when imports of talc for high-frequency insulators were curtailed, was suspended in 1943 with the easing of the scarcity of raw materials. Until recently, reports on the investigations, previously submitted to Army and Navy authorities, were held confidential.

The survey indicated that adequate reserves of talc for steatite insulators were available without resorting to beneficiation and still more could be added by beneficiation if necessary. More than 200 samples from various producing mines and undeveloped deposits were examined, most of them surrounding the Sierra deposit in Inyo County, California, and in Esmeralda County, Nevada, across the state line from Inyo County. Some acceptable deposits were found in Montana, New Mexico, New York, Virginia, North Carolina, and Alabama.

The bureau's report describes the field and laboratory testing methods on raw material evaluation and ceramic body tests with a complete description of processes used, results in tabular form for each sample tested, and charts showing the laboratory procedure.

Copies of the report, known as Report on Investigations 3804, "Survey of the Suitability of Domestic Talcs for High-Frequency Insulators," by Theron A. Klinefelter, Sidney Speil, and Sidney Gottlieb, may be obtained without charge from the Bureau of Mines, Washington 25, D. C.

mines and mill are under lease to the American Zinc, Lead and Smelting Company.

The **Aurum Mining Company,** which owns a group of claims near Republic, Washington, completed only about 600 feet of development work on the 300 level of the Trade Dollar property during 1944. Lessees shipped 10,767 tons of ore to custom mills and 13,890 tons direct to the smelter, but the company made no production on its own account and suffered a moderate loss for the year. The company, Henry L. Day of Wallace, Idaho, president and general manager, is slightly over 50 per cent owned by the Tamarack and Custer Consolidated Mining Company.

Out-of-court settlement is reported in the case of the federal government against the **Northwest Magnesite Company** for damage to lands held by the government in trust for five Indians. While details have not been made public, it is understood that the government had asked damages in the amount of $15,465 and a permanent injunction to prevent further damage, claiming that the productivity of about 620 acres of land had been reduced by dust and gases from the plant of the Northwest Magnesite Company near Chewelah, Washington. It was charged that the company's gas and dust control equipment is not functioning efficiently and that the damage was started in 1941 when the company increased the capacity of the plant. Earl A. Garber of Chewelah is vice-president and general manager of the company.

The **Electro Metallurgical Company** of Spokane, Washington, is scheduled to start producing sodium metals on a limited basis about June 15, 1945. The plant, designed for the production of magnesium, has been held in a standby condition since last December when production was suspended on orders from the WPB. The company, a unit of the Union Carbide and Carbon Corporation, is headed by William J. Priestley, 30 East Forty-second Street, New York 17, New York. George H. Griffin, Box 6066, Hillyard Station, Spokane, is manager of the Spokane plant. When plant facilities have been converted fully to the new product the company expects to employ about 350 men.

KAISER PLANS TO EXPAND CALIFORNIA STEEL PLANT

THE Kaiser Company, Inc., Iron and Steel Division, is attempting to obtain a loan of approximately $52,000,000 from the Reconstruction Finance Corporation for additional facilities at the company's Fontana steel plant. Included among the improvements will be hot and cold rolling facilities for strip, additional steel making capacity, tin plate facilities, and pipe and tube mills. It previously had been rumored that the company was planning to close down the plant in the third quarter because of the decrease in order backlogs, but Kaiser Company reports that it is not considering closing the plant at any time and that it has orders booked throughout this year and into 1946. The company is headed by Henry J. Kaiser, Latham Square Building, Oakland 12, California.

PACIFIC MINING REPORTS ON NEWTON PRODUCTION

THE Pacific Mining Company reports that during the spring quarter of this year production from the Newton copper mine was maintained at the rate of 25 cars monthly. Most of the ore was mined from the new 400-460 block, which is on the single shoot of minable ore at the Newton. However, during the last two months production has dropped to about 10 cars monthly, but will be stepped up as soon as the labor situation is improved.

The Newton copper property is located about seven miles from Jackson in Amador County, California. It was taken over by Pacific Mining in June of 1944, and production last year averaged about 12 cars of ore monthly. Considerable development work has been completed under the Pacific company management, the first work consisting principally of retimbering and reopening of old drifts, which had not been worked by the immediately preceding operators, and some stoping.

Last fall, the company sank an old winze from the 400-foot level for a distance of 60 feet and drove a new 460-foot level. On May 31 of this year, an extension of the old shaft from the 400-foot level to a 570-foot level was completed, and it now is planned to drift north and south on the new 570 level.

The company also has reported satisfactory copper recovery from the mine water by the Stillwell-Rell Company of Los Angeles, which is operating under contract with Pacific Mining Company.

The Newton property is an old producer, having been worked as far back as the 1860's, and successful leaching operations were conducted early in the 1900's. Very little work was done after 1902 until the property was reopened in 1942 by J. H. Lester. Present operations are conducted by Pacific under a contract agreement with the Winston Copper Company, which holds a lease from the owners, Fred DuFrene and associates. The operating company is headed by P. R. Bradley, Jr., Jamestown, California.

MANY CONTROL ORDERS ON COPPER AND ZINC ARE LIFTED

ALL restrictions on the use of zinc have been removed through the revocation of Conservation Order M-11-B and Direction 1 to the order. Existing allocation controls on slab zinc, however, have been retained. According to WPB, the effect of this action will be merely to give zinc purchasers a "hunting license" as zinc continued in tight supply.

Officials of the zinc division of WPB state that contrary to prevailing opinions, the cutbacks in military requirements for brass mill products have not brought zinc requirements down to the supply level, although the demand picture has undergone an important change. With the defeat of Germany, the anticipated zinc deficit was reduced by 75 per cent, it was stated, and that deficit now has been met. Consequently, for the rest of the year, supply and demand are expected to be in balance.

Under the new arrangement, effective with August, producers will be required to set aside a percentage of their monthly zinc production to take care of preferred orders. After these are filled, producers will be permitted to sell the balance of their production to any consumer.

As to copper, the War Production Board has amended Direction 2 to Copper Order M-9 to permit acceptance of delivery of copper raw materials up to a 30-day supply without WPB authorization. Other changes included a new order, Direction 5, which explains how brass and copper wire mills may obtain intermediate shapes, and the revocation of Directions 1, 3, and 4. These changes were made to simplify and relax previous instructions.

As it now stands, Order M-9 has been amended to eliminate (1) restrictions on copper-clad and copper-base alloy clad steel scrap; (2) a limitation on the quantity of self-generated scrap which any person could keep on hand; (3) a prohibition on melting and processing copper-base alloy scrap by persons other than those engaged in production of copper raw material or copper controlled material; and (4) restrictions on the use of scrap by utilities.

PREMIUM PRICE RETURNS BOOST MAGMA EARNINGS

DURING the month of May, the Magma Copper Company received $330,287.57 for premium price plan adjustments on its 1944 production. The federal income tax applicable to this amount is estimated at $76,000, leaving a net of $254,287.57. Adding this sum to the profit of $131,396.19, reported as of December 31, 1944, brings the year's profits to $385,683.76.

Magma also has reported a net profit of $340,715.33, after all charges including federal income tax, for the five-month period ended May 31, 1945. The premium price returns on the company's 1944 output are not included in the profits for this year, but Magma states that profits for the first five months of this year are largely attributable to the premiums for metal production. A non-recurring profit of $20,058.16 from the sale of securities was included in the net earnings for the period ended in May.

"If you don't get our tires recapped soon, you're goin' to have to have your shoes half-soled!"

The company is operating its mine at Superior, Arizona, with a crew of approximately 60 per cent at present because of the labor shortage. All operations are directed by Wesley P. Goss, Superior, general manager. Company headquarters are maintained at 14 Wall Street, New York 5, New York.

MERGER OF TUNGSTEN INTERESTS AFFECTS ARIZONA & IDAHO MINES

TUNGSTEN MINING COMPANY is the name of the new concern which represents a merger of operations and tungsten properties between the General Electric Company and the Haile Mines, Inc., of Vance County, North Carolina. Since 1939 G-E has held the Miller or Mazda mine in the Blue Wing district of Lemhi County near Patterson, Idaho, and it was in that same year that development work was started by G-E on a tungsten property in the Las Guijas district south of Tucson, Arizona, and a few miles northwest of Arivaca. The company also at one time held the Germania mine in Washington, but sold that property in 1943.

According to the present agreements, the entire output of the Arizona, Idaho, and North Carolina tungsten properties is contracted for a period of years to the General Electric Company, which holds a substantial interest in the new Tungsten Mining Company. Haile Mines, formerly gold producers, will furnish all operating and executive personnel.

1943 MINERALS YEARBOOK IS RELEASED FOR DISTRIBUTION

VICTORY in Europe and the consequent relaxation of the Bureau of the Budget's security regulations permits the release for public distribution of the heretofore confidential 1943 Minerals Yearbook, according to Dr. R. R. Sayers, director of the Bureau of Mines.

The Minerals Yearbook, the nation's most comprehensive and authoritative publication on the production, distribution, and consumption of mineral commodities, has been compiled and published annually for many years by the Economics and Statistics Branch of the Bureau of Mines. Containing foreign trade information and other data that might have been of value to the enemy, editions published thus far during the war have been withheld from general distribution until now.

Bound copies of the 1943 Yearbook may be obtained for $2.50 each from the Superintendent of Documents, U. S. Printing Office, Washington 25, D. C. A limited number of copies of the 1942 edition, which also was released recently, likewise are available from the Superintendent of Documents at $2.25 each, together with certain separately printed chapters ranging in price from 5 to 15 cents.

The Yearbook usually contains from 65 to 75 chapters covering all of the known mineral commodities in daily use, and each is prepared by a Bureau of Mines specialist in the field. In general, the separate chapters fall under three main divisions: metals, nonmetallic or industrial minerals, and fuels.

ANNEX TO MINES LABORATORY PLANNED FOR WASHINGTON U.

CONSTRUCTION of a $25,000 annex to the mines laboratory of the University of Washington at Seattle will be started shortly. The building will house new equipment of the U. S. Bureau of Mines, as well as that of the mining college. It will be reinforced concrete, 37 feet by 74 feet, and will adjoin the present mines building. The major portion will be of one story, with a second story at one end. Paul Thiry and John Paul Jones, both architects of Seattle, have been appointed supervising architects. The addition will augment the facilities of the school of mines and of the Bureau of Mines' experimental station.

COMPILATION OF REFERENCES COMPLETED FOR NEVADA

A MANUSCRIPT entitled "Geologic Literature of Nevada" has been completed by V. P. Gianella, professor of geology in the Mackay School of Mines, University of Nevada. It combines the geological references given in "Mining Districts and Minerals Resources of Nevada" by Lincoln, published in 1923, and Stoddard's "Metal and Nonmetal Occurrences in Nevada," 1932, with corrections on both and additional references through 1941.

The information is listed by counties and mining districts rather than by author's names, thus making it easily available. A companion list of all the geological maps by counties and districts has been made up by Robert W. Prince and these have been drawn on a large map of the state to give a complete picture of the areas covered. It also reveals the large percentage of the state of Nevada as yet unmapped.

The manuscript is on open file at the state bureau of mines' office, Reno.

GOLD MINES OF THE NATION PERMITTED TO REOPEN

(Continued from Page 9)

only way you can get the real evidence is on occurrences after the fact." The amazing admission that they "didn't study it" was made on April 1, 1943, before the Subcommittee on Mining and Minerals Industry of the Senate Small Business Committee and it is now being revoked more than two years later.

It has been the opinion of many that there was an ulterior motive on the part of certain government authorities in the stopping of gold mining in the United States and that the question of manpower was only an excuse. The question often has been asked—"Was this order issued as part of an over-all program to dethrone gold?" There is no question that it served to impoverish the nation.

Possible ulterior motives were indicated by a recent statement by Paul V. McNutt who, on being questioned as to why the gold mines were not being permitted to resume, answered the question by asking, "What do we want the gold for?" Marriner S. Eccles, head of the Federal Reserve Bank, recently testified before a congressional committee stating that we "no longer need any gold back of the dollar."

Many such pieces of evidence are pointed out as contributing to the theory that the stopping of gold mines of the United States had motives other than the very small amount of manpower that was made available to other mines and indicates that the reopening of gold mines is not to be made easy since many of those who stopped the production still are in positions of power.

A total of over $500,000,000 in new wealth has been lost to the United States by the closing of the gold mines for this two-year, eight and one-half-month period and, if the United States mines had been permitted to increase their production as have the mines of the other nations, the wealth produced might have been much more. The United States was the only country which closed its gold mines.

Mine production of gold in the United States for the years 1940 to 1944, inclusive, was as follows:

1940	$209,445,705
1941	205,862,930
1942	120,998,850
1943	47,733,525
1944	34,729,135

The small amount of gold which was produced was either as a byproduct from base metal mines or the siliceous ores which were required by base metal smelters as fluxes.

ALTHOUGH many times proposed by bills introduced into Congress, no gold mine relief legislation was enacted by that body. Senators Murray of Montana and Scrugham of Nevada repeatedly asked Congress to pass legislation which would permit gold mine owners to hold their properties which were closed by government order and to relieve them from or defer their obligations. This would have reduced the injury to them, but the powers-that-be kept all such legislation from receiving serious consideration. Thus many gold mines have been lost to their owners or have been so handicapped that it will be difficult to rehabilitate them.

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Drifts and Crosscuts

Representatives of organized labor and the United States Chamber of Commerce have announced a "peace charter" to prevent strife between management and labor when the nation's economy contracts to a peacetime basis. The document recognizes the "inherent right and responsibility of management to direct the operations of an enterprise." It supports "private property and free choice of action, under a system of private competitive capitalism." It supports the right of labor to organize and engage in collective bargaining. It calls for the establishment of an international organization capable of assuring lasting peace.

This is constructive, statesmanlike action. Every workman and every business man should do his best to make it bear fruit. Continued labor-management strife will inevitably result in total and permanent government control of both.

* * * * *

It has long been good politics for tax commissions and assessors to "soak industries." Particularly has this been the case with mining, oil, railroad, and public utility properties. Many an industrial goose that laid golden tax eggs has been killed or crippled by this process, to the great loss of the community, investors, and labor.

In one of the most plain-spoken decisions to come from any bench, the Arizona Supreme Court upheld the lower court in halving the valuation placed on one of the state's leading mining properties and denounced the appeal of the state tax commission as "puerile" with no testimony to support the valuation. In the Supreme Court's view, a mine's worth is not based on what it has produced in the past, but "entirely on what is going to come out of it in the future."

It is high time that more industries and more courts fought the often high-handed tactics of valuation and assessment bodies if industry is to be able to do its part in the reconversion and reconstruction program.

* * * * *

In the feverish haste to progress, civilization goes through an abundance of trial and error. Often a great stumbling block to individual independence has been government planning for streamlined living, on the theory that government can standardize a man's life and bring benefits to him by way of a rigidly controlled economy. This inevitably leads to government ownership of enterprise and property. As a consequence, the man in civilian life is reduced to the status of a dependent on government, when all through history mankind has struggled to be free.

A politically planned economy for individual living is the egg that hatches dictators. It is the enemy of free men. When will it be realized that the individual cannot reach his highest destiny under government domination? Mankind must preserve free institutions in order to be free.

Will that stumbling block always prevail, or will it be cast aside to make the way clear for an unfrustrated future civilization, free of periodical "dark ages" such as we have just been passing through when unchecked government power crushed whole nations?

* * * * *

The president of the American Federation of Labor, in objecting to the Russian proposal that German labor be forced to rebuild damaged cities in war-torn Europe, says: "Hitler and those responsible for the war must be punished, but the people throughout the world, including labor everywhere, must be made free and must be guaranteed the right to enjoy the blessings and the benefits of freedom, liberty, and democracy."

Without arguing the merits or demerits of the Russian proposal, the remarks about guaranteeing the freedom of labor will be taken with several grains of salt. In the United States, a man cannot work at the basic trades without first joining specified labor organizations, whether or not he wishes to, and paying initiation fees and assessments. Just try to work without "joining" if you doubt this! Is this the kind of labor "freedom, liberty, and democracy" the world is to have? Why kid ourselves about freedom in the United States when an individual must pay for the right to work, even on a government war job!

* * * * *

Former War Mobilizer James F. Byrnes sums up the debt and taxation picture of the federal Government in a chilling light. In his final report he stated that the federal debt has reached $233 billion—approximately $2,000 for every man, woman, and child. No nation, even if it has lost a war, has heretofore had saddled upon it a public debt as large as the debt which we as victors must pay.

Annual interest alone is now $4,500,000,000. To appreciate what this means, recall that for the fiscal year 1939, the total of all internal revenue taxes was $5,063,000,000 (not including Social Security funds). To put it another way, total income tax collected for the calendar year 1942 from all persons with incomes of $5,000 or less amounted to only $4,234,000,000—not enough to pay the interest this year on our federal debt.

This is one problem that the people can't toss in the lap of government. It is their problem. They alone must pay.

* * * * *

Now that premiums on over-quota production of copper, lead, and zinc are assured for another year and are on a non-cancelable basis, the producers of those metals can make plans to maintain maximum output with the assurance of a continuing market and a known price. It must be appreciated, however, that the non-cancelable clause was put into the bill by Congress over the protests of the various agencies who administer the Act. They have yet to make their interpretation and, in a sense, they have the final word, for what they say controls the pocketbook

Only too often the intent of Congress in writing legislation and the way it is carried out by the government agency entrusted with the job are quite different. There was no question in the mind of anyone as to the intent of congress in writing the quasi-contract provision into the contract-termination law, but we have yet to hear of payments under that provision. Many have tried and, while government officials express themselves off-the-record as being sympathetically inclined toward the claimants, the decisions are that they cannot make the awards being sought.

Anticipating similar difficulties with the continuation of premiums and the non-cancelable clause, the proponents of the measure took a great deal of pains to write into the records of congressional committee deliberation, debate on the floor of the Senate, and conference committee hearings, statements which would leave no question of intent. It is to be hoped that the lawyers who are called upon to interpret the Act will not lie awake nights trying to figure out ways and means of failing to do what Congress desired when it passed the legislation.

The $88,000,000 appropriated for metal premiums is small in relation to other wartime expenditures, but it means a great deal to the mines who have gone through this war depleting their assets with ceiling prices that were far lower than they should have been. If the mines had been able to take profits in line with those accruing to other industries contributing to the war effort, they could have afforded to take the risk on being cut off on short notice. However, without profit margins large enough to play with, it would have been pretty tough on any mine to have extracted ore and incurred all the expense which is preliminary to that act, without having assurance as to the market and price they would get for the metal content when settlement is made.

Congress did a good job in extending metal premiums on a non-cancelable basis and some congressional committee should stand watch to see that some over-smart lawyer in a government department does not undo all that has been achieved. The mines have a hard enough time getting out the metal required for the war effort without having to watch for sabotage from government agencies. It is an obligation of Congress to see that its mandates are carried out as intended.

* * * * *

The immediate effect of the revocation of L-208—the gold mine closing order—will be to permit small operations in areas where there are no large copper, lead, or zinc mines competing for the available labor supply. The long period of idleness—2 years 8½ months—has put mines, equipment, and finances in bad order. Shaft mines have filled up with water; tunnel mines have caved in to a considerable extent; and, while they have an advantage in that they require minimum equipment, there still is much to be done before they can attain production.

Gold mines, to get started, will require manpower, machinery, and money. Manpower will prove to be the most troublesome problem at the moment because of the priority on available labor being given to the base metal mines and the fact that these mines still are many thousands of men short of their requirements. Gold mines, however, can employ older men, veterans of World War II, and those physically handicapped, without restrictions or red tape. Most gold mines cannot compete with the base metal mine wage scales as gold is still $35 an ounce and that amount will buy far less now than it would when the gold mines were closed by government edict.

Machinery and machinery repair parts are not too tight and those properties whose equipment needs but modest rehabilitation may get along all right. However, new machinery or new plants are difficult to secure delivery on even if the War Production Board would give approval. Deliveries are made first to those having higher priority ratings and there are continuously some stepping in line ahead of those who have an AA-5. Lumber and timber are almost impossible to obtain under any rating which will be granted to gold mines.

Funds with which to resume work will be a problem with some mines as the chances of getting into profitable production quickly are not good. Many gold mining companies expended all available capital in an effort to maintain their properties ready for reopening. Then when they ran out of funds they had to let things ride. There is, however, much speculative money available and, despite the present trend in Washington which would push gold out of the monetary picture, there is a confidence in its future and a feeling that the metal is destined for higher prices and a more important place in world finances.

The real force and effect of the revocation of L-208 is that it permits gold mines to make plans for resumption of production and to know that they can start operations just as quickly as an answer can be found to their manpower, machinery, and money problems. The attitude of many government departments in Washington, however, is such that not much assistance is expected from them in helping to solve these problems quickly. The gold mining industry will have to recover despite their negative influence.

Washington continues to echo the theory that "in the postwar period the high-cost mines of this country must be shut down and the metals that we need must be secured from the lower-cost properties abroad." A State Department representative recently said: "A government representing the taxpayers, as well as a government concerned with the ultimate welfare of the owners and employes, must cut off the high-cost mines and get back to standard market prices."

It might be well to do a little thinking about some of the reasons why the so-called high-cost mines of this country are high cost. While there is no doubt of the greater efficiency in American mining operations, as compared with those of foreign countries, you simply cannot overcome the difference between $8.00-a-day labor and 50-cents-a-day labor. You cannot get around the fact that American labor has to have provided certain standards in housing and community surroundings, accident compensation, employe unemployment and sick benefits, schools for the children, and a thousand and one other things, all of which add greatly to costs of doing business in this country and which are not comparable to that which is furnished to labor abroad.

There is no offsetting of the fact that taxation in this country is a very large part of production costs. Now that we have a multi-billion dollar debt to liquidate, it is going to be a continuously important item. If everything which goes to make up metal-production is higher in this country than in foreign countries, it is but natural that we cannot produce metals as cheaply as can be done abroad where such standards as we have are unknown.

In other words, our high-cost producers are made high cost largely by the standards which we have created and in which we have a great deal of pride. We would not advocate or even consider a lowering of those standards to the levels of the countries with which we must compete, yet we must remember that, as we continuously try to raise these levels, we are lessening our likelihood of staying in business.

To maintain our standards in this country and still do our part in providing a proper share of the 60,000,000 jobs which are stated to be necessary for national prosperity in the postwar period, we must have either subsidies or excise taxes sufficient to equalize the basic cost differences. The mining industry seeks no protection nor special favors, but only wants to be put upon a fair competitive basis which will give it an even break with the other fellow.

The State Department angle—quoted above—indicates a concern for the taxpayer, but when one considers the contribution in taxes made by the mining industry, and those employed in it, he would find that it would total far more than any protection of American standards would cost in subsidies, or slightly increased commodity prices due to higher cost raw materials in the event the excise tax method was used.

The direct tax contribution by those who have well-paid jobs in the industry would be only a part of the story. The indirect contribution created by the business done by the industry and its employes would be large and far reaching for there is a large federal tax hidden in everything that they buy. Give the mines well-paid employment and profitable operation and they will help greatly to provide the taxes paid by others.

On the other hand, nothing whatsoever comes back to the United States Treasury from the labor which produces metals in foreign countries. Their 50 to 75 cents a day requires them to eat home-grown foods, wear little or no clothes, build no homes, buy no automobiles, radios, electrical appliances or even ordinary cooking utensils. They create no market in which we are interested. We pay dearly for their low-cost product and at the same time imperil our own national security. It is something to think about.

Charles F. Willis

GOLD MINES SUBJECT TO P-56 FOR SUPPLIES AND MATERIALS

EFFECTIVE July 1, gold mines of the nation were classified as "non-serialized mines" under WPB's Order P-56, through an amendment to that order removing the previous specific exclusion of gold mines from its benefits. As "non-serialized mines" under Order P-56, gold mines have a preference rating of AA-5 for maintenance, repair, and operating supplies (including minor capital additions not exceeding $500 in cost), and are entitled to use the allotment symbol "S-7", together with the appropriate quarterly abbreviations for obtaining controlled materials (steel, copper, and aluminum) for maintenance, repair, and operating supplies.

Accordingly, purchase orders should be endorsed "order authorized under Preference Rating Order P-56,—AA-5—S-7, Third Quarter 1945." While not absolutely necessary, officials suggest that both the allotment symbol and preference rating be indicated on all orders, both for controlled materials and others, following the general custom established by the Mining Division, WPB.

Order P-56 places a limitation on controlled materials for maintenance, repair, and operating supplies of "non-serialized mines" during any calendar quarter, of 120 per cent of the producer's aggregate expenditures for such materials during the corresponding calendar quarter of 1943. Since gold mines were closed down under Order L-208 in 1943, it will be necessary for them to apply by letter to the Mining Division for an appropriate dollar value quota for the third and subsequent quarters. Order P-56 places no limitation on the use of other maintenance, repair, and operating supplies by "non-serialized mines," because the AA-5 rating itself tends to limit the quantity and type of material which may be secured.

As "non-serialized" producers under P-56, gold mines may apply for higher ratings for maintenance, repair, and operating supplies (exclusive of minor capital additions) by filing form WPB-2910 with the Mining Division. To obtain higher ratings on minor capital additions form WPB-1319 should be filed with the WPB regional or district office which serves as headquarters for the technical advisor for mining for the area; in a few instances special application forms are required and these must be filed with the Mining Division in Washington.

For machinery and equipment (exceeding $500 in cost) priorities assistance is to be applied for on WPB-1319 (or special application forms in certain instances) and forwarded direct to the Mining Division in Washington.

With the resumption of gold mining permitted through the revocation of Order L-208, and gold mines subject to the provisions of Order P-56, all operators are urged to acquaint themselves fully with the ratings and allotments necessary to obtain material and equipment. They also are advised to keep in close touch with the local WPB office and the technical advisor for mining in their areas. The latter is considered as especially important since the Controlled Materials Plan is reportedly scheduled for discontinuance late in the third or early in the fourth quarter and thus changes in the present mining controls will be required.

BEHRE DOLBEAR CONSULTING ENGINEERING FIRM FORMED

FORMATION of the firm of Behre Dolbear and Company has been announced by Samuel H. Dolbear and Charles H. Behre, Jr., consultants in the mineral industries, mining, metallurgy, and geology. Offices of the company have been established at 11 Broadway, New York 4, New York, and 704 South Spring Street, Los Angeles 14, California.

Dr. Behre is a professor of economic geology in the department of geology at the Columbia University in New York, while Dolbear, who has maintained headquarters in New York and Los Angeles, is a well-known consulting engineer in the United States and abroad. The new firm, whose associates include H. Foster Bain, W. F. Boericke, J. F. Geary, G. A. Joslin, C. C. Morfit, Walter A. Rukeyser, and Herbert Waterman, is particularly qualified to handle foreign assignments, the members and associates having done work in 20 foreign countries, both in private enterprise and government service.

Nuggets from the Western States

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

ARIZONA

The **Copper Belt Mining Company** is reported to be completing a five-months' geological, geophysical, and production survey, under the direction of Ernest D. Foster, 2641 West Avenue 31, Los Angeles 41, California, geologist and geophysicist, and Marshall Foster, production engineer of 4228½ Los Feliz Boulevard, Los Angeles. The company controls extensive holdings on the southeastern slope of the Harqua Hala Mountains, 20 miles southwest of Aguila, Arizona, and the property is reported to have an extensive system of deep-seated, gold-copper veins. Ore reserves are said to justify a pilot mill and water is being developed in the deeper workings. Surface and road improvements have been completed, and ore of shipping grade will be sent to a custom plant while mill construction is under way. The company is headed by H. K. Thomas, Aguila, president and general manager. L. G. Andrews is mine superintendent and Logan Culp is in charge of development. The Copper Belt comprises 21 claims held by the company under lease agreement with the owner, R. C. Davis of Glendale, California.

A license to do business in the State of Arizona has been granted by the corporation commission to the **Tungsten Mining Corporation,** a Delaware company. The firm's statutory agent will be Ned Creighton, Box 3876, Phoenix, Arizona.

Articles of incorporation have been filed by the **Arizona Dredging Company,** which recently has been engaged in experimental sampling operations at the Hobbs group of iron claims, southeast of Wilhoit, Arizona. Incorporators of the new firm are Palmer C. Byrne, T. J. Byrne, and Charles E. McDaniel, all of Prescott, Arizona, and the concern is capitalized at 30,000 shares of common stock with a par value of $100 per share. The company's mailing address is Box 1429, Prescott, and C. S. Barnes is in charge of the exploration program.

Satisfactory results are reported by **La Bamboya Mining and Development Company** at its diamond drilling project in the Aravaipa mining district of Arizona. The company recently leased the mine from Frank Landsman, Klondyke, Arizona, and is drilling for zinc and lead values. The property adjoins the Iron Cap mine of the Athletic Mining Company. R. A. Fones of Oakland, California, is president of the company, and James J. Coen is in charge of diamond drilling. The company address is Box 428, Safford, Arizona.

The **Olivette Mining Company** recently filed articles of incorporation with the Arizona Corporation Commission, listing capital stock of 100,000 shares at $1 par value. Incorporators are Fred E. Keeler and William C. Thompson, both of whom may be addressed at 450 North Rossmore, Los Angeles 4, California. The new company has been organized for the purpose of opening the old Olivette mine in the Helmet Peak district of Pima County, Arizona, about 21 miles southwest of Tucson. The Olivette is a lead, silver, and zinc property, and is held by Keeler and Thompson under lease from the owner, Joseph Flannery, 263 North Meyer, Tucson.

It is reported that production of silver, silica, and copper ore is proceeding at the **Peck** mine, and that a shipping schedule of one car of ore monthly is planned in the future. Homer A. Snyder, Cleator, Arizona, is operating the Peck property, which is situated about seven miles from Cleator.

Mark Gemmill, 423 Perry Street, Prescott, Arizona, has started a new mining operation at the **Venus** property, located near Kirkland, Arizona, and necessary equipment already on the ground includes a compressor and mine hoist. The Venus is a copper prospect and Gemmill hopes to start shipping by the end of June.

The **Minnesota-Connor Mines, Inc.,** which resumed mining operations June 1 following a temporary shutdown, expected to start shipping by the end of June. The concern plans to ship some 250 tons of lead and zinc ores during the next three months. Minnesota-Connor controls the Manzanita and Uncle Abe mining properties, located about three miles southeast of Chloride, Mohave County, Arizona, and all necessary machinery and supplies, including a compressor and mine hoist, are on the property. Russell E. Lord, Box 267, Chloride, is vice-president and general manager.

Temporary shutdown of the leaching plant of the **Emerald Isle Copper Company** has been announced and the concern is engaged in seeking a more economical method of recovery. So far the company has not employed selective mining methods and it has been reported that the fines contained too much clay, hampering recovery. It is expected that regular mining operations will proceed, as will shipments to the smelter, while the plant is being rehabilitated. The copper mine is located 15 miles north of Kingman in Mohave County, Arizona, and mining has been conducted by both open-pit and underground methods. Emerald Isle Copper Company is headed by Ogden C. Chase, 406 Valley National Bank Building, Tucson, Arizona, and C. F. Weeks, Kingman, is general superintendent. Mine operations have been directed by Ben Jacoby and Jim Depoe, Chloride, contractors at the property.

According to reports, development operations are progressing satisfactorily at the **El Oro** mine and the tunnel is said to have been cleaned out to a depth of 1,200 feet. The El Oro is located in the Chloride, Arizona, district.

Mining and milling operations of the **Squaw Peak Copper Mining Company** have been closed down temporarily pending negotiations for installation of a larger ball mill. The company has been treating production in a small pilot plant, shipping copper and molybdenum concentrates. The property, located in the Squaw Peak mining district of Arizona on the east slope of Squaw Peak in the Black Range, is developed by two tunnels, with crosscuts and a raise in the upper tunnel, and a shaft. Additional development, consisting mainly of a raise, was made possible by a small loan granted some time ago by the Reconstruction Finance Corporation. The operation has been directed by Edison Thacker, Box 446, Camp Verde, Arizona, president of the company.

Ralph R. Langley, Box 1266, Kingman, Arizona, reports that he is putting in a slusher outfit at the **Summit** mine in preparation for several months of steady mining with two crews working at two locations in the mine. Production formerly was shipped to Midvale, Utah, but this spring Langley started shipping to the newly rehabilitated Keystone mill in the same area and reports satisfactory milling results. He shipped a car of concentrates late in May and another early this month. By the first of July, it is expected that a shipping schedule of four cars of concentrates monthly will be maintained. The Summit is located in the Stockton Hill mining district in the Cerbat Range north of Kingman, Mohave County, Arizona. C. D. McGovern, Chloride, Arizona, is in charge of the mining operation under production contract with Langley.

CALIFORNIA

Foster Mines, E. D. Foster, sole trustee, 2641 West Avenue 31, Los Angeles 41, California, is making plans for installation of a 50-ton cyanide plant to replace the present 100-ton crushing mill at the **Glory-Tintic** mine. It is proposed to put the new unit into operation on the higher grade ore as soon as possible, while installations and development for large-scale work are progressing. R. O. Baker, mechanical engineer, has been engaged as resident engineer and will aid in designing the new cyanide plant. He may be addressed in care of the company, Valley Wells, via Nipton, California. The Glory-Tintic is located at Shadow Mountain in San Bernardino County, California.

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.

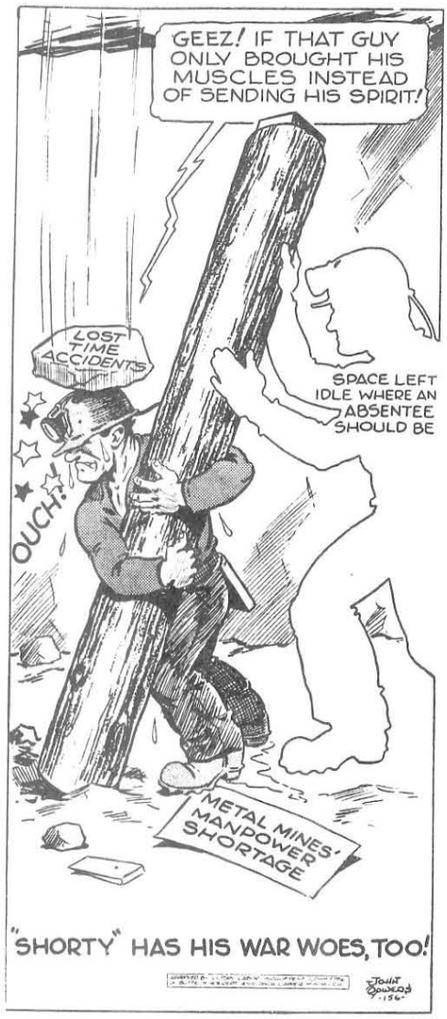
The **Alhambra-Shumway** gold mine will be put into operation again when sufficient manpower and supplies are available. The property is located 3½ miles from Kelsey, Eldorado County, California, and was taken over early this year by W. W. Williams and eastern associates from the Alhambra-Shumway Mines Corporation, which had suspended gold mining because of the gold closing order. Williams, an Oakland, California, mining engineer, may be reached at Kelsey, California.

L. C. Baldwin, engineer for the **Volo Mining Company,** has announced that the firm plans to resume gold operations as soon as an adequate crew is obtained. The company controls gold properties in the Placerville district of California, and the Shaw milling plant in the same district. Regular gold mining was closed down because of the WPB order, and some of the Volo officials later engaged in copper-gold mining under the name of the Pioneer-Lilyama Mines.

A newly installed washing and concentrating plant at the Sonora mine is being put into operation by the **Rand Mining Company,** a partnership headed by I. D. Budd, Randsburg, California. Plant equipment includes a 26-foot trommel screen with a 70-foot stacker, two Lamley rougher jigs, and four Heath-Bodinson jigs for finer concentration. Two tables for clean-up also have been installed. It is reported that the gold and tungsten-bearing material will be moved to the plant with a stiff-leg shovel and six trucks. The concern has arranged for use of the water system of the Yellow Aster Mining and Milling Company of Randsburg. The plant is located at the east end of the Sonora claim, adjoining the Baltic property, in Baltic Gulch near Randsburg. A crew of 10 men is employed at present.

The **Original Sixteen-to-One Mine, Inc.,** reports that its property at Alleghany, California, is in condition for capacity operations. During the ban on gold mining by L-208, milling of gold ore had been continued under special limited production permission of the War Production Board. The company has been engaged in maintenance of equipment and underground workings, and also reports that small-scale development work has exposed substantial ore reserves, which have been blocked out. The Sixteen-to-One property was one of California's largest gold producers before the war and under normal conditions a crew of about 100 was employed regularly. The company is headed by H. U. Maxfield, 1611 Russ Building San Francisco 4, California, and Clayton Bennett, Alleghany, is general superindent.

Figures released recently on production from the **Big Bend** operation of **Hoefling Brothers** indicate that output since the property started producing early in 1943 totals approximately 4,500,000 pounds of zinc; 650,000 pounds of copper; and 65,000 pounds of lead. Hoefling started work on the property in 1942 and the first car of zinc concentrates was shipped June 4, 1943. Ore is treated at the old Surcease 125-ton gold plant, reconverted



Payroll insert, drawn by John Powers and reproduced through the courtesy of Anaconda Copper Mining Company

by Hoefling Brothers for copper-lead-zinc production. Principal mining operations are conducted through the 300-foot shaft. The mine is situated northeast of Oroville in Butte County, California. Allan E. Jones, Box 786, Sacramento, California, is general manager of all Hoefling Brothers operations, and W. E. Messner, Route 1, Oroville, is general superintendent at the Big Bend.

COLORADO

Development work is again under way at the **Silver Wing** mine on Jones Mountain near Eureka and Silverton, Colorado, after a short winter shutdown. The old silver-copper mine was reopened last season by Charles M. Schneider, 2520 Albion Street, Denver, with S. Lawrence Martin of Silverton as manager.

According to reports, the **Shamrock Mining Company** is preparing to start production from the Proper mine of the Stratton Estate at Cripple Creek, Colorado. The company, which is headed by J. Ben Ross, 811 Midland Savings Building, Denver 2, started deadwork last November. Before the gold closing order in October 1942 the mine had been operated by the Alie Bell Mining and Milling Company, producing about two carloads of gold ore daily. This schedule can be resumed as soon as men are available and the mine is fully equipped with electric-powered machinery.

According to reports, a lead-zinc dump operation has been started on the Yak property of the **Resurrection Mining Company** at Leadville, Colorado, by C. V. Hallenbeck and Jay Williams, both of Denver, but now making headquarters at Leadville. Present work consists of sampling the dumps and the equipment being used was designed by Hallenbeck and Williams. It consists of a column of eight-inch casing about 20 feet long, with the digging end dentated, powered by a tractor-trailer unit. The motion is both rotary and forward and after the casing is filled, it is withdrawn and the core expelled by water pressure. The equipment is said to have a vertical range of around 60 feet. The operators have a contract with the U. S. Bureau of Mines.

If results of this season's explorations are favorable, the U. S. Bureau of Mines will start a core drilling program in the old Jewel tunnel in the Monarch district of Chaffee County near Salida, Colorado. Started years ago to check the depth of a lead-zinc vein showing on the surface, the main tunnel was driven, but exploratory work was not completed. The ground now is held by the **Jewel Company,** Frank Gloyd of Salida, agent. Bureau investigations were started last fall, but halted by winter weather.

Pending the completion of some development work and the installation of a ball mill, the **Midnight Mining Company** of Aspen, Colorado, has suspended production. The ball mill is being added to the present rod mill in order to increase the plant's crushing capacity. With the decrease in values, larger quantities of ore will be handled to compensate. L. E. Russell of San Diego, California, is president of the company and Fred T. Willoughby of Aspen is vice-president and general manager. The company holds, besides its Midnight and Highland mines on Richmond Hill, six miles from Aspen, the Hope or Little Annie mines acquired last year and also located in the Aspen district. Present attention is being concentrated on the Midnight-Highland claims.

The **Montezuma-Tam O'Shanter Mines, Inc.,** has been organized with John E. Costello, Box 756, Denver, Colorado, as president. The company will operate the Montezuma-Tam O'Shanter property near Aspen, Colorado, which has been idle in recent years. C. G. Hayes of Aspen will superintend the work.

According to reports, C. J. Lessard, 905 Commerce Building, St. Paul 1, Minnesota, president of the **Colorado Mercury Mines, Inc.,** has leased his company's cinnabar holdings in Cochetopa Canyon, Saguache

GOLD MINING INDUSTRY WAGE RATES REGULATED

REGULATIONS covering wages in the gold mining industry have been announced by J. Glenn Donaldson, chairman of the Nonferrous Metals Commission of the National War Labor Board. The revocation of L-208 permitted gold mines to reopen on July 1.

Donaldson said companies may use wage rate schedules "legally in effect" when gold mining operations were closed down in 1942 by the War Production Board. The term "legally in effect," he explained, contemplates that any increases or decreases in wages made between October 2, 1942, the date wage stabilization went into effect, and the date of suspension of operations may have been approved by the WLB.

"Under the public debt act," Donaldson said, "no job rate shall be lower than the highest rate paid for the same job classification between January 1, 1942, and September 15, 1942." Any change in the rate must have commission approval.

A survey of the industry indicates that some companies still have the right to grant wage increases to meet the rise in living costs. Increases up to 15 per cent above the average of straight-time rates which prevailed January 1, 1941, may be granted by the commission. Companies may apply for adjustments to correct intraplant and interplant inequities. However, employers of fewer than nine persons are exempt from WLB jurisdiction.

Eleven western states come under the jurisdiction of the metals commission—Arizona, Colorado, New Mexico, Wyoming, Utah, Idaho, Montana, Nevada, California, Oregon, and Washington.

SCIENTISTS SEEK MEANS TO REDUCE MAGNESIUM COSTS

NEW and expanded uses must be found for the magnesium now going into American planes, incendiary bombs, and other war materiel if a large part of the industry is to survive after the defeat of Japan, according to Dr. R. R. Sayers, director of the Bureau of Mines. Magnesium is light, strong, and easily machined. Domestic production capacity has reached 293,000 tons annually. The cost, however, will be a major factor when it is used in motor cars and other postwar products.

Bureau of Mines scientists have been assigned to study possibilities of reducing the cost of the metal. Five reports, summarizing a part of their work and disclosing advances in technology, have been released. Four of the papers, grouped and published as a single report of investigation, R. I. 3806, are entitled "Studies in Redistillation of Carbothermic Magnesium" by H. A. Doerner, W. F. Holbrook and others. R. I. 3805, "Electrolysis of Magnesium into Liquid Cathodes from MgO-Carbon Suspensions in Molten Chlorides," was written by Burke Cartright, Lloyd R. Michels, and S. F. Ravitz. Both reports may be obtained by writing to the Bureau of Mines, Department of the Interior, Washington 25, D. C.

WAGE ADJUSTMENTS ORDERED FOR PHELPS DODGE EMPLOYES

MORE than 4,300 employes of the Phelps Dodge Corporation in Arizona are involved in a recent adjustment and simplification of the company's wage structure. The changes were accomplished through tri-lateral negotiations between the company, and the A. F. of L. and C.I.O. unions, who had joined in filing a Form 10 "Voluntary Application for Approval" on April 12.

The application was approved by the nonferrous metals commission of the National War Labor Board on May 12, while the NWLB confirmed the approval on June 6. The average amount of the increase in wages was 3.39 cents per hour, of which 2.46 cents resulted from elimination of all rates of pay below $5.88 and necessary adjustments to rates in the brackets immediately related to common labor rates. The balance of 0.93 cents an hour resulted from correction of interplant and intraplant inequalities.

From the standpoint of simplification, 29 rate-of-pay levels were reduced to 11, and it is reported that with very few exceptions the new rates of pay almost coincide with those of other mining companies in the state. The adjustments involved are all retroactive to March 1, 1945.

Phelps Dodge Corporation maintains headquarters at 40 Wall Street, New York, New York. H. M. Lavender, Douglas, Arizona, is general manager.

KENNETH K. ASH* reveals

Sinister Aspects of the Gold Picture

A proposed plan to increase the price of gold at the close of the war is believed to be the reason for the failure of large gold producers to take an active part in protecting the future of gold as a monetary metal, and for the high rate of transfer in ownership of gold properties.

HISTORY informs us that Nero fiddled while Rome burned. Such a situation is symbolic of the attitude of the gold producer of today toward the destructive flames of managed currency, but be it said to Nero's credit, he at least fiddled while being carried to destruction, while the producer of gold seemingly is content to reach the same catastrophic end in the arms of Morpheus.

This god of dreams about the invincibility of gold exerts a pernicious effect on all, large and small, who produce gold; an effect that even threatened disaster to the future of gold cannot dissipate. We have searched long and arduously for another theory that would satisfactorily account for the gold producers' immutable attitude toward gold in face of the present dire threat of a printing press money, but without success. Therefore, we are forced to the conclusion that the dream about gold's being invincible is the basic reason, for this dream begets undue pride, self-interest and independence, which traits are, as we have so often stated, the real reason for the perilous position of gold today.

That the smaller producer of gold might be lured into a comatose state by the supposed invincibility of gold is understandable, but for the larger producers, with millions of dollars invested in the industry, to sit idly by under the influence of the supposed indomitable position of gold, and allow the rising tide of managed currency to engulf them without an effort being made to stem the tide, creates a situation that is at once so strange and unreal that it defies comprehension. Logic dictates that this type of gold producer would not remain passive and rely entirely on the invincibility of gold to save his investment and assure the future of gold.

But, failing to find a satisfactory reason, other than the supposed impregnable position of gold, to account for the inactivity of the gold producer to protect his interests, further efforts along this line were abandoned. Nevertheless the thought persisted that there might be, yes must be, another theory or reason. Then lo and behold, right out of the blue and as if in answer to our prayer, the following report from a thoroughly reliable source came direct to us; the report follows:

"I understand on very good authority that before President Roosevelt's death certain managers of the New Deal discussed the question of raising the price of gold to $70 an ounce after the wars are over. The source of my information is the head of one of our largest American corporations who was called in to discuss the matter. He came away convinced that such a move was seriously contemplated."

If the facts in the case are as represented, and we believe that they are, the proposed plan to increase the price of gold was probably known to a few large gold producers, and this knowledge accounts for the lack of initiative on the part of these producers to make any move to protect their interests.

With the present adverse propaganda about gold, this inside information created an ideal situation for these producers, for it enabled them to acquire gold properties at a most opportune time. Evidently they are making the most of the opportunity, as witness the activity in change of ownership of gold mining properties, and the high level maintained by stocks in substantial gold mining companies. Surely, the present external gloomy prospect for gold does not warrant the current activity; only inside information favorable to the future of gold could account for the interest now being manifested.

The attack by Marriner Eccles on gold; the publicity on behalf of managed currency; the gold mine closing order, L-208; and the propaganda to close down all metal mining in this country seem incongruous with the report previously quoted; yet, they could be closely related. Who knows, but all the adverse propaganda about gold and metal mining in this country might not be all one integral part of a gigantic and sinister plot to so discourage the small mine operator that he would throw up the sponge in despair and disgust, with the idea that eventually all metal mining in our country would be in the hands of a few big operators.

We have only to remember that the many flagrant attacks, both open and underhanded, made on the metal miner, may have, as indicated by the above quoted report, the ulterior purpose of putting all metal mining in possession of a handful. Thereby the government, for various reasons, would be enabled to better control the metal mining industry of the country. Our assumptions in this respect assume very concrete proportions when all the evidence of the past is given thoughtful consideration.

*Secretary, The $120 Gold Club, Yreka, California.

CUBAN INDUSTRY PROVIDES U. S. WITH VALUABLE NICKEL

THE Nicaro Nickel plant, located on the remote Lengua de Pajara peninsula in northeastern Cuba, will provide 27,500,000 pounds of urgently needed nickel for the United States war industry this year. The plant was only a blue-print in the drafting rooms of the Freeport Sulphur Company two years ago. Now it is a thriving industry, with some of the largest and most modern equipment in the world, and employs 1,800 Cuban workers.

As the United States nickel problem became more acute, engineers of the Freeport company turned to the hills back of the Nicaro community. They knew that the ore there was low-grade, but they perfected their process and developed ways of obtaining the valuable metal in paying quantities from ore that assayed only 1.5 per cent.

The Defense Plant Corporation contracted with Nicaro Nickel, a subsidiary of Freeport Sulphur, to build the plant. The United States was combed for construction material, which was shipped from Florida ports through the U-boat infested Caribbean sea.

Now the $33,500,000 plant is the largest industrial unit in Cuba. The ore-reducing building, which rises 10 stories in height, has the world's largest furnaces. Nicaro treats 3,600 tons of ore daily, all of which goes to the Metals Reserve Company. The finished product is used as an alloy for the hardening of steel and other metals used in armament ordnance. The metal is also an ingredient for jet-propulsion airplane motors requiring a high heat-resistant metal.

LOS ANGELES GROUP ENDORSES PROPOSED STOCKPILE PROGRAM

TO guard against this country's again being trapped in a strategic materials emergency as was the case at the start of the war, the board of directors of the Los Angeles Chamber of Commerce has endorsed and recommended passage of House Bill 2624 and Senate Bill 752, which provide for stockpiling of critical metals and other materials.

In making this announcement, LeRoy M. Edwards, president, said copies of the resolution will be forwarded to the Washington office of the chamber for delivery to members of Congress, the War and Navy departments, and various governmental bureaus.

The bills, which are identical, provide for acquirement by the government of additional strategic and critical materials to build up stockpiles to minimum requirements as defined in the report by the Army and Navy Munitions Board, such purchases to be made at prices not exceeding the current market point.

Action of the board was taken on recommendation of G. A. Joslin, chairman of its mining committee. In presenting his report, Joslin said, "When World War II caught up with us, it was found this country was lacking in many minerals. The tremendous cost of our unpreparedness in dollars and lives cannot be counted."

promoter. I admit it. I have an option on a property recommended by a good mining engineer, but before I go any farther I wish to have it checked. I have come to you as I am told you are conservative."

I found his property better, if anything, than represented, so he went ahead with his financing. Promotion of this type is of benefit to the industry and to the community.

Let me reiterate—promotion is not mining. If legitimate mining did not offer the opportunities that it does the industry would not be used as a stalking horse by those seeking to take advantage of the gullible. It is the healthy dog that attracts the fleas.

CALIFORNIA DOLOMITE OUTPUT IN 1944 REPORTED

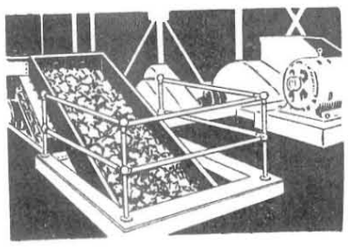
THE output of dolomite in California during 1944 totaled 217,018 net tons, valued at $619,425, according to an announcement by the California Division of Mines. The 1944 value of dolomite production is the largest ever recorded in the state, and compares with the 1943 output of 331,251 tons, worth $472,756.

All production came from two properties in Monterey County and from one each in San Benito and Tuolumne counties. The Monterey dolomite producers were the Bethlehem Steel Company's Sterling Ranch Quarry and the Permanente Metals Corporation, both located at Natividad, California. The other two producers were Archie E. Hamilton, Hollister, California, and the U. S. Lime Products Corporation of San Francisco, which operates at Sonora, California.

Most of the dolomite produced during the year was burnt to lime for use in the production of magnesia from sea water, to be used in turn in the reduction to magnesium metal and in magnesium refractories. Some of the raw dolomite also was used for steel-furnace flux and refractories, stucco dash, terrazzo and roofing granules, kalsomine, poultry grit, in the manufacture of mineral wool, and carbon dioxide.

NEW MEXICO COMPANIES PLAN TO DRIVE DEEP TUNNEL

IN association with several other large firms, the Lehigh Metals Company has announced plans for driving a deep transportation and drainings tunnel at its property in the Mogollon district of New Mexico. The company owns 49 patented mining claims, comprising 708 acres, which include the Fanney, Andrew Jackson-Consolidated, Johnson, Maud S, Cooney, and



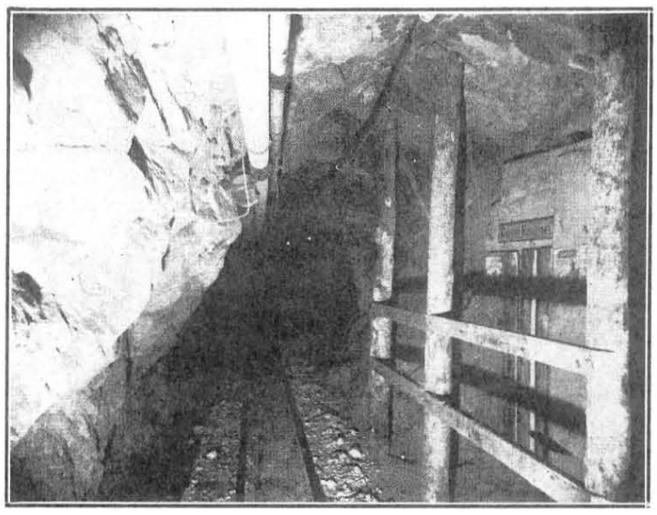
others. There are said to be more than 82,000 feet of workings and the mines have a production record of 1,414,000 tons of ore with a gross value of $15,330,000. Principal values are in gold and silver, but the old Cooney property contains some copper. All of the mines are closed down at the present time.

Lehigh Metals is a Pennsylvania concern and Eugene Schimpff is president and John A. Hart, secretary-treasurer, both residing at Scranton. William J. Weatherby, Mogollon, New Mexico, is resident manager.

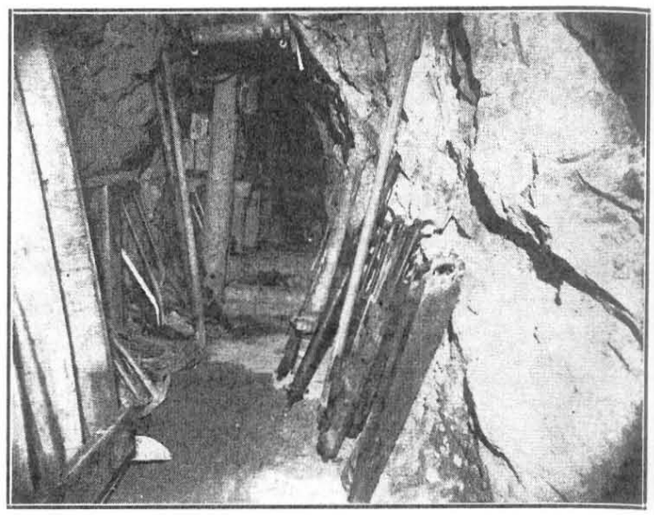
MONTANA HIGH COURT RULES DUMP NOT LIABLE TO MINE TAX

AGAIN the question of mine and dump within the meaning of the statutes governing mine taxation has come up in Montana and it was the unanimous opinion of the Montana Supreme Court that a dump is not a mine and therefore is not liable to the net proceeds tax on mines.

The case was that of L. D. Forsman against Beaverhead County. The Greenwood tailings dump, which is situated adjacent to a mine in Beaverhead County, has been in existence many years. Recently it was worked and certain minerals taken from it. Then the controversy arose as to whether the proceeds were subject to the net proceeds tax on mines. The state supreme court affirmed the opinion of the district court, drawing a distinction between mine and dump, and stating the latter is not subject to net proceeds tax on mines.



Underground fuse-house installation. Guard rails keep workmen from stepping directly from the fuse-house onto the track.



Interior of an underground tool locker. Powder boxes on bench in background contain material for repairing the fan bag.

until the timber is used, and any failure of delivery should be followed up and corrected."

CAR service means cars provided for removal of ore which the miners produce and also for transportation of waste for filling to replace the ore extracted. To supply adequate car service the operating staff at a mine lays out a definite tramming plan for each level, with consideration given to the number of places to service, number of cars, number of motors, track grades, and length of trains. Much emphasis has been placed on the tracks and the necessity of keeping them in good order. Forty-pound rails are standard for big car haulage with 3/16-inch grade per 5 feet in favor of the load. No curves can have less than an 18-foot radius. Large self-dumping cars have largely replaced the small cars that required hand dumping. Each large car holds almost five times as much ore as the small car. All sill plans of the present involve tail track layouts along with the regular haulage track; the tail tracks must be installed beyond loading or dumping chutes for a distance equal to the length of train pulled in that area.

Turnouts or double track must be used at least every 200 feet when driving headings so that there will be a minimum amount of delay in switching empties and loads. Safety zones are provided along haulage ways where persons may stand while trains are passing. If a person happens to be outside of a zone a train must stop until the person passes the train. The present practice is to dump all loads before the end of the shift and set up the oncoming shift with cars where they will be needed. Each boss leaves a note to his partner as to the car situation, disposition, chutes needing attention first, etc., so that he may be able to line up the service for his oncoming men.

TOOL service is just as important as timber service or car service, for a worker needs tools to work with. The present tool service system starts on the surface in the mine-yard warehouse. From there tool nippers route the tools in special crates to the various underground stations. From the underground stations the tools are routed to tool lockers, which are located according to the same kind of a plan as the underground timber stations. The tool lockers usually consist of two parts, an unlocked outer part where the drill steel, track and pipe material, and spikes are stored, and an inner locked room, where machines, rubber hose, and hand tools are kept. There is an attendant at the large stations, but where there is no attendant there is a notice posted as to the whereabouts of the person having the key.

A stock list of what constitutes a fully stocked locker is permanently posted inside each locker. This list is checked at the end of the night shift and any shortage from this stock list is considered as current and replaced immediately. In order to keep a sufficient supply of tools in the locker at all times, a form sheet is used, one side for listing tools issued and returned, and the other side for listing shortages under type of tool and working place. This is the standard form for recording tool and equipment issues and shortages in working places. This form must be filled out by the locker attendant or shift boss on night shift so it may be turned over to the boss nipper and items replaced the first thing on the following morning. This enables the tool-house attendants and nippers to take care of shortages immediately.

A miner can obtain any tool by applying to the tool-house attendant. He is requested to return the broken or dull tool, but in case he does not have it he is not refused a new one. Miners are urged to keep their small tools in a box in the working place to avoid loss of the tools or delays while looking for them on the following shift. Dull tools and equipment not turned in at the tool lockers are picked up by the nippers. All tools sent to the surface for reconditioning are packed in the special crates used for lowering sharp tools. The man who takes care of the tool locker generally issues the powder in conjunction with the shift boss.

The powder houses are fireproof, air-vented, and equipped with water-spray installations. They are always locked, except when powder is being issued. Powder is brought underground and to the magazines in special wool-lined powder trucks. The powder remaining in the magazine is moved to the front and the new powder stored behind so that no powder will become old and unreliable. The cap and fuse primers are made up in the primer house on surface. The ends are tipped with white paint, which indicates that they are full length up to the time they are cut for rotation. The primers are sent underground in wood boxes and taken to the underground primer stations, where they are hung on pegs with a sign denoting the lengths. The primer houses are dry, air-vented, and kept locked except when opened by the proper man at powder-issuing time.

This is the Anaconda service system as it is now. It is not perfect, but it is good. How well it works depends on cooperation between workers and supervisors. The first miner, who did all the jobs himself, did not get any cooperation except what he gave himself, but as industry grew—and grows—greater specialization is attained, and greater cooperation is required.

ANACONDA ACQUIRES DARWIN LEAD MINES IN CALIFORNIA

THE Darwin Mines Company's holdings near Darwin, California, have been acquired by the Anaconda Copper Mining Company and transfer of the property is scheduled for August 1. The property, which comprises some 2,000 acres, includes the Darwin mine, with principal values in lead, zinc, and silver, and the 125-ton flotation plant.

The company has been treating approximately 117 tons daily and has been employing a crew of 100 men. Operations have been under the direction of Arthur J. Theis, Darwin, trustee. D. M. Kelly of Butte, Montana, is vice-president in charge of western operations for Anaconda.

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make a record for speed at the expense of the accuracy of the information obtained.

Time and money may sometimes be saved by a combination of "man-size" underground openings and diamond drilling. A shaft or a crosscut will penetrate parts of a deposit that would otherwise be accessible only by long holes that would intersect the deposit at oblique angles.

In some cases enough information will be derived from drilling to permit development and mining to proceed without further exploration of the deposit. This applies particularly where the treatment method is established and where mining is to be by open pit. If the treatment method is not established, a necessary part of the exploration of the deposit is to take bulk samples representative of the ore and to determine in the laboratory or pilot plant how the ore can be beneficiated. If the deposit is to be mined by underground methods and there is any doubt as to the strength of the walls or the volume of water that must be handled, or if the grade of ore is not sufficiently well established, drilling should be followed by "man-size" underground exploration that will provide the lacking information. It may be desirable to mine some of the ore experimentally to see how the walls stand.

There is no best method of exploring all mineral deposits, but there is usually a best method or combination of methods to explore any given deposit. Although it may seem paradoxical, the same factors of size, shape, attitude, hardness, water content, character of wall rock, and distribution of values that are to be determined by exploration are those that guide the selection of method. A thorough preliminary examination by an engineer cognizant of the problems to be solved and familiar with the methods and equipment available will point the way to the most expedient procedure.

AS THE higher-grade and more easily accessible deposits are depleted, two trends in mining, and consequently in exploration, are developing. The first is the result of the necessity to gather up the comparatively high-grade "crumbs" of ore left in small and out-of-the-way deposits. The second is toward exploration and utilization of large but lower-grade or more deeply situated deposits.

Because the stakes are small, few deposits in the first category will be able to stand the expense of elaborate exploration campaigns. The decision of whether they are worth exploiting will be made on the basis of surface exploration, with a minimum of preliminary third dimensional information. If considerable exploration of this type is undertaken, many ingenious combinations of portable equipment may be developed.

A four-wheel drive truck, similar to some of the present army equipment, could have mounted on it a small compressor and a winch that could be used for hoisting or to run a drag-line scraper for trenching. The scraper could also be used for mucking exploratory adits or inclines. In country requiring much trail building, another type of outfit could be built around a tractor as the prime mover. The tractor would, of course, be equipped with a bulldozer blade. A compressor winch, even a small diamond drill for obtaining third dimensional information, could be mounted on a trailer that would be pulled by the tractor. A power take-off would permit running a small crusher, perhaps some simple washing equipment. It seems unlikely that exploration of the small, inaccessible deposits will become much more refined than at present. More portable equipment will be available, however, and may be combined into compact, general-purpose outfits that would be useful for whatever type of exploration might be required. Such outfits could perhaps be pressed into service to mine out small deposits. If attended by an auxiliary "jeep" for transportation of fuel and supplies, they would be quite versatile.

As lower-grade or deeper deposits are considered for exploitation, mining costs per unit of valuable mineral will rise, and the margin of profit will become slimmer, assuming constant prices. In dealing with deposits whose chance for exploitation depends upon a large capital outlay, skillful management, and recovery of low values, where the possible margin of profit is very small, the maximum amount of preliminary information will be required. Not only will the amount of exploration be increased, but the ultimate in information will be obtained from the openings made and from the samples taken. Particularly for deep underground mines, faults and fissures in the wall rock near the deposit will assume added importance in determining the feasibility of mining. In deeper mines the strength and elasticity of the wall rock may control its supportability to some extent. These and other measurable physical properties may influence the drillability and breaking qualities of the rock and of the ore.

The Bureau of Mines has begun a series of tests on drill cores from operating mines to determine strength, elasticity, abrasiveness, and other physical properties and to correlate them if possible with mining methods that are in use or could possibly be used. If such correlations could be established, the information obtainable from drill cores would be increased considerably.

Although there undoubtedly will be many refinements in equipment for making "man-size" and drill-hole openings for the exploration of mineral deposits, the fundamental types of equipment now in use probably will continue to be employed for a long time. A greater advance may be made in the amount of information gleaned from the openings.

THIS is not the place to discuss geophysical methods, but as more sensitive, accurate methods are developed, drilling holes to determine the size, shape, and exact location of mineral deposits may be minimized. Geophysics probably will be used as another tool in the exploration of deposits in addition to its present role in the exploration for deposits. Drill holes and other openings for extracting samples will continue to be needed, but the targets may be more precisely determined in advance.

As the geophysicists acquire added skills in detecting "blind" deposits, it will be necessary to hit comparatively small targets at greater depth with drills. Much is known about anticipating and controlling the direction and inclination of drill holes, but more will be learned. Further advances will be made in the surveying of drill holes.

IN the exploitation of the "crumbs" of higher-grade ore and large but lower-grade or deeper deposits, it will be necessary for the engineer in charge of exploration to consider other things besides the techniques of making openings and of obtaining information from the samples. All possible advantages in local markets will have to be investigated. It cannot be considered as necessarily fixed that the concentrate specifications of a distant, existing reduction plant must be met. The existing industries based on domestic raw materials did not develop as a result of trying to supply a foreign market. The copper industry in the United States would not have developed if we had continued to ship western ore to Swansea, Wales, as was done in the early days.

Because of the present size and solidarity of certain parts of the mineral industry, we are prone to consider that the only chance of successful exploitation of a mineral deposit is to supply a product that meets fixed specifications. We forget that those specifications were originally fixed to meet the characteristics of available raw materials. Because the product of a deposit cannot meet the fixed specifications is not sufficient reason to give up. Combining a mineral with complementary industrial raw materials as close as possible to its source should be considered. If a market for the product that would result does not exist, perhaps one can be created.

The stone age man who first smelted iron ore probably did not do it to satisfy an existing need. It is likely that after he had accidently obtained the iron he thought of a way to use it.

Mining is, of course, only one part of the mineral industry pattern, but it deals with the only part of the pattern that is necessarily fixed—the mineral raw materials. Fixed, not in the sense that we must continue to use the same raw materials, but fixed in the sense that we cannot change the manner in which they occur in nature. All the techniques of mining, ore dressing,

(*Continued on page 34*)

1 Jackson, C. F., and Knaebel, J. B., Sampling and Estimation of Ore Deposits: Bureau of Mines Bull. 356, 1934, p. 3.

2. Prommel, H. W. C., Sampling and Testing of a Gold-Scheelite Placer Deposit in the Mojave Desert, Kern and San Bernardino Counties, Calif.: Bureau of Mines Inf. Circ. 6960, 1937, 18 pp.

3. Dupuy, Leon W., Power-Driven Auger Drill Cuts Exploration Costs: Eng. and Min. Jour., vol. 145, December, 1944, pp. 98 and 99.

4. Bureau of Mines, "Thompson Magnesium Well, Grand County, Utah: War Minerals Rep. 12, 1942, 39 pp.

5. Dupuy, Leon W., Sampling the Picacho with Drill and Vacuum Collector: Eng. and Min. Jour., vol. 141, 1940, pp. 29-31.

wherein a complete pumping plant was set up 600 feet underground, was installed to provide water for the mine and recovery plant.

When General Greenway died in 1925, Curley became the executive manager of the New Cornelia property and operated it until his retirement December 31, 1939. He was instrumental in working out plans for development of the town of Ajo as the camp grew, and, as a result, it has become a model mining community.

Curley also sponsored a number of community enterprises and was actively interested in social work. When employment dropped with the decline of copper prices during the depression, welfare organizations came under his supervision and, when emergency aid was organized in Arizona, Curley was a member of the first state board to administer assistance. He also was a member of the first Pima County Welfare Board.

TWO CALIFORNIA COUNTIES ADOPT RESOILING MEASURES

THE board of supervisors of El Dorado County, California, has passed an ordinance regulating dredged land in that county. The measure, which will become effective August 4, 1945, is similar to one recently adopted by the board of supervisors of Stanislaus County. It was presented to the board by State Senator H. E. Dillinger and embodies the principal points of his defeated senate bill.

Under the terms of the ordinance, dredge operators will be required to resoil and level dredged areas except where, in the opinion of the board, the present or probable future agricultural, scenic, or historic value of the land involved does not justify such operation. Stream bed operations are exempt provided the dredging does not result in diversion of the flow in such a manner as to damage property.

Applications for exemption must be made in writing and will be heard not less than 30 days later at a public session of the supervisors. Violations constitute a misdemeanor punishable by a fine not to exceed $500, by a maximum county jail sentence of six months, or by both.

ARIZONA SALES TAX SUIT IS TAKEN UNDER ADVISEMENT

SUIT of the Arizona State Tax Commission against the trustee of the Iron King Mining Company for $2,386.67 in sales taxes has been taken under advisement by Judge W. E. Patterson of the Yavapai County Superior Court. Attorneys were given 30 days in which to file briefs.

The mine produces a composite ore of silver, gold, copper, lead, and zinc, but the state supreme court has held that gold and silver are not taxable. The issue, therefore, is whether the company can charge freight and smelter fees against the taxable metals or whether gold and silver should be made to pay their share of the costs. The sales tax is collected on the net from copper, lead, and zinc.

It is the first case of its kind to be tried in the Arizona courts and is being watched with considerable interest by mining men.

REQUIREMENTS FOR OBTAINING EXTRA RATIONS FOR MINERS

DETAILS of the plan by which extra food rations may be obtained by miners have been issued by the Office of Price Administration. The plan, which is already in effect in the San Francisco and Denver areas, will be expanded during the first week in August to apply everywhere. It provides for an additional monthly maximum of 50 meat-fat ration points and one pound of sugar per man.

Eligible miners (that is, miners who are not served by in-plant feeding establishments) will not apply directly. Instead, application will be made for them by one of the following: (1) the transportation committee at the mine, which certifies mileage rations; (2) the joint management-labor production committee; (3) the local union mine committee; (4) the superintendent in charge and two employe representatives. The committee will certify that each miner listed on the application is eligible for the supplemental rations, and will show the number of days during the month that each miner will work.

The plan is directed at carrying out the findings by the National Research Council, on behalf of the War Food Administration, that the heavy, muscular work done by miners calls for an unusually high intake of calories.

In discussing the plan Administrator Chester Bowles of the OPA said:

"For some time government agencies have been working to determine the food needs of different classes of industrial workers and to learn whether some workers might need extra rationed foods to keep them in good health under the strain of heavy muscular labor day after day.

"The War Food Administration obtained the aid of the National Research Council in determining what groups of industrial workers definitely need a lot more calories each day than people doing work that is only moderately active. Those included are loggers, miners, foundry workers, longshoremen and stevedores, heavy-construction workers, deep-sea fishermen and seamen on inland waterways, all requiring substantially more calories per day than the average worker.

"Loggers, who were at the top of the list, were provided for early in 1944. Additional ration buying power was made available to in-plant feeding places serving loggers while on the job. Before plans were completed for making additional rationed foods available to miners and other workers in the same category, however, meat rationing was eased substantially, and it became unnecessary to take this further step.

"Now, with increasing tightness of rationed food supplies, it has become imperative that we provide miners and other heavy industrial workers in the same class with more rationed foods than their ration books will provide.

"OPA has always believed that the only practicable way to provide supplemental rations to workers was through in-plant feeding places, such as canteens and cafeterias. It was felt that it would be almost an impossible task to issue supplemental rations individually to all of the people doing heavy industrial work.

"The in-plant feeding method of providing extra rations, however, will not take care of the miners adequately. After many discussions with representatives of coal and ore mining groups, we have been compelled to conclude that in spite of these administrative difficulties rations must be issued to individual miners if they are to get enough food each day to keep them fit for their heavy work. There aren't enough canteens and other in-plant feeding places to do the job."

LEADVILLE TUNNEL PROJECT IS DEFEATED BY HOUSE

THE Leadville tunnel project at Leadville, Colorado, received a serious setback when the $485,000 appropriation was eliminated from the Interior Department appropriation bill. Approved by the Senate and by the Senate appropriation committee, the appropriation was refused by the House and by the House members of the conference committee. Senators Johnson and Millikin and Representative Rockwell are now trying to get the project included in a deficiency appropriation bill.

In the meantime, mining men of Colorado, particularly those with interests in the Leadville area, are urging the Bureau of Mines not to dismantle the equipment because that would prejudice all further efforts on behalf of the project. John Hamm, president of the Lake County Mining Association, stated that if work was stopped now, the Leadville tunnel would be just a dead-end hole and that no benefits would have been realized from the expenditures already made.

As originally planned, the tunnel with two laterals was to be about 17,000 feet long, extending to the old Pyrenees mine shaft, the laterals to reach the Tucson mine on Iron Hill and the Penrose mine in the Downtown district. The bore itself would be 11,326 feet in length and the laterals would total 5,856 feet. The present heading is in the Fryer Hill district and the requested $485,000 would take it beyond the Hayden shaft on Stray Horse ridge, approximately 2,500 feet. The tunnel now is draining between 3,000 and 4,000 gallons of water a minute, which is the normal flow of the region, so that as it stands now it is doing nothing to lower the water level in any of the mines. The completed project would unwater 84 principal mines and over 700 claims and small workings in the area.

Of the original $1,400,000 appropriation, about $112,000 remains, which is enough to gunnite the part of the tunnel which has been driven. The tunnel itself is not quite half finished, although it was scheduled for completion by mid-1945. Soft ground, underground water, and the lack of manpower hampered the work, which was started in December of 1943. The U. S. Bureau of Mines is directing the work, which is being done under contract by the Stiers Brothers Construction Company with John Austin in direct charge.

Mill Heads from the Western States

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

ARIZONA

The **Phelps Dodge Corporation** has declared a dividend of 40 cents a share, payable September 10, 1945, to stockholders of record August 17, 1945. The company paid a similar dividend in June. Head offices for Phelps Dodge, which operates in Arizona and Mexico, are located at 40 Wall Street, New York. Louis S. Cates is president and H. M. Lavender, Douglas, Arizona, is general manager.

The Reconstruction Finance Corporation has announced that it will consider offers to buy or lease the **Pine Top** asbestos mine and processing plant near Globe, Arizona. Detailed information may be obtained through the Los Angeles office of the RFC in the Pacific Mutual Building. The plant is located on a nine-acre tract on U. S. Highway 70, about one mile east of Globe. It was closed down by government order last fall, just before construction was completed, because of the decline in demand for long-fiber asbestos. The unit would have operated at the rate of 25 tons daily, and the material from near-by mines and the Pine Top property would have averaged about 40 per cent high-grade asbestos. The Pine Top project was operated by the Southwestern Asbestos Corporation which was incorporated in December of 1943.

Frank Licano and associates of Globe, Arizona, have started a new mining operation at the **Dos Amigos** property, 12 miles south of Coolidge, Arizona. Three men are employed at present. The Dos Amigos is a silver-lead prospect, and when regular operations are under way ore will be trucked to the rail station at Bylas for shipment to El Paso, Texas. However, that distance may be shortened considerably if it is possible to have an access road constructed to the property.

Western Gold Mines, Inc., which has been engaged in expansion of its selective flotation mill at Crown King, Arizona, is ready to start milling operations as soon as sufficient manpower is available. The company controls several properties in the Crown King district of Arizona, including the Wildflower, Tiger, Crown King, Burro, and North End mines, and also holds several mining properties in Colorado and Montana. When regular operations begin it is planned to handle 200 tons of dump ore and 60 tons of mine ore daily. Silas P. Silverman, president and general manager, 52 William Street, New York 5, New York, is remaining at the property until production is well under way. Paul B. Davis is general superintendent; Harris B. Salisbury, mill superintendent; and Pat Roscoe, mine superintendent.

Dempsey Powell, Aguila, Arizona, is starting gold mining operations at his **Powell** mine. The property is situated some nine miles southwest of Aguila and has been idle since the war because of the WPB gold closing order. The mine was a small-scale shipper of from $18 to $22 gold ore, mined from a five-foot vein. Two men are employed at present.

V. O. Welch, Box 1884, Parker, Arizona, is ready to start copper-gold mining operations at the **Billy Mack** mine northeast of Parker. All necessary machinery and equipment, including a compressor, hoist, and drills, have been moved in to the property. Welch also may be addressed at Box 1205, Phoenix, Arizona.

Arthur R. Brashear, Cleator, Arizona, is continuing shaft sinking work as part of the general development program at the **Mineral Hill** mine. The mine is a lead prospect and also carries some zinc and copper values. It is reported that the Calari Mining Company, Leonard F. Albrecht, Kress Building, Long Beach 2, California, president, is interested in taking over the property if present investigations prove satisfactory. The Mineral Hill mine is located in the Black Canyon district of Yavapai County, Arizona.

It is reported that the **Liberty Hill Gold Mines, Ltd.**, has secured a lease on the **Blue Bell** copper mine from the Southwest Metals Company, Ford Building, Detroit, Michigan. The property is located near Mayer in the Big Bug district of Yavapai County, Arizona, and formerly was under lease to E. J. Bumsted, Mayer. Bumsted operated the Blue Bell in 1943, shortly after it was acquired by the Southwest Metals firm. It is understood that the Liberty Hill concern has taken over the machinery installed by Bumsted, and will start operations as soon as premium transfer arrangements are made. R. P. M. Davis, 2426 Hollyridge Drive, Hollywood 28, California, is president of Liberty Hill Gold Mines and L. L. Farnham, Mayer, is general manager.

CALIFORNIA

William C. Thompson of San Fernando, California, has purchased the old **Saddle Rock** gold property at Skidoo from Helene West. The property consists of five patented claims and assays are said to have shown values of $30 per ton in gold with some high-grade streaks. Thompson, earlier this year, acquired the **Shorty Harris** gold and tungsten property in the Gold Belt mining district. The Harris property has never been developed, due mainly to a lack of roads, but the ground now is accessible and development work is expected to begin in the near future. Considerable machinery already has been purchased for the program.

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 **Gray Eagle Copper Company**, which has operated the Gray Eagle mine at Happy Camp, California, since 1942, has ceased all mining and a crew of men is dismantling all equipment and machinery. Robert J. Hendricks has been general manager for the company at Happy Camp. Gray Eagle Copper Company is 99.9 per cent owned by the Newmont Mining Corporation.

An order has been placed with the U. S. Employment Service by the **Keystone Copper Corporation**, Otto E. Schiffner, president, Nevada City, California, for 10 miners to assist the present force in cleaning up the Keystone mine, Copperopolis, California, preparatory to closing about August 1. The men are offered $7.50 a day, room and board, and transportation both ways from Grass Valley to the mine, provided they sign a contract to remain until the job is done. The Keystone property has been operated by the **Lava Cap Gold Mining Corporation**, Nevada City, under the name of the Keystone Copper Corporation and was taken over following the shutdown of gold mines under the government order. Low-grade material and expiration of its contract are cited by the company as reasons for the closing. Some 5,000 tons of copper were produced during the 2½-year period of operation. Rented materials are being returned to owners and the remainder of the equipment will be salvaged by Lava Cap. Schiffner, general manager of Lava Cap, which employed 250 men in its peak years, has stated that the reopening of the gold property will depend altogether on economic conditions. The mine, now filled with water, carries low-grade ore and can be operated only when materials and wages are comparatively low.

It is understood that the **U. S. Vanadium Corporation** is preparing to reopen its Pine Creek tungsten milling plant near Bishop, California, during July. The plant was closed down early in January because of an insufficient tonnage of custom ore, and considerable repair work has been under way. A rotary calcining unit has been installed to facilitate scheelite nodulizing for smelting, and in the mine ore drilling and an extensive development program are planned. R. W. Sullivan of Boulder, Colorado, has started work on a 4,000-foot contract tunnel job for the company also. The new tunnel project is a continuation of the tunnel driven some time ago by the Morrison-Knudsen Company of Los Angeles, and is expected to be completed by January 1, 1946. It will terminate directly beneath U. S. Vanadium's present mine workings and a shaft will connect with the main operation. Ore will be sent through the new

tunnel, which comes out halfway between the present mine site and the mill, eliminating a difficult winter snow condition which has hampered operations in the past. Sullivan, formerly with U. S. Vanadium at Rifle, Colorado, plans to use a crew of 18 men, working two shifts daily on the tunnel project. Operations at the Pine Creek unit are directed by M. N. Shaw of Bishop, general superintendent. John R. Van Fleet, 30 East Forty-second Street, New York 17, New York, is president of the company.

The **Transierra Gold Mining Company,** W. A. Hayes, president and general manager, 1900 Leimert Boulevard, Oakland, California, is installing equipment at its North Star property near Tuolumne, California, in preparation for resumption of gold mining operations. The mine workings include a 360-foot shaft and several hundred feet of drifts on the footwall ledge. Satisfactory ore was encountered when the main Lombardo tunnel was reconditioned last year. J. B. Sivori, Tuolumne, is superintendent. Transierra, which also controls the Laura claims in the same district, formerly was known as the Belmont Osborn Gold Mining Corporation.

Resumption of gold mining operations is planned by the **Harvard Gold Mining Company** as soon as manpower and materials are available. The property, formerly one of the leading producers on the Mother Lode, is located near Jamestown, California. P. R. Bradley, Jr., Jamestown, is general manager.

W. H. Price, Box 637, Yreka, California, is reported to have encountered a promising gold ledge in the **Price** mine, which is about 14 miles west of Yreka. It is believed that the main ledge has been cut, toward which he has been driving for three years. Assays indicate around $40 a ton and the ledge, with foot and hanging wall, covers about eight feet. The tunnel was started in 1942 but because of labor shortages the work has been slow. Several months ago Price purchased milling equipment and has done some preliminary work on the millsite near Humbug Creek. Work on both the mill and the mine will proceed as rapidly as possible. Price controls, by lease and ownership, 1,400 acres in a strip more than a mile long between the Eliza and Boyle mines. The property will be operated by the **Price Mining Corporation.**

John A. Hassell and associates are reported to be planning immediate operation of the **Gold Ribbon** mine near Coarsegold, Madera County, California. The main ledge is reported to be more than four feet wide with ore of milling grade. The property is equipped with an amalgamation-gravity-concentration plant.

The **Pacific Mining Company,** P. R. Bradley, Jr., president and general manager, Jamestown, California, is reported to be preparing its Pine Tree, Josephine, and Jenny Lind properties for resumption of operations as soon as manpower and materials are available. The company has been engaged in copper mining activities during the gold mine shutdown.

COME AND GET IT!

It has been said that if all of the miners who ate in boarding houses were put side by side, they would reach around the world. Variance in boarding house slang is the rule, but every miner should be familiar with part of the following list on the right. See if you can match the left and right columns. The better your score, the more your need for a wife.

1. soup	A—sand
2. mayonnaise	B—sinkers
3. butter	C—tailings
4. syrup	D—dull tools
5. eggs	E—high grade
6. stew	F—lubricant
7. sugar	G—fuse
8. teaspoon	H—double jack
9. tablespoon	I—gaskets
10. bread	J—slum-gullion
11. jello	K—murphies
12. doughnuts	L—zip
13. tapioca	M—punk
14. milk	N—gold fish
15. cream	O—fish eyes
16. pancakes	P—hen fruit
17. salmon	Q—low grade
18. potatoes	R—tomato gravy
19. spaghetti	S—nervous prostration
20. dirty dishes	T—single jack

Answers to Questions Will Be Found on Page 24

The **Bradley Mining Company** was able to resume mining operations during the latter part of June at the **Reed** quicksilver mine, but additional miners still are needed. The property is located in the Knoxville district of Yolo County, California, some 25 miles north of Monticello. It is owned by the Bradley concern, which acquired it in 1939. General superintendent at the Reed quick property is Charles T. Boyd, Monticello. The company is headed by Worthen Bradley, 425 Crocker Building, San Francisco 4, California.

Small-scale mining operations on a 24-hour daily basis are being conducted under new management at the **Knoxville** quicksilver mine. The mine was closed down last fall, following five years of continuous operation, but was reopened recently by Anthony Gerard, Floyd Carr, and Glenn Truitt, all former employes. The new operators hold the mine under lease from the owner, George E. Gamble, 1431 Waverly Street, Palo Alto, California, who had operated the property intermittently since 1926. The Knoxville is located near Monticello, California. Truitt's home address is 212 Bella Vista Avenue, Los Gatos, California.

The old **Sidewinder** mine, a gold property northeast of Victorville, California, has been leased to the Valton Mining and Exploration Company. Preliminary investigation is said to have disclosed a vein containing gold values running as high as $700 per ton, while a large deposit of schist, containing $20 in gold, is reported to have been discovered. The Valton concern also operates several tungsten claims about 20 miles north of Victorville. A small pilot plant and a larger mill, including Wilfley tables, have been installed at

the tungsten property. E. P. Dorr of 2320 Lemon Avenue, Long Beach 6, California, is general manager of Valton operations.

John T. Jones, Mokelumne Hill, California, is planning immediate operations at his **Gold King** mine located in Calaveras County near Westpoint. One of the Gold King veins is said to be four feet wide and sampling has indicated values as high as $12 per ton. Ore has been stoped to the 200-foot level. The Gold King is an old gold producer, being credited with an output of some $25,000 in gold values.

The **Empire Star Mines Company, Ltd.**, with holdings at Grass Valley, California, reports that it will not be able to return its properties to capacity production for some time, in spite of the lifting of the gold mining ban. Considerable repair work will be necessary in the mines, and the manpower situation is one of the most important factors delaying full operations. The company is headed by Fred Searls, 14 Wall Street, New York, New York, and John R. C. Mann, Grass Valley, is general manager.

R. B. Knox, Box 234, Hollister, California, is conducting small-scale mining operations at the **Stayton** quicksilver mine near Hollister, producing from 5 to 10 flasks of mercury monthly. John Lustfeld is smelter superintendent.

The **Yuba Consolidated Gold Fields, Ltd.**, has announced that it is ready to resume mining operations on a regular scale if a sufficient crew can be obtained to man its dredges. The company has been operating 2 of its 10 dredges in Yuba County, California, with limited crews under special permission from the War Production Board. If the necessary men can be found the eight dredges, which have not been in operation for 2½ years, can be started at once. The company is headed by Stanley Bolster, and F. C. van Deisne, 351 California Street, San Francisco 4, California, is vice-president in charge of operations.

OLD LADY?

The burden of 85 years and being a member of the weaker sex does not keep Mrs. Nellie Emery from pursuing her appointed rounds. This Goldfield, Nevada, mining woman recently went to her camp some 50 miles from Goldfield to post notices of intention to hold without assessment work. Over 30 years ago Mrs. Emery acquired her holdings in the Gold Point area and until she was 80 she swung a pick and shovel in approved minerly fashion. Wish we thought we could do as well if and when we reached that age.

Another California dredging firm, the **Natomas Company**, hopes to increase gold mining operations as additional crews are available. This concern has been operating two of its seven dredges in the Folsom district of California under WPB authority, and has operated its machine shop at Natoma, California, as a sub-contractor on war contracts. The concern is headed by Thomas McCormack, president and general manager, 607 Forum Building, Sacramento, California. R. G. Smith, Natoma, is manager of the gold dredging department.

No immediate change is expected by the **Idaho Maryland Mines Corporation** as a result of the lifting of the L-208 ban on gold mining. This company was granted permission by the War Production Board on March 10, 1945, to hire 200 employes and to produce up to 7,800 tons of ore monthly. So far, it is reported that the company has been able to obtain only 130 men and is operating at limited capacity. Idaho Maryland controls properties in the Grass Valley, California, field, and at one time was the largest producer of gold from quartz in California and the second largest in the country, being exceeded only by Homestake in South Dakota. Edwin Letts Oliver, 260 California Street, San Francisco, California, is president, and Neil O'Donnell, Box 1208, Grass Valley, is general manager.

Reopening and further development of the old **Uncle Sam** mine in Shasta County, California, is planned by the recently reorganized **High Divide Mining Company.** The copper-gold property is held under lease and option. It was a substantial producer of copper and gold ores in the early days, and the main crosscut tunnel was driven 2,875 feet, opening several copper and gold veins. However, it is reported that early production was limited to high-grade ores from the upper work-

ings. The High Divide concern plans further exploration of veins exposed in the tunnel and will develop an ore reserve that will warrant construction of a mill. The company, which has been inactive for years, controls property in the Manhattan district of Nevada.

The **Golden Queen Mining Company,** with property at Mojave, California, has announced that it does not plan to resume mining operations until the war with Japan is over. The principal reasons given are the high cost of materials and the lack of sufficient manpower. A small amount of diamond drilling work is being done but, otherwise, operations are at a complete standstill. The mine was shut down for the duration on August 20, 1942. Head offices of the company are located at 70 Pine Street, New York 5, New York. W. C. Browning, 1211 Pacific Mutual Building, Los Angeles 14, California, is vice-president and general manager of operations.

COLORADO

The **Vanadium Corporation of America,** 420 Lexington Avenue, New York, New York, has declared a dividend of 25 cents a share, payable July 12 to stockholders of record July 5, 1945. The company's western interests are centered in the Naturita-Placerville district of Colorado and at Monticello, Utah.

Resumption of gold mining at the **Dixie** property, Idaho Springs, Colorado, is forecast with the lifting of the federal ban on gold mining. The property, owned by C. C. Orr, LeRoy Giles, and W. W. Janes of Idaho Springs and Frank Vigil of Denver, will be cleaned out and prepared for production as soon as possible. Located on Ute Creek just outside of Idaho Springs, the Dixie mine produced small but regular shipments of high-grade gold-silver ore before the war.

According to reports, Jack L. McLain of Ohio City, Colorado, is operating the **Bull Domingo** lead-zinc claims on Italian Mountain in Gunnison County near Gunnison, Colorado. Claude Fry is associated with McLain, who started operations last fall. Winter weather prevented more than the initial shipment in 1944, but production will be resumed in the near future. This property should not be confused with the Bull-Durango lead-silver-zinc mine near Westcliffe in Custer County.

The **United Production Corporation** has resumed the work of remodeling its Lackawanna mill across the Animas River from Silverton, Colorado, under the management of Proctor G. Milliken, now at Silverton. The company proposes to operate the mill as a custom plant for the Lark, Cement Creek, Maggie Gulch, Caledonia, and Animas Forks properties. R. E. Wilcoxon of Pueblo is president of the company which also holds the Lackawanna mine, the Caledonian, Burrows, and Scranton City properties. The plant is being equipped for selective flotation and will treat 125 tons of ore daily.

COME AND GET IT!
Answers to Questions on Page 22

1—C	6—J	11—S	16—I
2—R	7—A	12—B	17—N
3—F	8—T	13—O	18—K
4—L	9—H	14—Q	19—G
5—P	10—M	15—E	20—D

The **Mascott** mine on Saxon Mountain near Georgetown, Colorado, is reported to have been optioned by Frank Ricci of Pueblo from the owner, Mrs. G. N. Robeson of Idaho Springs. New York interests are said to be backing the proposed operation. The mine has been practically idle for the past 35 years, although a few attempts have been made to reopen it. Principal ore values are in lead, gold, and silver. Mine development includes three tunnels, one of which is over 1,000 feet long.

IDAHO

The deal between the **Polaris Mining Company** and the **Silver Summit Mining Company** is reported to have been completed. Polaris received a block of unissued treasury stock of the Silver Summit concern and an option to purchase 400,000 shares of individually held stock. With the one-third stock interest previously held, the Polaris company now controls the Silver Summit. In return, Polaris has agreed to continue the 1,500-foot Silver Summit shaft to the 3,000-foot level and do 3,500 feet of lateral work at depth. Considerable preliminary work, including the installation of a new electric sinking hoist, will be necessary. The proposed work will open the Chester vein system about 4,000 feet east of the present productive area and about 2,000 feet east of the present shaft development under way in Silver Dollar ground. Eventually it will also provide ventilation for the entire Chester operations. Harry P. Pearson of Wallace, Idaho, is president of Silver Summit and L. E. Hanley of Wallace is president of Polaris.

The Idaho Supreme Court has affirmed the district court decision giving the **Hayden Hill Consolidated Mining Company** ownership of certain claims and interest in other claims in the silver belt south of the Chester claim. Started in 1937, the suit involved the Zwerg, Purim, Western Star, and New Hope, in which Hayden Consolidated owns one-half interest; the Barbarosa, two-thirds interest; and the Hershey claim, entirely owned by Hayden Consolidated. The controversy was with the **Lincoln Mining Company,** which formerly held the ground. The claims now are under lease to the Silver Dollar Mining Company. Clarence J. Hamilton, Wallace, Idaho, is vice-president and manager of the Lincoln company, and W. T. Anderson, 417 Symons Building, Spokane, Washington, is secretary of Hayden Hill.

A diamond drill crew is employed by the **Hope Silver-Lead Mines, Inc.,** in in-