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zona. Present activities are preparatory to exploration of the copper-gold-lead claims through surface pits and diamond drilling. It is also reported that the Daltons and their associates have purchased the Copperopolis mine two miles northeast of Briggs in the same vicinity, from J. W. Ketron, Jerome Route, Prescott, Arizona. J. S. Coupal, Phoenix mining engineer, examined the property late last month.

Development work is being carried on by the Comstock Extension Mining Company at its zinc-lead property in the Globe area, Gila County, Arizona. The company was organized late last year. Tony Trojanovich, Globe, Arizona, is in charge of operations.

Fred W. Fickett, 38 West Pennington Street, Tucson, Arizona, is reported to be developing the Olivette mine located in the Helmet Peak district of Pima County about 25 miles southwest of Tucson. Ore values are in lead, silver, and zinc. It is said that Fickett is also operating the Oro Blanco mine in Santa Cruz County which has been a gold producer for many years.

Mining and milling is reported to be progressing favorably at the Trench-Flux properties operated by the American Smelting and Refining Company, Patagonia, Arizona. These properties, which make up the Trench Unit of A. S. and R., are located in the Harshaw mining district of Santa Cruz County, near Patagonia, Arizona. Charles B. Hanraty, Box F, Patagonia, is superintendent.

Operations at the Eureka mine located four miles southeast of Chloride, Mohave County, Arizona, have been suspended temporarily. Shipments of ore from the mine were being made to the Alpha-Keystone mill previous to the mine's closing. Frank Shuck, owner and operator of the Eureka, has moved to Glendora, California, where he is addressed at Route 1, Box 89-F.

W. H. Kirkpatrick, St. Michael Hotel, Prescott, Arizona, who is operating the Butternut mine under lease and bond, is now engaged in pumping and cleaning the mine shaft and other rehabilitation work. The property is located in the Big Bug district, near Humboldt, Arizona. The mine is an old producer of copper and gold.

Development work and milling continue at the Gladiator mine located in the Pine Grove district near Crown King, Arizona. The property, operated by the Gladiator Mining Company under lease from David Russell, Box 603, Prescott, has its principal values in zinc, lead, and silver. A. N. Bennett, Crown King, is mine superintendent and Rudolf Storm, Cordes, is mill superintendent. E. M. Moores, Crown King, is president of the Gladiator company.



The properties of the Mountain King Mill and Mine, Hodson, California, are being tested at this time, in preparation for a core drilling program slated for the near future. The mine will be operated by the open-pit method when current metallurgical problems are solved. Charles W.

**WHOSE WHO'S
WHAT**

The brain of the average miner is a jumble of alphabet agencies and vague facts, figures, and names. Although little is known about many of the men who have made contributions to mining and milling, some of their names are still synonymous with a type of equipment or a mining method. In the jumble below you should be able to match at least 12 of the men with the mining terms on their right.

- | | |
|------------------|------------------------|
| 1. Davy | A. Jig |
| 2. Leyner | B. Fault rule |
| 3. Deidensheimer | C. Sampler |
| 4. Frue | D. Blower |
| 5. Mitchell | E. Cut-and-fill system |
| 6. Corliss | F. Breathing Apparatus |
| 7. Wilfley | G. Crusher |
| 8. Brunton | H. Safety lamp |
| 9. Blake | I. Table |
| 10. McCaa | J. Valve |
| 11. Gilman | K. Slicing system |
| 12. Root | L. Vanner |
| 13. Vezin | M. Square set |
| 14. Zimmerman | N. Drill |
| 15. Cooley | O. Compass |

Answers to Above Questions Will Be
Found on Page 20

Stewart and Claude Nuss are the principal owners of the Mountain King Mine and Mill which is organized under a limited partnership. Both Stewart and Nuss are affiliated with the Sierra Metals Company operating gold properties in California, but the Mt. King is in no way connected with the Sierra Metals group. H. E. Bush, mining engineer, with headquarters at Angels Camp, Calaveras County, is the engineer in charge for the Mt. King activities and Stewart is general manager. Address for the mine is Copperopolis, California, with the main office at 410 Thorne Avenue, Fresno, California.

Yuba Consolidated Goldfields, Ltd., is reported to be the largest, single bucket-line dredge operator in the state of California at the present time. Seven of its 14 dredges are now being used. This is the peak in the company's dredging activities since the gold mining ban in October 1942. In 1943, the War Production Board granted Yuba Consolidated special permission to continue limited workings with two dredges at its Hammonton, Yuba County, property. Regular scale operations were first resumed at its other dredge sites in June 1945. Yuba Consolidated is headed by Stanley Bolster, and F. C. van Deisne, 351 California Street, San Francisco 4, California, is vice-president in charge of operations.

All operations of the Merced Gold Dredging Company, Snelling, Merced County, California, have been halted pending the outcome of its injunction proceedings against the resoiling ordinance. Hearing on the injunction was started on January 22. It is reported that the Merced dredging company has about \$750,000 invested in its Merced County property and is prepared for an all-out fight against the ordinance on the grounds that it is un-

constitutional, confiscatory of existing investment, and an abuse of police power. The Merced group is controlled by the **Natomas Company**, which is headed by Thomas McCormack, Forum Building, Sacramento, California.

Operations are continuing at the **Big Bend** mine northeast of Oroville, Butte County, California. The property was reopened in 1943 after a long period of inactivity and has been an active producer of copper, lead, and zinc ever since. Ore is treated at the old Surcease 125-ton gold plant reconverted by the operators for copper-lead-zinc production. Principal mining operations are conducted through the 300-foot shaft. The Big Bend is a Hoefling Brothers project and is supervised by W. E. Messner, Route 1, Oroville.

The **Mountain Copper Company, Ltd.**, is operating at peak capacity at its property in Shasta County, near Redding, California. Regular shipments of copper and zinc concentrates are being made. Ores are being treated in the company's selective flotation plant at the mine, and regular shipments of pyrites are continuing. The concern is a British corporation which conducted large scale mining operations in Shasta County before the start of the war. William F. Kett, 216 Pine Street, San Francisco, is general manager.

Report has it that Josie Bishop, Mojave, California, colorful mining figure who more than a decade ago startled the world with the announcement of the discovery of radium-bearing ore on her mining property, has sold her claims to Walter E. Dorn, Hearst Building, San Francisco. Dorn had served as one of Mrs. Bishop's attorneys in 1937 when it was believed that she stood on the threshold of a great fortune following the revelation by the Institut de Radium, Paris, France, that they had found a variety of uranium oxides to be contained in the specimens of ore from Mrs. Bishop's property. Subsequent testing by private and government geologists, geophysicists, and other authorities were said to have disproved this statement. In 1945 the property was again examined, this time by Dr. G. Carman Redland, geological engineer working for the Canadian Radium and Uranium Corporation which was said to be interested in the Bishop claims. There are 11 claims in the group which are located in Red Rock Canyon, Kern County, California. The contract of sale with Dorn is said to have been drawn up and signed last April, then filed with the county recorder. Under its terms Mrs. Bishop is to receive one million dollars to be paid over a period of years in varying monthly amounts. The contract also stipulated that the new owner was required to commence operations with two shifts per day of at least three men each within 60 days following the removal of the government's ban on gold mining.

An extensive exploration of tin deposits at its property located in the Shadow Mountain area, west of Adelante, California, is currently being conducted by the **Valton Mining and Exploration Company**. R. L. Reade, engineer for the Valton company, is in charge of the work and reports

considerable progress. Reserves of ore will continue to be blocked out to insure a steady production of tin ore capable of furnishing a high tin concentrate when milling becomes practicable, the company states. E. P. Dorr, 2320 Lemon Avenue, Long Beach 6, California, is general manager.

John R. Beylik, 1721 Fruitvale Avenue, El Monte, California, and associates, purchasers of the Silver Moon claims from Ed Herkelrath, Randsburg, are said to be planning early operations at the property. The claims are the **Silver Moon** and the **Fill In** which are located at Red Mountain in the Randsburg district. Herkelrath had held the gold-silver-tungsten property since 1919.

The **Ruth Pierce** mine in the Hornitos district of Mariposa County, California, one of the old producers in the district, is being opened by Thomas Thomson and associates. The mine has been active at various times with the bulk of the work being done in 1926. Operations ceased shortly afterward when the mill burned. In the early '30's the tailings dump was being worked with good results. Present operators have installed a 40-foot head-frame, hoist, compressor, and power-generating equipment. Milling will be done at the near-by Dominguez mine.

The **Ancho-Erie Mining Company** has filed suit against Bonadiman-McCann, Inc., engineers and contractors, in Nevada City, California, charging that the contractors

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have made the road to the Ancho-Erie mine impassable by using bulldozers and scrapers in their operations, thereby accumulating deposits of mud and debris on the road. The Ancho-Erie mine is located on the Gaston Ridge between Graniteville and Washington, Nevada County, California, and is near the Spanish mine from which the Bonadiman-McCann group is removing and shipping barite ore. Damages of \$4,700 are being asked for each month in which activities of the Ancho-Erie mine are suspended because of the road obstructions. C. A. Helbach, 370 Alta Street, Grass Valley, is president of Ancho-Erie.

It is reported that E. A. Slafter, O. E. Slafter, and H. R. Slafter, Trona, California, who owned and operated the claims known as the **Knob 1** and **Knob 2** located near the Radcliff mine in Pleasant Canyon, Inyo County, California, have leased their property to Clarence Kirk, Homewood Canyon, California, and to J. C. McManaman, mining engineer of San Francisco. Provisions of the lease call for operation of the mines within a period of 90 days, and development of the property at an estimated cost of \$35,000.

M. B. Corbett, Helena, California, and Ralph Bazley, 549 East 17th Street, Long Beach, have started operations at the **King** mine on Rattlesnake Creek in the North Fork district, Trinity County, California, and are employing a new method of gravel removal. A new tractor has been purchased and a rake-type blade is being used on the bulldozer. In 1940 Corbett obtained patents on two inventions for placer mining, and has also experimented with his new method for several years. A number of hydraulic mines in the state are now using the Corbett form of gravel removal.

Operations are said to have been resumed at the **Bergin Placers** near Junction City, Trinity County, California. The property is hydraulic ground and comprises over 500 acres of patented land that has been worked for over 50 years. There has been a substantial gold production from the mine as well as a small amount of platinum. Owner John W. Bergin, Box 31, Weaverville, California, is reported to have leased the property to a group of operators from Oakland, California.

Hydraulic operations at the **Rex** mine, near Weaverville, Trinity County, California, are continuing. Pipe lines at the mine have been relined and all equipment has been overhauled. Willis E. Woodbury, Weaverville, operator of the Rex, has continued limited operations throughout the duration of the war. The work is being carried on by means of two 11-inch hydraulic giants.

It is expected that work will be resumed shortly at the **Mineral Slide**, **Lucky John**, and **Terra Lava** mines in the Paradise area, Butte County, California. These properties have all been idle since the war's beginning. Underhill and Eaton of Los Angeles is reported to be the operating firm. John D. Hubbard, mining engineer, Paradise, California, will be in charge of operations.

Development work is planned by Edward Herkelrath, Randsburg, California, at the

WHOSE WHO'S WHAT		
Answers to Questions Appearing On Page 18		
1—H	6—J	11—E
2—N	7—I	12—D
3—M	8—O	13—C
4—L	9—G	14—B
5—K	10—F	15—A

Culbert group of 16 gold-quartz claims he is reported to have purchased. The property is located in the Rand district, Kern County, California, and near the famous Yellow Aster, Dick Dickerson, New Deal, and Big Gold mines. The Culbert is to be resurveyed and workings reconditioned. Actual operations will begin as soon as a full working crew and supplies can be obtained.

The **Noonday** mine, which was completely rehabilitated and placed in operation early last year, has been the scene of regular operations. The property, located in Eldorado County in the Diamond Springs district of California, is reportedly shipping considerable copper-gold ore. The ore is said to run about 5 per cent copper with gold and silver also present. Milling is done at the Volo mill seven miles distant at Placerville. Workings at the Noonday comprise a two-compartment, 200-foot shaft. S. T. Hilberg, 1461 Fifty-second Street, Sacramento 16, California, is the operator of the Noonday. Hilberg and associates recently took over the **Woodside-Eureka** gold mine near Georgetown, California, which is reported to contain milling ore in the old workings.

The **Associated Metals, Inc.**, 611 American Building, Seattle, Washington, which acquired the Pine Grove mine east of Jackson, Amador County, California, is engaged in preliminary work on the property. Former operators of the mine shipped ore running up to \$80 per ton. Associated Metals also controls the Oro gold mine near Downieville, California, and other property in Oregon and Idaho. Ira Mahon is manager of operations for the company.



Tunnel work is being continued by the **Great Divide Mining and Milling Corporation** at its property in the Eureka district near Silverton, Colorado. H. A. Waddington of Silverton is president and general manager of the company and Henry P. Ehrlinger, Box 211, Silverton, is mine superintendent. The company, incorporated under the laws of Colorado in April of 1944, is concerned at present mainly with the extension of the Habita tunnel, now in over 700 feet.

For the first time, output from the Green Mountain mine of **Pride of the West, Inc.**, exceeded that taken from the company's **Pride of the West** mine. Green Mountain ore is of higher grade. A total of 27,490 tons of ore was mined and milled during 1945, with metal production

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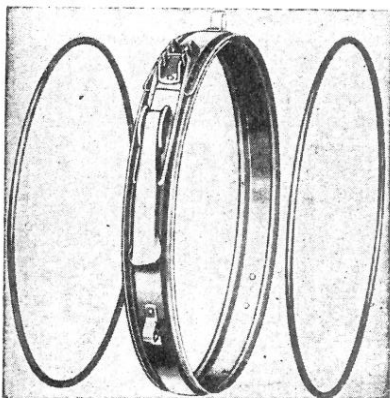
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A 5-cent dividend was paid January 5, 1946, by the Rico Argentine Mining Company, of Rico, Colorado. C. T. Van Winkle of Rico is president and general manager of the company, whose properties consist of the Rico Argentine, Rico Consolidated, Propatria, Atlantic Cable-Van Winkle, and the Falcon group of claims. Values are in lead and zinc, with some gold and copper.

Operations at the Bessie G. mine in the La Plata Mountains near Durango, Colorado, have been suspended for the winter, but will be resumed as soon as weather permits in the spring. Bert Thompson, Box 1269, Durango, is the manager of the mine and a partner in the operation.

Organization of the Kanorado Mining Company has been completed, with William F. Moenke of 1416 Downing Street, Denver, Colorado, as president and Thomas F. Bemis, Hand Hotel, Fairplay, Colorado, secretary-treasurer. Lawrence A. Bemis of Hays, Kansas, is vice-president. The group has acquired the Silver Wave mine, located in Buckskin Gulch near Alma, and has renamed it the Keystone mine. Ore values are in gold and silver. It was formerly operated by the Alma Homestake Mining Company. A recent fire destroyed the compressor, compressor house, dry room, snow sheds, and hand tools, so the property will remain closed for the rest of the winter, but will be reopened in the spring.

Gold values are reported to be present in the ore now being mined from the Douglas property in the Cascade Creek district of Clear Creek County near Idaho Springs, Colorado. W. D. Fenicle and Adolph Haeske, both of Idaho Springs, are operating the mine, heretofore considered a silver-producer. The gold is appearing as greater depth is reached.

Electric power has been brought to the mill at the Dixie gold mine near Idaho Springs, Colorado, which is being operated by C. C. Orr, LeRoy Giles, and W. W. Janes, all of Idaho Springs, and Frank Vigil of Denver. The mill is the Barrick plant at Dumont which was leased recently by the Giles interests. In the same district is the Katie Emmett lead-zinc prospect, which will be reopened by local men next spring; and Fred Wilson of Idaho Springs is developing a lead-zinc prospect on Cascade Creek.

Fire destroyed the 60-ton Buckskin Joe mill near Alma, Colorado. The fire is believed to have been started by spontaneous combustion in the coal pile. The mill and the Buckskin Joe mines were operated by John Harvey of Leadville and Charles W. Jordan of Buena Vista, Colorado, as a co-partnership. Production was continued during the war years on a limited scale by special permission because of the high content of zinc in the ore.

The Urad plant at Empire, Colorado, which the Molybdenum Corporation of America has been operating under lease from the DPC, has been purchased by the Molybdenum Corporation from the government for \$351,503, the cost of the plant to the government. Walter Ranch, Box 341, Idaho Springs, is mine superintendent and F. C. Blickensderfer of Empire is mill superintendent.

Glen and Dean Stewart of Durango, Colorado, are preparing to reopen the Gold Rose mine in the La Plata district near Durango next spring. The brothers had leased the property in 1940 and worked it until the mine was closed because of war conditions and the Stewarts joined the Army. After their recent discharge they returned to Colorado and reopened the mine. Work was suspended for the winter, but not before a new crosscut tunnel was started to open the vein at depth.



The Atlas Mining Company is planning to start deep development work in the western portion of its holdings at Mullan, Idaho, previous work from the bottom or 800-foot shaft level having been done toward the east. Silver content of the ore at depth shows an increase in the proportion of silver to lead. James F. McCarthy, Jr., is president of the company and J. W. Greenough, 1224 Old National Bank Building, Spokane 8, Washington, is secretary.

Diamond drilling operations are reported to have located the main ore body on the lower tunnel level of the Nevada-Stewart Mining Company's property in the Pine Creek district near Shoshone, Idaho. The lower tunnel was extended last year in an effort to find the downward extension of the lead-zinc ore body, first opened by the Bureau of Mines' diamond drilling program. When tunnel work failed, the company undertook a drilling program which has now proved successful. Frank J. Luedke, 920 East Twenty-sixth Avenue, Spokane, Washington, is president and general manager.

To isolate the western end of the Silver Syndicate workings from the fire area in the Sunshine mine the Sunshine Mining Company constructed a concrete bulkhead 40 feet thick on the 3,700-foot level between the fire zone and the Jewell shaft and flooded this part of the mine workings. This has permitted development work to be continued by the company in the area which is about 4,000 feet west of the fire zone. Two raises will be put up and drifting will be continued in both easterly and westerly directions. While this work is necessary development, silver-lead ore removed during the process is expected to be of exceptionally high grade. Method of reopening the Omega and Rotbart areas of the Chester vein system will depend upon the condition of the workings after the water has been pumped out. R. D. Leisk, Box 1080, Kellogg, Idaho, general manager of Sunshine, is in charge of the Silver Syndicate work, which is a part of the Chester vein development. The fire, which started on the 2,900-foot level and spread to the 3,100 level, has been extinguished.

Stockholders of the Big Creek Apex Mining Company, headed by T. R. Jones of Wardner, Idaho, are reported to have approved the agreement made by officers of the company with officers of the Sun-

Sunshine Mining Company of Kellogg. The contract is said to provide that Sunshine develop the Big Creek Apex property at depth and that both concerns share equally in the profits. A drift will be run from Sunshine's 3,700-foot level northward into Big Creek Apex territory. It is believed that the Chester vein extends westward into holdings of the Big Creek Apex company and Sunshine has made similar agreements with those concerns whose holdings lie within the Chester vein system in order that the exploitation of the whole area can be coordinated under one management.

The South Mountain Mining Company, which has been in operation since 1940 except for mid-winter shutdowns, has suspended operations at its property in Owhyee County, Idaho, across the river from Jordan Valley, Oregon. The company has produced substantial amounts of silver, lead and zinc, although in the past year or two emphasis was being put on development work, rather than production. N. G. Hall, 901 Kearns Building, Salt Lake City 1, Utah, is president.

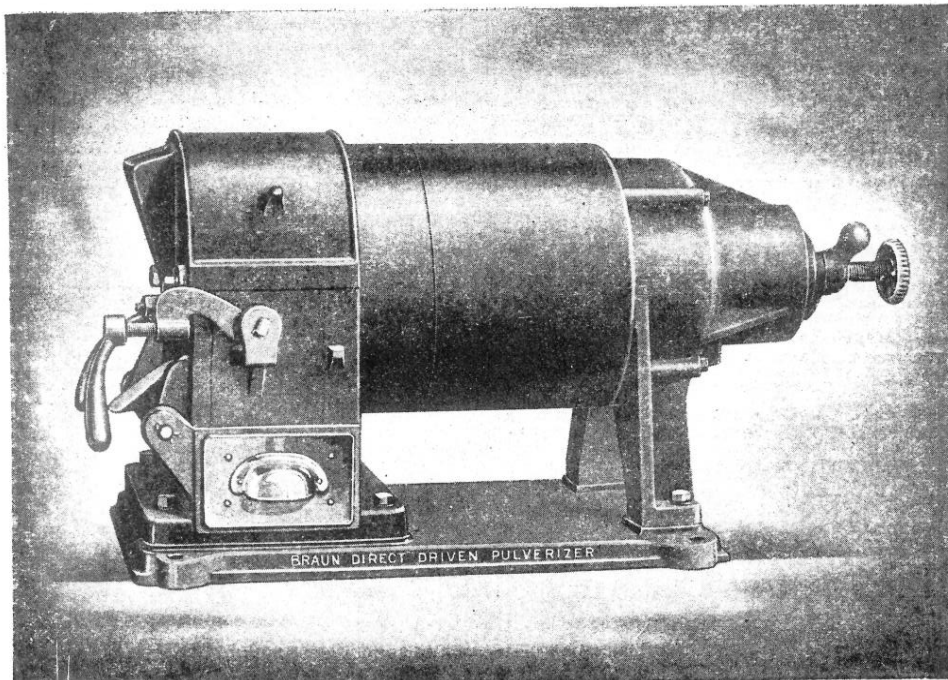
As soon as labor is available, the Sunshine Consolidated Mining Company of Kellogg, Idaho, is ready to resume operations and produce high-grade silver-copper-antimony ore. W. M. Yeaman, Box 34, Yakima, Washington, is president of the company, which is half owned by the Sunshine Mining Company of Kellogg. All production will be under the supervision of Sunshine. The company suspended operations during the war when it could not obtain sufficient mine labor and its limited base metal output did not permit it to rate a manpower allotment.

Dissolution of the Gertie Mining Company and of the Marsh Mines Company has been completed and stockholders in those two concerns may transfer their stock on a basis of five for one to the King Mining Company which acquired Marsh and Gertie holdings in 1943. The King Mining Company, headed by Henry L. Day of Wallace, Idaho, has taken over a large number of properties between Burke and Mullan, Idaho.

Preliminary preparations are being started by the Mt. Vernon Gold Mining Company at its property near Elk City, Idaho, in order that operations can be resumed next spring. The property has been closed during most of the war years. Mrs. David E. Henderson of Mt. Vernon, Washington, is president of the firm and William B. Short, 1615 Fourth West, Seattle 99, is the engineer in charge.

Resumption of operations this winter is reported by the Gold Hill Mining and Milling Company which had ceased work at the outbreak of war. The company holds the Gold Bug gold mine in the Hoodoo district of Latah County, near Harvard, Idaho, and was planning mill installation when it was forced to suspend operations. It is understood that these plans will be revived. K. F. Pinnell, Harvard, is president and general manager.

Results in diamond drilling are said to have been such that further sinking or crosscutting to the Patuxent vein is not justified by the Callahan Consolidated Min-



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At the average prices used by the Bureau of Mines, the gross calculated values of the outputs of these metals in Arizona in 1945, with comparative figures for 1944 in parentheses, were: Gold, \$2,625,000 (\$3,925,670); silver, \$2,387,200 (\$3,246,650); copper, \$77,656,000 (\$96,741,110); lead, \$3,569,000 (\$2,673,120); and zinc, \$8,797,500 (\$6,629,556)—a total of \$95,034,700 in 1945 compared with \$113,948,066 in 1944.

About 82 per cent of the gold and 75 per cent of the silver produced in Arizona in 1945 were recovered from copper ore mined at Bisbee, Ajo, Jerome, Superior, Morenci, and Miami.

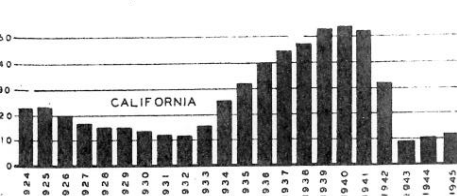
Arizona continued as the largest copper-producing state, but its 1945 output (571,000,000 pounds) was 20 per cent less than that in 1944; the output declined from a high of about 52,455,000 pounds in March to a low of about 43,700,000 pounds in September. The Morenci mine was by far the largest producer of copper in Arizona in 1945; it was followed by the New Cornelia, Inspiration, Castle Dome, Miami, United Verde, Kennecott (Rav mine), Copper Queen, Magma, Bagdad, and Denn properties. These 11 mines contributed about 561,000,000 pounds, compared with 11 mines producing 699,629,351 pounds in 1944, or 98 per cent of the state's total.

Production of both lead and zinc in Arizona in 1945 was the greatest for any year in the history of the state. The output of lead (41,500,000 pounds) showed a gain of 24 per cent over 1944, while that of zinc (76,500,000 pounds) was an increase of 32 per cent over the 1944 total. The zinc record resulted principally from a notable increase in output from the Copper Queen, Mammoth-St. Anthony, and Iron King properties. These three properties produced nearly 73 per cent of the state's zinc output in 1945. The Copper Queen mine at Bisbee was by far the largest lead producer in Arizona in 1945.

Further details concerning the production of gold, silver, copper, lead, and zinc in Arizona in 1945 will be found in The Mining Journal for January 30, 1946.

CALIFORNIA

MINING PRODUCTION OF GOLD, SILVER, COPPER, LEAD, AND ZINC IN CALIFORNIA, 1924-1945, IN MILLIONS OF DOLLARS



Gold production in California in 1945 showed an increase for the first year since 1940. Preliminary figures show California gold production in 1945 was 72,100 fine ounces valued at \$6,023,500 compared with 117,373 fine ounces valued at \$4,108,055 in 1944. The 1945 output was 47 per cent above that for 1944, but only 12 per cent of the total for 1940, the recent peak year. Lead and zinc outputs were higher in 1945 than 1944, but

production of copper was only about half the 1944 output.

Mines in California yielded 172,100 fine ounces of gold, 949,200 fine ounces of silver, 13,810,000 pounds of copper, 12,940,000 pounds of lead, and 17,870,000 pounds of zinc. The total value of the five metals in 1945 was \$11,744,537 compared with \$10,933,495 in 1944, an increase of 7 per cent owing almost entirely to the gain in gold output which more than offset the loss in production and value of copper.

Although complete data for classifying gold production are not available, it appears that placer mines contributed approximately 60 per cent of the 1945 output and lode mines 40 per cent, compared with a placer-lode ratio of 64 per cent to 36 per cent in 1944. The major part of the placer production in 1945 came from connected-bucket dredges, the number in operation having increased markedly by the end of 1945.

The Yuba Consolidated Gold Fields which has a fleet of six dredges in the Yuba River district, Yuba County, operated four of them in the Yuba River district during 1945. The firm also operated one dredge in Butte County and in Siskiyou County. The Natomas Company which has a fleet of seven dredges in the Folsom district, Sacramento County, operated five during 1945, three of which started after the lifting of Order L-208. The Gold Hill Dredging Company operated two dredges on the Mokelumne River, Camanche district, San Joaquin County, and in August started operating one dredge in Butte County. Dredging was also carried on in 1945 by the Merced Dredging Company, Merced County; Capital Dredging Company, and the Lancha Plana Gold Dredging Company, Sacramento County; French Gulch Dredging Company, and Thurman Gold Dredging Company, Shasta County, Yuba Gold Dredging Company, Siskiyou County, the La Grange Gold Dredging Company, and the Tuolumne Gold Dredging Company, in Stanislaus County; and the Junction City Mining Company in Trinity County. The Golden Feather Dredging Company operated a dragline dredge in Placer County in 1945, having moved the equipment from the former location in Butte County in 1944. The Goldfield Consolidated Mines Company carried on the state's only large hydraulic operation in 1945 at the Oak Hill mine, Junction City district, Trinity County. Gold was again produced by the Morris Ravine Mining Company at its drift mine in the Oroville district, Butte County. Several gravel companies reported the recovery of gold as a byproduct of their operations, and small lot shipments of placer gold, many of which were handled by gold buyers, showed an increase in 1945.

Gold production at lode mines showed an increase in 1945 largely owing to expanded output at a few of the larger properties which were permitted limited operation by the War Production Board. Although many former producers have not yet reopened, a number are in the process of rehabilitation. In 1944, lode gold derived from gold ores accounted for 75

per cent of the total lode gold produced, and 24 per cent was recovered from ore mined primarily for copper, lead, zinc, and other base metals. Preliminary figures indicate that in 1945 more than 80 per cent of the lode gold came from gold ores. Approximately two-thirds of the gold from gold ore produced in California in 1945 was mined in the Grass Valley-Nevada City district, Nevada County, almost entirely by the Empire Star Mines Company, Ltd., and the Idaho Maryland Mines Corporation. In the Mother Lode counties, the larger shipments of gold derived from gold ore were made by the Mount 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., began shipping bullion from the Original Sixteen-to-One mine, Alleghany district, in August 1945 and continued throughout the remainder of the year. Smaller shipments were reported from an increasing number of other operations. Mines operated chiefly for base metal, that yielded more than 1,000 ounces of gold in 1945 included the Blue Moon mine, Hunter Valley district, Mariposa County, worked by the Red Cloud Mines, Inc., and the Penn mine, Campo Seco district, Calaveras County, worked by the Eagle Shawmut mine.

California silver production in 1945 was 949,200 fine ounces valued at \$674,987 compared with 778,936 ounces valued at \$553,910 in 1944. Nearly one-half of the 1945 silver production was derived from argentiferous lead ores. The principal producers were the Anaconda Copper Mining Company (Darwin Mines prior to August 1945), which operated a group of mines in the Darwin section of the Coso district, Inyo County, and the Finley Company (Shoshone Division), which operated the Columbia No. 2 mine (operated by Shoshone Mines, Inc., prior to May 1945), Resting Springs district, Inyo County. Much of the remainder of California 1945 silver was produced from other base metal ores including copper-zinc, zinc, tungsten, lead-zinc, and copper ores.

The production of lead and zinc in California in 1945 continued to react favorably to the various federal subsidies still being paid for these metals, but copper output dropped to almost one-half of the 1944 production owing to the closing down in 1945 of two of the state's largest producers, the Dakin mine and the Keystone mine. Copper output in 1945 was 13,810,000 pounds valued at \$1,878,160 compared with 25,442,000 pounds valued at \$3,434,670 in 1944. Lead production in 1945 was 12,940,000 pounds valued at \$1,112,840 compared with 11,364,000 pounds valued at \$909,120 in 1944. California zinc output in 1945 was 17,870,000 pounds valued at \$2,055,050 compared with 16,910,000 valued at \$1,927,740 in 1944; 1945 production was the largest in quantity since 1926 and the highest in value of any year. 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 av-

erage prices and values for the state were actually substantially higher than the national averages at which all values have been computed.

A little more than one-quarter of the state's copper output was produced from the Dakin mine, Klamath River district, Siskiyou County, by the Grav Eagle Copper Company, an affiliate of the Newmont Mining Corporation up to the time of the closing down of the mine in June 1945. The Mountain Copper Company, the second largest producer in the state in 1945 accounted for one-quarter of the state's copper production. The 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. The Keystone Copper Corporation operated the Keystone mine, Coppermolis district, Calaveras County, but suspended activity in July 1945 with the result that the lowered output for the year placed the corporation into third place as a producer in 1945. During 1945, the Winston Copper Company continued to operate the Newton copper mine, Ione district, Amador County, and ranked fourth in copper output in California.

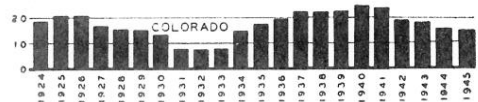
The Anaconda Copper Mining Company, operator of a group of mines in the Darwin section of the Coso district, Inyo County (operated by Darwin Mines prior to August 1945) produced more than one-half of the lead output of California in 1945. Although a flotation lead concentrate was produced, most of the lead was recovered from direct-smelting ore. The Finley Company (successor to Shoshone Mines, Inc.), operator of the Columbia No. 2 mine, Resting Springs district, Inyo County, was second in output with approximately 15 per cent of the total lead production of the state.

The largest California producer of zinc in 1945 was the Red Cloud Mines, Inc., an operating subsidiary of the Hecla Mining Company of the Coeur d'Alene district, Idaho, which worked the Blue Moon mine, Hunter Valley district, Mariposa County. The operation, which started shipping concentrates in January 1944, was relatively short lived as a cave-in in the mine on November 15, 1945, resulted in a shutdown. The second largest producer was the Eagle Shawmut mine, operator of the Penn mine, Camp Seco district, Calaveras County. 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, continued throughout 1945 at a greater rate than in 1944. Hoefling Bros., operator of the Big Bend mine, Yankee Hill district, Butte County, showed a substantial production although the total was less than in 1944.

COLORADO

MINE PRODUCTION OF GOLD, SILVER, COPPER, LEAD, AND ZINC IN COLORADO, 1924-1945, IN MILLIONS OF DOLLARS



DESPITE the rescinding of Order L-208 by the War Production Board, effective July 1, Colorado gold output in 1945 was the smallest since 1873 and silver production the lowest since 1932. Mines in Colorado yielded 99,811 fine ounces of gold, 2,178,675 fine ounces of silver, 2,762,000 pounds of copper, 32,656,000 pounds of lead, and 72,270,000 pounds of zinc. These preliminary figures are based on 11 months' actual mine production with December production calculated from reports by mine operators, refineries, and smelters of anticipated shipments and receipts.

Production in 1944 was 111,455 fine ounces of gold, 2,748,830 fine ounces of silver, 2,096,000 pounds of copper, 35,396,000 pounds of lead, and 79,910,000 pounds of zinc. These figures indicate decreases in 1945 of 11,644 ounces of gold (10 per cent), 70,155 ounces of silver (3 per cent), 2,740,000 pounds of lead (8 per cent), and 7,640,000 pounds of zinc (10 per cent). The production of copper increased 666,000 pounds (32 per cent) over 1944.

The calculated gross value of the output of these metals in 1945 was: Gold \$3,493,385, silver \$1,549,289, copper \$375,632, lead \$2,808,416, and zinc \$8,311,050—a total value of \$16,537,763. In 1944 the total value was \$17,724,473, indicating a decrease from 1944 of \$1,186,710 (7 per cent).

The output of zinc in Eagle County decreased 23 per cent in 1945 but the county still retained its rank as first among Colorado counties in the production of zinc and in the total value of the five metals.

In fact, the county produced about 43 per cent of the total zinc output of Colorado in 1945. The New Jersey Zinc Company, Empire Zinc Division, operated its Eagle mine and 600-ton underground flotation mill continuously in 1945. Zinc concentrates were shipped to the company's smelters at Depue, Illinois, and Palmerton, Pennsylvania, and lead concentrates to the Leadville smelter. In addition the company shipped some crude gold-copper-silver-iron ore to the Garfield, Utah, smelter. The value of Eagle County's production in 1945 was given as \$3,776,010, compared with \$5,028,936 in 1944.

Lake County held its place as second among Colorado counties in total value of production although the output fell 11 per cent from the 1944 level, \$3,430,642 in 1945 compared with \$3,846,686 in 1944. In the production of lead and silver it held first rank. Among the major producers of the county was the Resurrection Mining Company which operated its Resurrection mine and 600-ton selective-flotation mill without interruption during 1945. In addition to handling Resurrection ore, the mill treated custom ore from shippers in Lake and Summit counties. The lead concentrates produced were shipped to the Leadville smelter and the zinc concentrates to the Amarillo, Texas, smelter. Another producer, the Ore and Chemical Company, increased the capacity of its heavy-media separation plant from 1,000 tons to 1,400 tons daily capacity early in 1945. The company treated dump ores from several dumps in Leadville, principally the North Moyer, Tucson, and R. A. M., until early December when the plant was shut down temporarily due to the refusal of the Golden Cycle mill to accept further shipments of zinc-lead bulk concentrates. John Hamm Mining and Milling, Ltd., operated its 600-ton gravity-concentration mill the entire year on ores from the Maid of Erin and Wolfstone dumps.

About the middle of 1945 the American Smelting and Refining Company purchased the gravity and flotation-concentration and amalgamation mills of the California Gulch Mining and Milling Company—one of 75 to 125-ton capacity and one of 450-ton capacity. The larger mill was remodeled to handle the company's ore from the Lucky Strike mine near Kokomo, Summit County, and custom

SOME STATISTICS ON 1943, 1944, AND 1945 PRODUCTION OF GOLD, SILVER, COPPER, LEAD, AND ZINC IN THE WESTERN UNITED STATES

State	Gold—Fine Ounces			Silver—Fine Ounces			Copper—Pounds		
	1943	1944	1945	1943	1944	1945	1943	1944	1945
Alaska	99,583	49,296	68,588	42,788	13,362	9,225	54,000	4,000	571,000,000
Arizona	171,810	112,162	75,000	5,713,889	4,394,039	3,357,000	806,362,000	716,606,000	13,810,000
California	148,328	117,373	172,100	609,075	778,936	949,000	17,524,000	25,442,000	2,762,000
Colorado	137,558	111,455	99,811	2,664,142	2,748,830	2,178,675	2,056,000	2,096,000	3,350,000
Idaho	30,808	25,008	21,000	11,700,180	9,931,614	7,857,000	4,648,000	3,376,000	181,000,000
Montana	59,586	50,021	45,500	8,450,370	7,093,215	6,219,000	269,050,000	236,380,000	104,950,000
Nevada	144,442	119,056	101,500	1,620,280	1,259,636	990,800	142,136,000	122,464,000	113,100,000
New Mexico	5,563	6,918	5,111	463,583	535,275	481,251	152,326,000	139,460,000	600
Oregon	1,097	1,369	4,600	10,573	20,243	10,700	12,000	6,000	2,000
South Dakota	106,444	11,621	40,253	35,886	5,445	20,705	162,000	230,000	80,000
Texas	4	4	4	10,584	5,355	21,330	162,000	230,000	80,000
Utah	390,470	344,223	274,500	9,479,340	7,593,075	6,057,000	647,978,000	565,150,000	455,000,000
Washington	65,244	47,277	57,500	370,440	321,608	279,000	14,630,000	12,338,000	11,800,000
Wyoming	.....	20	2	.....	3	31	.....	.....	.....

ore from various shippers. Operations at the mill started July 3 and continued the remainder of the year treating ore from many sections of the state. American Smelting also operated its Arkansas Valley lead bullion-lead copper matte smelter continuously in 1945 on ores and concentrates purchased from operators in virtually every mining district in Colorado.

San Miguel County, with a production of 956,000 pounds of copper, was the leading copper-producing county in Colorado in 1945. The gross value of its production of the five metals was \$1,601,054, up 33 per cent from 1944. The Idarado Mining Company's 300-ton selective-flotation mill, built in 1944, was operated during 1945 and treated ore from the Black Bear mine. Three concentrates—lead, zinc, and copper—were made. The company is proposing to enlarge its mill capacity. The Telluride Mines, Inc., operated the Smuggler Union, Montana, and Cimarron mines throughout the year, treating the ore in its 550-ton amalgamation-flotation mill at Pandora. The third major producer was Alta Mines, Inc., which continued full-year operation of its 100-ton flotation mill and Alta-St. Louis mine.

Mines in the Crimple Creek district, Teller County, in 1945 were still the major source of gold in Colorado, although the output was the smallest since 1892 (the district was discovered in 1891). All the ore from the district was shipped to the 1,500-ton Golden Cycle cyanidation-amalgamation mill at Colorado Springs. The bulk of the district output was recovered from the Ajax and Vindicator mines operated by the Golden Cycle Corporation, the Portland mine operated by the United Gold Mines Company, the Stratton Estate group of mines operated by lessees, and the Le Clair mine operated chiefly by the Greenwood Leasing Company. The Vindicator mine was closed in the middle of 1945 due to failure of the hoisting equipment. Teller County's gold production in 1945 was given as 28,569 fine ounces valued at \$999,915.

San Juan County, with a production of 22,569 fine ounces, ranked second in gold

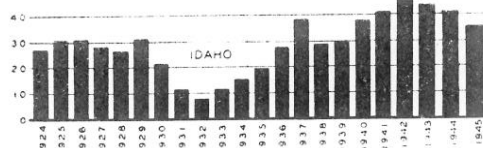
production. The Shenandoah-Dives mine was again the chief producer in the county. Its 700-ton selective-flotation mill near Silverton was operated all of 1945, treating both company and custom ore. The Denver Equipment Company operated the 100-ton Pride of the West selective-flotation mill at Howardsville continuously on company ore, and the Highland Mary Mines, Inc., operated its group of mines and 100-ton flotation mill in Cunningham Gulch during the last half of 1945.

The only other Colorado county whose metal production exceeded a million dollars in value in 1945 was Dolores County with an output of \$1,466,328. The Rio Argentine Mining Company, by far the largest producer in the county and one of the major zinc, lead, and silver producers in Colorado, operated its group of mines and 135-ton selective-flotation mill continuously in 1945, shipping lead concentrates to the Leadville and zinc concentrates to the Amarillo, Texas, smelter.

The Golden Cycle mill at Colorado Springs operated throughout the year on company and custom ores received from nearly all mining districts in the state. About 216,000 tons of ores of all classes were treated (221,542 tons in 1944) which included about 117,000 tons of company and custom gold-silver ores and 99,000 tons of complex zinc-lead ores and middlings. The complex ores and middlings were first treated in the 500-ton selective-flotation unit, making a lead and zinc concentrate; the tailings resulting from this operation were then treated for further recovery of gold and silver by cyanidation.

A 64 per cent increase in metal production in 1945 was registered by Park County, due principally to the resumption of gold dredging by the South Platte Dredging Company on July 11 after three years of idleness. The company's connected-bucket dredge was operated on placer gravels near Fairplay. During the period of shutdown, South Platte acquired additional dredging ground and now controls approximately 4,000 acres.

IDAHO
MINE PRODUCTION OF GOLD, SILVER, COPPER, LEAD, AND ZINC IN IDAHO, 1924-1945, IN MILLIONS OF DOLLARS



LEAD production in Idaho in 1945 was the smallest since 1899, according to preliminary figures. Idaho ores and gravels in 1945 yielded gold, silver, copper, lead, and zinc valued at \$36,370,800, a 15 per cent loss from 1944. The output of each metal was less than in 1944; gold declined 16 per cent, silver 21 per cent, copper 1 per cent, lead 19 per cent, and zinc nearly 15 per cent. However, Idaho again led the western states as a producer of both lead and of zinc, and its position as the largest producer of silver has remained unchallenged since 1933.

The outstanding features of the year in metal mining in Idaho were the marked decrease in output of zinc-lead ore, silver ore, and lead-silver ore from mines in the Coeur d'Alene region; the suspension December 19 of mining operations—resulting from a fire—on the 2,900 level of the Sunshine mine; the rescinding July 1 of L-208; and the notable decline in the state's output of silver, lead, and zinc. Although L-208 was rescinded July 1 no activity at gold mines was reported until October when the Idaho-Canadian Dredging Company resumed bucket dredging at its placer property in Boise County.

The shortage of labor at mines in Idaho continued to be the principal cause for curtailment in operations in all the larger producers of zinc-lead ore, silver ore, and lead-silver ore in the Coeur d'Alene region, which is one of the most important zinc-lead-silver-producing areas in the United States. At the present time (December 1945) about 2,500 additional miners are needed at the base-metal mines in Idaho.

Idaho has one lead smelter and refinery—the Bunker Hill and Sullivan Mining

SOME STATISTICS ON 1943, 1944, AND 1945 PRODUCTION OF GOLD, SILVER, COPPER, LEAD, AND ZINC IN THE WESTERN UNITED STATES

State	Lead—Pounds		Zinc—Pounds			Total Value in Dollars			
	1943	1944	1945	1943	1944	1945	1943	1944	1945
Alaska	400,000	88,000	20,000				3,552,852	1,742,442	2,408,860
Arizona	27,454,000	33,414,000	41,500,000	39,354,000	58,154,000	76,500,000	121,212,902	113,094,806	95,034,700
California	11,640,000	11,364,000	12,940,000	3,712,000	16,910,000	17,870,000	9,176,616	10,933,495	11,744,537
Colorado	36,064,000	35,396,000	32,656,000	88,188,000	79,910,000	72,270,000	19,205,415	17,724,473	16,537,763
Idaho	192,914,000	167,060,000	135,500,000	173,414,000	182,744,000	156,000,000	43,199,910	42,591,137	36,370,800
Montana	32,648,000	26,210,000	24,000,000	75,212,000	72,254,000	56,000,000	53,642,658	49,039,855	39,134,900
Nevada	9,580,000	13,210,000	13,100,000	27,294,000	41,398,000	40,600,000	28,351,601	27,371,513	24,325,869
New Mexico	11,446,000	14,530,000	14,200,000	119,048,000	101,454,000	77,900,000	34,047,378	32,178,026	26,082,408
Oregon	8,000	8,000	10,300			5,000	48,038	63,760	170,151
South Dakota	82,000	68,000		92,000	112,000		3,767,145	429,085	1,423,223
Texas	26,000						30,463	34,858	26,048
Utah	130,514,000	105,038,000	78,000,000	93,792,000	77,988,000	61,500,000	124,562,540	111,036,247	89,575,200
Washington	10,044,000	11,650,000	7,200,000	24,406,000	23,808,000	22,650,000	7,838,012	7,195,136	7,039,650
Wyoming			6,000					702	608

1943—Average Metal Values		1944—Average Metal Values		1945—Average Metal Values	
Gold (per ounce)	\$35.00	Gold (per ounce)	\$35.00	Gold (per ounce)	\$35.00
Silver (per ounce)	0.711	Silver (per ounce)	0.711	Silver (per ounce)	0.711
Copper (per pound)	0.13	Copper (per pound)	0.135	Copper (per pound)	0.136
Lead (per pound)	0.075	Lead (per pound)	0.080	Lead (per pound)	0.086
Zinc (per pound)	0.108	Zinc (per pound)	0.114	Zinc (per pound)	0.115

local industries. No matter what their political beliefs, "they would like to make Secretary Ickes a 'lame duck' and find him a sanctuary far from Washington."

Ickes, it seems, tried to rush the project through without holding adequate hearings at which the natives could protest, with the result that the staid New Englanders raised such a clamor, in their local papers, at public meetings, and before the House Agriculture Committee, that the great conservationist deemed it wise to make another survey. A departmental lawyer, Theodore Spector, was sent to investigate the protest of the Yankees, and it was agreed to abide by his recommendation. Spector urged that the size of the sanctuary be reduced, and when Ickes received that piece of handwriting, he tried to suppress it, in violation of his pledge.

Spector, frank and honest in his dealing in that matter, explained in his report why his venerable superior wanted to bury it and withhold it from congressional eyes.

"A revolt is brewing," the document said. "I was told that bloodshed might result. These people have been in the habit of thinking of the rights of man. Their grandfathers and fathers participated in battles for liberty and therefore it is quite natural for them, in a protesting spirit, to challenge the seizure of their land."

The inhabitants of the stern and rock-bound coast got their dander up when the Fish and Wildlife Service's agents posted condemnation notices, with the result that the federal tire and tube bill for employe transportation took a sharp rise. Spector also claims that the withdrawal of the land would force some towns to raise their taxes, which is not the desire of a thrifty Yankee.

The descendants of the Puritans cannot understand why the "great liberal" should try to impose such hardships on them unless it is because the wealthy hunting interests, who would benefit, exert more influence around the Department of the Interior than the "little people."

Is this the handwriting on the wall for the small miners?

COLUMBIA PARK GROUP FORMED IN CALIFORNIA

ARTICLES of incorporation have been filed with the California secretary of state in Sacramento for the Columbia Historic Park Association. Purpose of the corporation is the preservation of the famous Mother Lode mining town of Columbia, Tuolumne County, California. The association plans to raise funds to match a state appropriation of \$50,000 designated by the 1945 legislature for preserving the town intact. The appropriation becomes available only if matched by private funds.

Columbia is the historic California mining town which during gold rush days missed becoming the state capital by only two votes. Belated honor was bestowed upon the town on July 15, 1945, when it was capital for 24 hours. Here are preserved the old stone buildings, St. Anne's Church, erected by the miners, and in which are stored many historical objects.



RHEEM RESEARCH ENTERS THE PERLITE PROCESSING FIELD

THE Rheem Research Products, Inc., a wholly owned subsidiary of Rheem Manufacturing Company, has its plans well under way for entering into the production and processing of perlite. The company's deposits, located near Superior, Arizona, are said to supply a distinctly higher grade of material than is usually encountered. Road construction has been completed and the installation of crushing, grinding, and loading equipment is under way.

Rheem has designed furnace equipment to meet the peculiar needs of perlite expansion and is installing its first commercial unit in Phoenix, Arizona, for the Builder's Supply Company. This unit is expected to be in operation in time to meet the needs of additional equipment which the Builder's Supply Company is installing to manufacture bricks, concrete blocks, light-weight concrete, and insulation. Gilbert E. Olsen, 3800 North Central Avenue, Phoenix, is president of the building materials firm.

The processed perlite, with an average weight of 8 to 15 pounds per cubic foot, will be distributed under the name of "Superlite." Plans also are under way for the installation of similar plants in other cities.

R. M. Thomas, executive vice-president of Rheem Research Products, with offices at 2411 Sichel Street, Los Angeles, California, is acting as general superintendent during the construction.

NEW MINERAL MAP OF MONTANA TO BE PUBLISHED IN FEBRUARY

A THREE-COLOR map of Montana showing all of the state's known mineral wealth has been prepared with the assistance of engineers of the U. S. Bureau of Mines and will be available for distribution in February. A brief description is given of each mineral. According to Tom W. Oster, consulting engineer for the industrial division of the state chamber of commerce, there are 20 metallic and 28 nonmetallic minerals in the state and each county contributes its share.

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Mill Heads from the Western States

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



Arizona Minerals Corporation, L. A. Piatt, superintendent, Box 270, Yuma, Arizona, is seeking to locate natural deposits of zeolite or "green sand." The company is engaged in the production of synthetic zeolite for use as a water softener, but would like to secure an output of the natural product. During 1945 its production of synthetic zeolite amounted to approximately 25,000 cubic feet, with a value of \$150,000. From 12 to 14 men are employed regularly at the Yuma plant. D. W. Morgan of Yuma is president of the corporation and O. C. Johnson is secretary.

Frank L. Metler, mining engineer, Box 41, Morrystown, Arizona, is reported to have resumed operations at the **Young** mine located in the Red Picacho district in Yavapai County, 12 miles northeast of Morrystown, Arizona. A 50-foot shaft has been sunk and shipping of high-grade ore has begun. Metler is joined with his sons, R. E. and E. R. Metler, in the operation of this property. Both were recently discharged from the armed forces. They also are engaged in mining contracting.

The **Midnight Quartz** claim, one of a group owned by George B. Upton, Stanton via Congress, Arizona, has been leased by Clifford A. Wachter, 223 E. W. Dryden Street, Glendale, California. Developing has been started at the property. Wachter is associated with the Antelope Mines, Inc., a group that was organized late last year and which is conducting operations in the Congress-Wickenburg district.

E. Paul Jennings, Vicksburg, Arizona, manager for the **Willamtho Company** operating the **R. and A.** mine, reports that a new vein of high-grade silver-lead ore has been uncovered at the mine. The property is located about 14 miles southwest of Vicksburg in Yuma County. It is owned by John Ramsey of Vicksburg. The Willamtho group purchased the interest previously held by Roy Cornett, Dewey, Arizona, and commenced operations at the mine last fall. Shipments of the ore go to Wickenburg.

The **Ward Mining Company** is continuing development at the Sonora mine located near Yuma in Yuma County, Arizona. The property carries values in fluor-spar and lead. Production at the Sonora mill at Yuma has been discontinued and milling equipment is being installed at the Sonora mine to concentrate the lead values. Plans for the future include the installation of a flotation plant to make acid grade fluor-spar. Mark C. Cadwallader, Box 881, Yuma, is in charge of activities at the mine manager.

John B. Wight, Box 103, Superior, Arizona, and associates, owner of 17 claims on which perlite was uncovered recently, reports that he has leased several claims in his group to a Phoenix, Arizona, party who plans to start shipping very soon. The property is located about three miles from Superior. Interest in perlite has increased in the past few months by the discovery of a number of additional perlite deposits in the Superior area and also due to the improved market for the ore, especially in the manufacture of building materials.

Robert S. Kipp, Bagdad, Arizona, operator of the **Dough Boy** gold mine, is currently engaged in installing equipment at the mine site. The mine is six miles west of Bagdad in Yavapai County, Arizona. It was closed during the war years and recently was leased by Kipp from the owner, Frank E. Howard of Hillside.



The **Rosekranz Mining Company** is reported to be considering resumption of milling operations at the Standard Consolidated property near Bodie in Mono County, California. Prior to the closing of the plant by the gold production ban, operations of the 500-ton cyanide plant has been conducted by the old Roseklip Mining Company. Milling had been carried on at the rate of 250 to 300 tons per day for several years previous, with production coming principally from surface deposits and old dumps. John N. Rosekranz, 2 Pine Street, San Francisco, California, is president of the firm.

It is reported that hydraulic mining may be resumed at the historic Loftus Blue Lead placers by the **Loftus Lead Mine Company**. The property was operated by late Edwin A. McKanna, geologist, until his death in 1942. Eileen A. McKanna of South Pasadena, California, controls the property which consists of approximately 1,500 acres of ground. The group is located in a rich placer area between Howland Flat and St. Louis and comprises 28 claims, which were worked by the drift method in the early mining days in Sierra County. Operations were conducted later with hydraulic monitors. The Blue Lead group was reputed to have been one of the richest gold channels ever mined in 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.

Construction of the barite grinding plant being erected by the Baroid Sales Division of the **National Lead Company** at Auburn, California, has been halted temporarily due to the eastern steel strike which has made it impossible for the company to obtain the necessary steel parts. The company has its own mining and milling operations at El Portal, California, and also mines ore from its other properties in California. When completed the plant will employ a working force of about 50 people. Estimated cost of the installation is above the \$150,000 figure. Baroid Sales Division offices are maintained at 830 Ducommun Street, Los Angeles, California. George L. Ratcliffe is general manager.

Ben Wyant and Ray Graham, Arcata, California, report that they are continuing the development of seams of asbestos on their claims in the Blue Nose Creek area of the Orleans district in Humboldt County, California. Wyant reports that 25 to 30 tons of good quality asbestos could be produced each month with only 40 men employed. The seams, some of which are four feet wide and 500 feet long, occur in a wide belt of serpentine. Veins, seams, and lenses of asbestos are said to be visible at some points for a distance approximating 20 miles in Elk and Flint valleys. The mineral has been in steady demand with prices ranging from \$44 to \$50 per ton for paper stock grade to \$750 per ton for the finest quality.

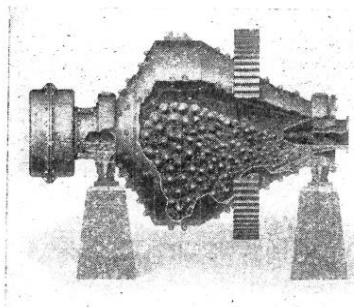
The **Jumper** mine, owned and operated by R. E. Fitzgerald, Box 72, Jamestown, California, is currently the scene of development work. The mine is located in the Jimtown district, Tuolumne County, California. The mine had been closed from 1914 until about 1939 and operations since were confined to repairing, unwatering, and other rehabilitation work. Fitzgerald also owns the Golden Rule and New Era mines in the same area.

New machinery is on hand and its early installation is planned at the **Grizzly Gulch** mine near Mariposa, California. A good showing of gold ore is reported to have been uncovered during development work. Alexander S. Wyner, 880 Thirty-fourth Avenue, San Francisco 21, California, is in charge of operations.

The **Atomic Corporation**, operating gold and cinnabar mines in the State of California, reports a new discovery of high-grade gold ore near the company's Beame mine. The Beame property is located near Pike in Sierra County, California, and contains five gold ledges. The equipment there includes a five-stamp mill, air compressor, power engine, and other units. The Atomic Corporation is a Nevada organization and Vic L. Smith, Pike, California, is president and general manager.

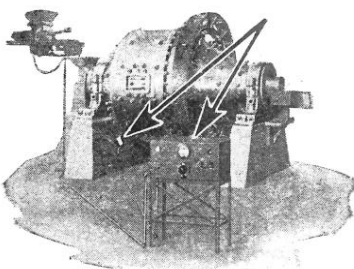
Testing operations continue at the **Bunker Hill** mine located near Redding, Shasta County, California. High-grade ore is reported to have been uncovered in the course of exploration work. At present A. Mansfield, Redding, California, and his associates are engaged in driving a 200-foot tunnel along the gossan dike, and a 200-foot crosscut.

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Warren M. and J. A. Gilzean of Junction City, California, have completed ground stripping, installation of a flume, and other preliminary work and the piping of gravel through the flume will soon begin at their Red Hill mine. A two-man hydraulic crew is said to be employed. The mine has a record of being a prolific gold producer and has operated almost continuously since 1851 when it was first opened. Warren Gilzean is in charge of the work at the Red Hill.

The Brown Bear mine at Deadwood via Lewiston, Trinity County, California, has been operating with a five-man crew, reconditioning the main workings preparatory to the active development of the property in the spring. E. E. Erich of French Gulch is owner and operator of the property.

Directors of the Central Eureka Mining Company, 111 Sutter Street, San Francisco 4, California, have notified company stockholders that a second assessment of 10 cents per share has been levied. The company reports that its rehabilitation program is not progressing as rapidly as had been planned. The firm is faced with the problem of obtaining trained men. Material, particularly timber, is scarce and other existing factors contribute to the postponement of mining operations at the company's properties, although the situation will be alleviated some when logging operations are resumed in the spring. The previous 10-cent assessment was made last September. The potential ore future of the mine at Sutter Creek, California, is reported to be good. C. C. Prior, president and general manager of Central Eureka, stated that it is not possible at this time to estimate either cost or time of placing the property in condition for production.

Preliminary work on the North Star-Laura mines near Tuolumne, California, has progressed to the point of having the Pacific Gas and Electric Company make a survey at the North Star mine for its electric power needs. The North Star shaft has been repaired from the water level to the surface and an electric Ingersoll-Rand Cameron motor pump, already on the job, will be installed as soon as the power has been connected. It is planned to reopen the old drifts from the North Star shaft as soon as it is unwatered. These drifts are at the depths of 100, 200, and 300 feet below the old collar of the shaft. Most of the drifting has been done on the 200-foot level which has been extended to a distance of 134 feet to the south and 134 feet to the north. The properties consist of 40 acres of patented mineral land together with mineral rights on the adjoining 40 acres. They are close to the Dead Horse-Eureka mine, which was a large producer in the old days and the geological conditions are said to be similar. Operations are being conducted by the Transierra Gold Mining Company which owns the properties in fee. W. A. Hayes, 1900 Leimert Boulevard, Oakland 2, California, is president and manager of the firm, and has direct charge of the operations at the mine. All mining machinery required for the operation of the properties is on hand, and awaits installation pending connection

of electric power. A complete ball mill unit having a capacity of 40 tons per day is ready to be installed as soon as mining is resumed. After the North Star has been rehabilitated, the company will begin opening up the Laura mine.

Plans are being made by the Plumas Mining Company for an early reopening of the Walker mine in Plumas County, California, on a major production scale. The Plumas company was recently incorporated in Nevada to acquire the properties purchased from the Anaconda-controlled Walker Mining Company by R. P. Wilson, formerly of Texas and now a resident of Nevada. Wilson, who maintains offices at Walkermine, California, is president of the new corporation. Holdings of the Plumas group include several thousand acres of lode claims developed by many miles of underground workings and covering proved deposits of copper, silver, and gold. Included also is the mine camp with about 200 buildings, large quantities of new equipment and tools, electric hauling system with a nine-mile aerial tramway, and a flotation mill that has treated over 2,000 tons of copper-gold-silver ore per day. At one time the Walker property was California's leading copper producer. It was closed down in 1941 because it was believed that there were no ore deposits of sufficient importance to warrant continued exploration.

Sierra Mines, Inc., is planning the installation of a pilot mill on the holdings of the Cain estate near Bodie, California. Operations of the plant are scheduled to begin in the spring and it is expected that about 500 tons of ore will be tested daily. W. A. Linfesty, superintendent of the Tungstar Corporation, Box 328, Bishop, California, is associated with the new operation, and it is said that a number of officials of the Tungstar company have a financial interest in the new venture. S. B. McClusky, metallurgist, will be in charge of the Bodie pilot plant serving as general manager and consulting engineer.

COLORADO

Eugene T. Richards, Box 220, Central City, Colorado, and associates are reported to have acquired the Pittsburg mine near Central City and to have appointed George W. Danehy, who managed the property for former operators, to take charge of the work. The shaft will be repaired to the 500-foot level, after which the workings of the mine will be drained to the 1,100-foot level. Drifting to the west then will be started to follow a vein of ore at depth. A Diesel engine will be installed to power the hoist, compressor, and pumps. The Richards interests already hold the Meeker-Success mine and mill in the same district.

Operations are being started by the Shamrock Mining Company at its newly leased C. O. D. mine at Cripple Creek, Colorado. J. Ben Ross, 811 Midland Sav-

gs Building, Denver 2, is president of the company which also holds the adjoining Proper mine. The company started conditioning the Proper mine in the fall of 1944 and has been working it continuously since.

An additional 100 feet will be sunk in the Patti Rosa mine by the **Oro Mining Company** of Cripple Creek, Colorado. This work will be started as soon as possible in order to complete it before the spring thaw when surface water temporarily fills the mine to the fifth level. From the new bottom of the shaft a drift will be run to undercut an area from which substantial gold values have been taken. Lee Brown, Box 277, Cripple Creek, is superintendent of the Oro company, which holds the mine under lease from the United Gold Mines. George H. Gillen of Denver is president and Stanley T. Wallbank, Equitable Building, Denver 2, is manager.

More men will be hired as they are available at the Strong and Jefferson mines near Victor, Colorado, which John Deerksen, 826 Continental Oil Building, Denver 2, is operating under lease from **Strong Mines, Inc.**, employing about 12 men. The property is geared to the production of 320 tons of ore daily. Deerksen also operates the **Mary Cashen** mine under lease from W. P. Waggener, attorney of Atchison, Kansas. Present production, however, is coming entirely from the Strong property where an ore body 700 feet long is said to have been opened between the 1,300 and 1,500-foot levels. Stopping is under way on the 1,400 and 1,500 levels. J. G. Reid, president of the Standard Products Company, with offices in the Midland Building, Cleveland, Ohio, is president of the Strong Mines, Inc., which absorbed the Strong Leasing and Mining Company in 1940. The Strong mine was closed late in 1942 and reopened two years later. Since the reopening about \$40,000 has been spent in rehabilitation and prospecting work.

Construction of ore bins at the Joe Dandy property at Cripple Creek, Colorado, is being completed by the **Gold Mines Consolidated, Inc.**, and will be followed by the building of a new office, change room, and lamp house. New electric lamps have been ordered and the surface plant of the Joe Dandy is being renovated. The Jeter-Casteel lease on the 100-foot level of the mine is said to have opened a small body of shipping ore which is being taken out and H. E. Sammons and Company is making regular shipments from the Joe Dandy dump. Reed and Wilson lease the company's Little Frank S. Mine. Holdings of the Gold Mines Consolidated, besides the Joe Dandy which is leased, consist of the leased Donderberg-Terrible mine near Silver Plume where a gold strike was made recently; the Egyptian claims on Quartz Hill in Gilpin County which has been leased to California people; the Commonwealth mine at Cripple Creek, leased to Fred Polkinghorn and K. K. Inskeep, who are shipping ore; the C. O. D. property at Cripple Creek, five-sixths owned by Gold Mines Consolidated who leased it to present operators, the Shamrock Mining Company; the Victory mine at Cripple Creek, recently leased to the Gold Leaf Metals, Inc., which

will start work in the spring; and idle properties: Golden Flint, War Eagle, and other claims in Gilpin County; Donna Juanita and Gladstone in Clear Creek County; Lucky Discovery in La Plata County; and the Climax and Hillside groups of claims at Cripple Creek. The company also holds a 25 per cent interest in the Kropp Lease, a zinc operation which is in regular production. K. M. Ohlander, 315 Colorado Building, Denver 2, is president and Albert S. Konselman, 1619 Wood Avenue, Colorado Springs is company engineer.

The **El Paso Mines, Inc.**, has acquired the El Paso, Henry Adney, Raaler, and Old Gold properties in the Beacon Hill area three miles south of Cripple Creek,

Colorado. Including purchases, leases, and options, the company holds about 125 acres in the district. H. L. Tedrow, Olin Hotel, Denver, has been appointed general manager. Supplies and equipment have been ordered and plans call for the rehabilitation of mine workings. When this is completed, it is believed by the company that there will be an adequate labor supply to start mine production. The Henry Adney ground was purchased from John Kolman of Cripple Creek and is opened by a 700-foot shaft. The El Paso shaft is 1,350 feet deep and connected on the 950-foot level with the Roosevelt drainage tunnel. However, the Carlton tunnel has drained the mine far below that level.

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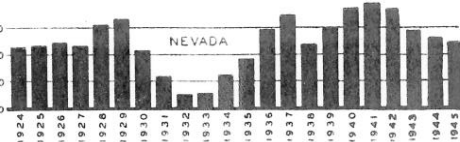
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NEVADA

NET PRODUCTION OF GOLD, SILVER, COPPER, LEAD, AND ZINC IN NEVADA, 1924-1945, IN MILLIONS OF DOLLARS



NEVADA'S production of each of the five metals, gold, silver, copper, lead, and zinc, was below that for 1944. Gold and silver were both lower in quantity and value than in any year since 1933, and copper was lower in quantity than any year since 1938, and in value since 1939. Lead was slightly under 1944 in quantity, but the value was the highest since 1930. Zinc was only slightly below the all-time record for quantity and value set during 1944.

Mines in Nevada yielded 101,500 fine ounces of gold valued at \$3,552,500; 990,800 fine ounces of silver valued at \$704,569; 104,950,000 pounds of copper valued at \$14,273,200; 13,100,000 pounds of lead valued at \$1,126,600; and 40,600,000 pounds of zinc valued at \$4,669,000. The comparative outputs in 1944 were 119,056 fine ounces of gold valued at \$4,166,960; 1,259,636 fine ounces of silver valued at \$895,741; 122,464,000 pounds of copper valued at \$16,532,640; 13,210,000 pounds of lead valued at \$1,056,800; and 41,398,000 pounds of zinc valued at \$4,719,372. Gold production decreased 15 per cent in quantity and value, silver decreased 21 per cent in quantity and value, copper decreased 14 per cent in quantity and in value, lead decreased 1 per cent in quantity, but increased 7 per cent in value, and zinc decreased 2 per cent in quantity and 1 per cent in value. The total value of the five metals in 1945 was \$24,325,869 compared with \$27,371,513 in 1944, a decrease of 11 per cent.

Preliminary data for 1945 indicate that 90 per cent of Nevada's gold was produced at lode mines and 10 per cent at placers compared with 94 and 6 per cent, respectively, in 1944. In 1945 as in 1944 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 one-quarter of the 1945 production of gold compared with 42 per cent in 1944.

The Kennecott Copper Corporation (Nevada Mines Division), a copper mine operator in the Robinson district, White Pine County, was Nevada's leading gold producer in 1945, accounting for roughly one-third of the state's gold output. Second place was held by the Consolidated Coppermines Corporation, also a copper producer. These two companies and the International Smelting and Refining Company, operating the Copper Canyon mine, Battle Mountain district, Lander County, also a copper producer, supplied half of Nevada's total gold in 1945. The Manhattan Gold Dredging Company continued dredging in the Manhattan district, Nye County; in-

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creased output boosted the operation into third place as a gold producer in 1945. The Getchell mine in the Potosi district, Humboldt County, was operated by the Getchell Mine, Inc., during the first half of 1945, but curtailed production, plus the closing of the mine in May, resulted in the operation ranking fourth for 1945 instead of first as had been the case for the previous six years.

Other operations that produced over a thousand ounces of gold in 1945 included the Willow Creek Mines, Inc., which operated a cyanide plant at the Goldacres mine, Bullion district, Lander County, and 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.

Approximately 90 per cent of Nevada's silver in 1945 was recovered from base metal ores. Somewhat less than 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, Prince Consolidated Mining Company, and the Ely Valley mine. all in the Pioche district, Lincoln County: the Bristol Silver Mines Company, Bristol mine, Jack Rabbit district, Lincoln County; and the Union Lead Mining and Smelting Company, Union Lode mine, Galena district, Washoe 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, and Harrison & McWhorter and McFarland & Hullinger, the Cleveland mine, Delano district, Elko County. 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, and the International Smelting and Refining Company's Copper Canyon operation, Battle Mountain district, Lander County, were an important source of silver in 1945. Gold-silver ore shipped for siliceous flux by the Tonopah Mining Company was also an important source of silver.

Copper production in Nevada in 1945 continued the decline in effect since the all-time record of 1942. The decrease in copper production was distributed between the principal producers and was caused largely by a continuation of the labor shortage. 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 nearby Consolidated Coppermines Corporation. These two companies and the Mountain City Copper Mining Company, which worked the Rio Tinto mine, Cope district, Elko County, produced over 96 per cent of the state's total in 1945.

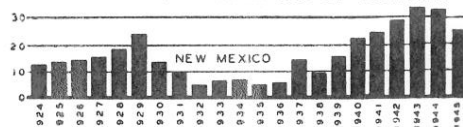
The Pioche district produced nearly 50 per cent of the lead and nearly 80 per cent of the zinc in Nevada in 1945, according to preliminary data; all of the zinc and

most of the lead was recovered from concentrates produced by the Combined Metals Reduction Company's Pioche mill. This mill operated on ore shipped to it by the Combined Metals Reduction Company from the No. 2, Amalgamated, Abe Lincoln, and Raymond Ely West mines; by the Prince Consolidated Mining Company from the Prince mine; and by Ely Valley mine.

In addition to the Pioche district mines there were a number of other lead and lead-zinc mines active in Nevada in 1945. The principal ones were: the Bristol mine, Jack Rabbit district, Lincoln County; Argenta mine, Yellow Pine (Goodsprings) district, Clark County, operated by the Argenta Consolidated Mining Company; Grand Deposit mine, Aurum district, White Pine County, operated by the Grand Deposit Mining Company; Mt. Hope mine, Eureka district, Eureka County, operated by the Callahan Zinc-Lead Company; Yellow Pine mine, Yellow Pine district, Clark County, operated by the Coronado Copper and Zinc Company; Sultan mine, Yellow Pine district, Clark County, operated by L. F. Jacobson; the Nevada Lead and Zinc Company's mine, Spruce Mountain district, Elko County; Columbia mine, Robinson district, White Pine County, operated by S. M. Robinson; Groom mine, Groom district, Lincoln County, operated by the International Mining Corporation; and the Union Lode mine, Galena district, Washoe County, operated by the Union Lead Mining and Smelting Company.

NEW MEXICO

MINE PRODUCTION OF GOLD, SILVER, COPPER, LEAD, AND ZINC IN NEW MEXICO, 1924-1945, IN MILLIONS OF DOLLARS



MINES in New Mexico yielded 5,111 fine ounces of gold, 481,251 ounces of silver, 113,100,000 pounds of copper, 14,200,000 pounds of lead, and 77,900,000 pounds of zinc in 1945. Production in 1944 was 6,918 fine ounces of gold, 535,275 ounces of silver, 139,460,000 pounds of copper, 14,530,000 pounds of lead, and 101,454,000 pounds of zinc. These figures indicate decreases in 1945 of 1,807 ounces of gold (26 per cent), 54,024 ounces of silver (10 per cent), 26,360,000 pounds of copper (19 per cent), 330,000 pounds of lead (2 per cent), and 23,554,000 pounds of zinc (23 per cent).

The total gross value of gold, silver, copper, lead, and zinc produced in 1945 was \$26,082,408, compared with \$32,178,026 in 1944, and included gold valued at \$178,885, silver \$342,223, copper \$15,381,600, lead \$1,221,200, and zinc \$8,958,500. Of the 1944 total value, \$242,130 was in gold, \$380,640 in silver, \$18,827,100 in copper, \$1,162,400 in lead, and \$11,565,756 in zinc.

The Chino Mines Division of the Kennecott Copper Corporation operated its open-pit mine at Santa Rita in the Central

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OREGON

OREGON'S gold, silver, copper, lead, and zinc mining industry showed only slight signs of recovery from the disastrously low level to which it had fallen in 1943 as a result of the war. Gold production amounted to 4,600 fine ounces; silver, 10,700 fine ounces; copper, 600 pounds; lead, 10,300 pounds; and zinc, 5,000 pounds, the first reported output of this last named metal in Oregon since 1937. Production in 1944 was 1,369 fine ounces of gold, 20,243 fine ounces of silver, 6,000 pounds of copper, and 8,000 pounds of lead. The value of the five metals in 1945 was \$170,151 compared with \$63,760 for four metals produced in 1944, an increase of 167 per cent.

Gold production in 1945, though more than three times the output in 1944, was only 4 per cent of the production in the record year of 1940 of 113,402 fine ounces valued at \$3,969,070. The gain in production occurred during the last half of the year following, and as a direct result of the revocation of the War Production Board Order L-208 effective July 1, 1945. The major proportion of production came from placer operations which were the easier to reopen and expand as compared with the lode mines; both types of mines were (and still are) faced with the problem of labor and supplies. The principal gold producer in 1945 was the Sumpter Valley Dredging Company which operated a connected-bucket dredge in the Sumpter district, Baker County. The Sunshine Mining Company (Burnt River Division) resumed operation of its dredge in the Greenhorn district late in 1945.

SOUTH DAKOTA

MINE PRODUCTION OF GOLD, SILVER, COPPER, LEAD, AND ZINC IN SOUTH DAKOTA, 1924-1945, IN MILLIONS OF DOLLARS



GOLD production in South Dakota in 1945 increased 246 per cent compared with 1944 largely as a result of rescission of War Production Board Order L-208, effective July 1, 1945. Mines in South Dakota yielded in 1945 (in terms of recoverable metals) 40,253 fine ounces of gold, 20,205 fine ounces of silver, and no copper, lead, or zinc. These figures are based on 11 months' actual mine production with December production calculated from reports by mine operators, refineries, and smelters of anticipated shipments and receipts. Production in 1944 was 11,621 fine ounces of gold, 5,445 fine ounces of silver, 2,000 pounds of copper, 68,000 pounds of lead, and 112,000 pounds of zinc.

At the average prices used by the Bureau of Mines, the calculated gross value of the output of these metals in 1945 was: Gold, \$1,408,855; and silver, \$14,368—a total of \$1,423,223. In 1944 the total value was \$429,085, indicating an increase from 1944 of \$994,138 (232 per cent).

During the first half of 1945 gold production in South Dakota was limited to

that recovered from mill clean-up by the Homestake Mining Company. The company resumed mining operations on July 2 following the War Production Board's rescinding, effective July 1, 1945, of its gold-mine closing order, L-208. The company was one of the few in the United States able to take immediate advantage of the lifting of the ban on gold mining. The labor supply at Lead, South Dakota, was adequate to start operations and the company expects to reach near-normal operations in 1946.

The only other gold-mining operation from which shipments were made in 1945 was the Bald Mountain Mining Company at Trojan, Lawrence County. The company resumed operation of its group of mines and 350-ton all-slitting countercurrent-cyanidation plant the latter part of the year at about 50 per cent capacity. The company's 110-ton gas-fired rotary hearth furnace was not placed in operation as only "oxide ores" were mined; no mining of the "blue ores" was done in 1945. The Belle Eldridge Gold Mines, Inc., the only producer in South Dakota in 1944, restricted its operation to the development of its property.

TEXAS

MINES in Texas yielded 21,330 fine ounces of silver and 80,000 pounds of copper in 1945. Production in 1944 was 5,355 fine ounces of silver and 230,000 pounds of copper. These figures indicate an increase of 15,975 ounces of silver and a decrease of 150,000 pounds of copper. No gold, lead, or zinc was recovered from ores mined in Texas in 1944 or 1945.

The calculated gross value of the output of these metals in 1945 was silver \$15,168 and copper \$10,880, a total of \$26,048. In 1944 the total value was \$34,858, of which \$3,808 was in silver and \$31,050 was in copper.

All producing metal mines in the state in 1945 were located in Culberson and Hudspeth counties. The Hazel mine, 14 miles northwest of Van Horn, Culberson County, operated from March through June and shipped copper-silver ore to the El Paso copper smelter. Three mines were active in Hudspeth County in 1945; Black Shaft mine and the Sancho Panza mines northwest of Allamoore, and the Hackberry mine near Allamoore. All operated intermittently during the year and shipped copper-silver ore to the smelter at El Paso.

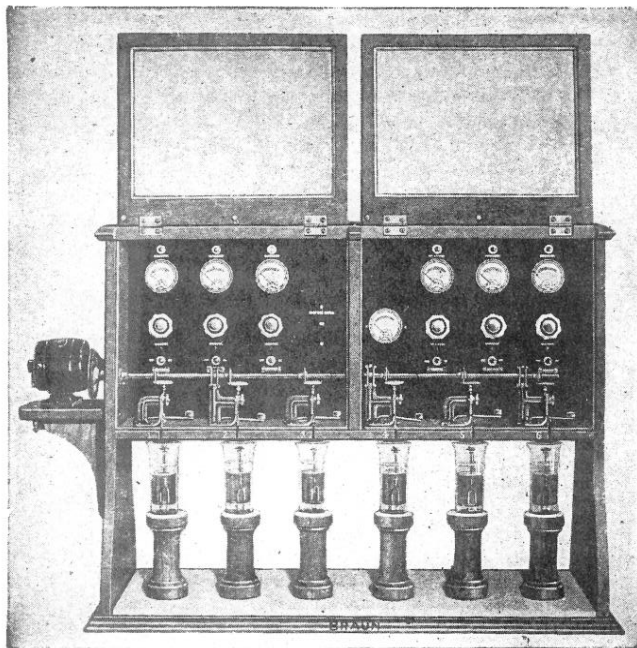
In 1945, two horizontal-retort zinc smelters and one electrolytic zinc smelter, one copper smelter, and one lead smelter were in operation in Texas. The American Smelting and Refining Company continued to operate its copper and lead smelters in El Paso in 1945, treating concentrates and ores purchased for the greatest part from operators in Arizona, New Mexico, and Texas, and foreign ores and concentrates purchased from operators in Canada, Mexico, Argentina, Australia, and Newfoundland. The American Smelting and Refining Company's gas-fired horizontal-retort zinc smelter at Amarillo was operated throughout the year on zinc concentrates purchased mostly from op-

Electrically powered equipment has been installed and shipping has begun at the **Blue Bell** mine. The property is located in the Big Bug district near Mayer, Yavapai County, Arizona. Lloyd Farnham, Mayer, is operating the mine.

Development work continues at the San Manuel project of the **San Manuel Copper Corporation** located in the Red Hills area near Tiger, Arizona. Drilling is being continued as rapidly as suitable drill rigs become available. In addition to the 17 holes drilled by the U. S. Bureau of Mines, six holes started by the bureau have been deepened by the company and 14 more have been completed. The drilling has extended considerably the mineralized area, but much additional drilling is needed to de-limit it, as well as to complete the drilling in the area now explored by too widely spaced holes. A large tonnage of mineralized rock is indicated and the percentage of sulphides has increased as drilling progressed. The San Manuel Copper Corporation is a wholly owned subsidiary of the Magma Copper Corporation, Superior, Arizona. The San Manuel is a previously unworked property originally located as a group of nine claims owned by Nichols, Douglas, and Associates of Superior. However, due to the fact that the drilling disclosed extensive mineralization outside of the nine-claim area, 35 other claims have since been located by Magma. Work at San Manuel was first started by the bureau about two years ago. Wesley P. Goss, Superior, is general manager for the Magma Copper company.



An extensive gold production program is being inaugurated by C. L. Best, San Leandro, California, owner of the **Ruby, Gold Bluff, and Oxford** mines. A Sullivan T350 dual-valve drifter mounted on a Sullivan hydro-drill jib has been installed at the Oxford mine, situated on the North Fork of the Yuba River, one mile from Downieville, California. The machine is said to be the first one of its type to be used in the West. Plans are being made to reconvert the Oxford ball mill from 50 tons to 100 tons daily production. Drilling is now being done through extension of the former Good Hope tunnel which has been producing intermittently since the 1860's. About 350 feet of the old tunnel, which had caved in, have been cleaned out and retimbered. Diamond drilling from the Snyder and upper Merserve tunnels, about 500 to 700 feet above, has shown the incline of the ledge and sufficient gold content is indicated. Stopping is expected to prove profitable. It will be necessary to run about 500 feet of the tunnel to strike the vein, and as the time element is an important factor, miners are being paid a bonus on a footage basis over and above the guaranteed base pay. With the tunnel completed, stopping will be possible and production from the property is expected to run the reconverted 100-ton mill



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at capacity. Operations at the Ruby mine are scheduled to begin during the summer. There are extensive workings in this property which was dormant during the war. It is planned to operate the 50-ton ball and stamp mill. There are several quartz ledges in the Ruby and, in addition, large deposits of gravel from a prehistoric river bed. Some of this has been handled in the 600-ton gravel washing plant. During the war, the Oxford mill treated about 8,000 tons of chrome ore. Lewis L. Huelsdonk, Downieville, is superintendent for the Best operations.

Larsen and Harms Brothers, Route 4, Box 2220, Sacramento, California, have announced plans for reopening their Scandia gold placer property at Horse Creek on the Klamath River in California. A dragline and other equipment have been moved to the property and it is planned to have crews at work in a short time. The property had been closed during the war period in compliance with the government's gold ban. R. R. Barritt is in charge of operations.

Preliminary mining is already under way and an extensive development program is being planned at the Black Jack property which is comprised of the Black Jack, Black Jack Extension, and the Ida Della lode mining claims, located near Columbia, California. The claims are developed at present by some 500 feet of tunneling, together with numerous shallow shafts, showing the vein to be continuous for more than 2,000 feet with an average width of about three feet. There also is a 65-foot shaft, which shows increasingly good ore values at depth. The ore is of the sulphide variety, and samples taken from present workings show an average value of \$21.88 per ton in gold, silver, and lead. The Black Jack Gold Mining Company, Ltd., a limited partnership, works the holdings, and its operating officials include John C. P. Skottowe, 1317 North Curson Avenue, Los Angeles 46, California, general manager, and Luigi Rosselle, 6075 Franklin Avenue, Los Angeles 28, assistant general manager.

Operations at the Hoefling Brothers' Big Bend zinc-copper mine near Oroville in Butte County, California, have been terminated, according to J. W. Hoefling, managing partner, Box 786, Sacramento, California. The Big Bend crew has been shifted to the Surcease gold property. The Surcease had been closed for three years in compliance with the government's gold-ban order. Rehabilitation of the entries, to make possible an appraisal of the problem of attempting resumption of operations, is under way at present.

The Original Sixteen-to-One Mine, Inc., which operated its property at Alleghany, California, continuously throughout the war period, is reported to be planning capacity production as manpower and materials become more plentiful. The company is said to have blocked out substantial ore reserves from the famous gold mine while operating on a limited production scale under a WPB permit during the war years. Clayton A. Bennett, Alleghany, is superintendent, and H. U. Maxfield, 1611 Russ

BOOM TOWN TO GHOST TOWN?

The one-time boom town of Jerome, Arizona, is slowly slipping and sliding in'o oblivion. Jerome, home of the Phelps Dodge Corporation's United Verde Branch, has been slipping and sliding at the rate of a foot and a half a month, and since 1930 part of the town's business section has been wrecked, with two and three story buildings being condemned and demolished.

Mining operations responsible for the earth's subsidence were abandoned when the copper ore body in that area was exhausted and although other operations in the general vicinity are continuing, Jerome has lost its prestige, popularity, and some of its ground, as a residential and business center.

The town's jail literally walked across the street, taking the other side with it, and has been unused due to its inaccessibility and lack of sanitary facilities. Jerome's population also has slipped from its peak of 8,500 to its present low of 2,000.

Says City Manager R. E. Moore, who for 21 years has watched Jerome's growth and decline, "At any rate, Jerome must be the only place in Arizona where no housing shortage exists. You can rent a house, office, or even an office building and still keep your shirt and your soul."

Building, San Francisco 4, California, is president of Original Sixteen-to-One.

Considerable machinery has been installed and actual mining operations have been started at the Rio Hondo mine in the Goldstone district, San Bernardino County, California. The Rio Hondo is being developed by two partners, Harvey Crawford and Vernon Jay of Barstow, California.

Reopening of the Zeibright mine is not being scheduled by the Empire Star Mines Company, Ltd., at this time it is reported. The Zeibright mine is located at Emigrant Gap near Nevada City, California. Prior to suspension of operations at the property, 800 tons of gold ore were being handled daily at the milling plant. In 1942 a tunnel from the mine to the Yuba River was started to dispose of tailings from the Zeibright mill. A flood had washed out the tailings dam in 1941 and caused the mill shutdown. Steady progress is reported at the Empire Star's Empire, Pennsylvania, and North Star properties in Grass Valley. It is said that the company is milling about 400 tons of gold ore daily and employing about 350 men. John R. C. Mann, Grass Valley, is the mining company's general manager.

Declaring that \$8.50 per day is the standard wage for miners in unionized areas, whereas the prevailing average for the Nevada County, California, mining area is only \$6 per day, the Mother Lode Mine and Mill Workers Union, Local No. 839 (C. I. O.), has launched a drive for members in the region. In order to announce the drive, a letter has been sent to business men in the Grass Valley region

William Gately, international representative for the union. The union has established offices at 208½ Main Street, Grass Valley.

According to reports credited to S. K. Droubay, general manager of the Darwin mine at Darwin, Inyo County, California, gold production is running more than 500,000 pounds monthly. Two ore bodies are being worked to an incline depth of 600 feet in the Radiore tunnel and recent new development work is said to have increased ore reserves of lead-zinc ore materially. The property is in the New Coso district, a mile northwest of Darwin and covers about 2,000 acres of mineralized ground. The property was purchased last summer by the Anaconda Copper Mining Company. Droubay maintains headquarters at Darwin.

Development work at the Enterprise mine on the North Fork of the Trinity river in Trinity County, California, is said to be disclosing some rich gold ore. The property is an old producer and is situated near noted placer and lode mines. Alex McGee, Weaverville, California, is operating the mine.

Ore reserves are reported to have been increased materially at the May Lundy mine near Bridgeport, Mono County, California. The gold property is located on Mill Creek and comprises 23 claims. Old workings below the 500-foot level are said to contain much milling ore. Mining machinery was installed last year when A. H. Heller, 412 West Sixth Street, Los Angeles, California, and E. F. Smith of New York

SHADES OF '49

In the old days, immigrants to the United States were said to have been disappointed to find that the streets and sidewalks were not paved with gold as they had been led to expect. However, in Auburn, California, gold has been discovered recently beneath a city sidewalk.

J. C. Noon is the lucky fellow who made the gold strike while excavating for a fuel-oil tank underneath the sidewalk at the Travelers Hotel at Auburn. Noon, who had been a gold miner at one time, noted a piece of quartz in the course of his work and was quick to see the free gold in the quartz seam. He took the rock home, crushed it, then washed the fines in a gold pan. He recovered \$1.40 worth of gold. With that as a basis, he estimates that the quartz would run \$4,000 per ton. Ike Smith, owner of the hotel, has not as yet agreed to permit his building to be torn down in order that gold miners may go to work.

In the early days of Auburn, long before new-fangled conveniences such as paving were known, it was not uncommon for pieces of free gold to be picked up along Auburn streets following a heavy rain.

City, took the property over. Plans are being made for the installation of a mill in the near future. The property is credited with producing more than \$3,000,000 in

gold ore from 1880 to 1910. Development work on a limited scale was carried on during the winter.

The old Golden Jubilee quartz mine at Onion Flat, nine miles above Carrville on Coffee Creek in Trinity County, California, will be reopened shortly by Chester Probstal of Shasta, and a San Francisco mining firm. They will install a modern Diesel-equipped plant, including both cyanidation and flotation. The mine was operated last in 1939 by the McCormick-Saeltzer Company of Redding. Several tunnels have already been completed and installation of other equipment for large-scale operation is being speeded.

Alex Markon, together with Ellis and Marvin Cramer, all of Sawyers Bar, California, have leased the Joubert hydraulic mine in Eddy's Gulch near Comptonville, Siskiyou County, California. The Joubert is declared to be the oldest hydraulic mine in California in point of years of operation. It has been operated almost continuously since 1855 by members of the Joubert family. There is said to be sufficient ore to warrant continuous operations for about another 15 years. Operations will be resumed by the lessees as soon as weather conditions permit. Tailings are stored behind the Bullards Bar dam.

The Fagundes hydraulic mine in Siskiyou County, California, is being prepared for the season's work by Jack Turk of Yreka, and Elmer Ince of Happy Camp, California, who are now operating the property.

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Louis Mayer and T. W. Boerkircher, both of Iowa Hill, California, who are working the Welcome drift gravel mine under a partnership agreement, are said to have completed a 244-foot bedrock tunnel and are now in gravel. The Placer County property was operated on a limited scale during the period of the gold ban. It is understood that former operators developed a considerable amount of gravel that will be mined before any development work is begun. Production will begin shortly.

Operations continue and plans are being made for expansion at the Hayden Hill gold quartz mine in the Hayden Hill district in Lassen County, California. The property is an old producer and is situated in a once-highly productive region. The Hayden Hill comprises 24 mining claims located 15 miles southeast of Adin. All necessary machinery and a small cyanide milling plant are on the ground. Mining operations are being directed by F. H. Brown of Adin, resident manager for Lassen Eagle Mining Company, the operating firm. Lassen Eagle is controlled by the Gold Eagle Mining Company, C. C. Anderson, Symons Building, Spokane 8, Washington, president.



Construction of a 100-ton flotation mill is under way at the Country Boy zinc mine near Breckenridge, Colorado, by the Garvie London Gold Mining Company. Lawrence W. Garvie of Breckenridge and Denver is president and superintendent of the company and Norman S. Ballantine, 617 Cooper Building, Denver 2, is general manager. The company acquired the old mine in 1942 and had to reopen old workings, start new development, and install modern electrical equipment and power lines. High-grade zinc ore has been shipped to the Resurrection mill at Leadville, but after milling-grade material was opened in quantity, the company started installation of a milling plant of its own. At present 25 men are employed, but again as many could be used if they were available.

A 50 to 75-ton selective flotation plant will be furnished and erected by the Denver Equipment Company for the Montezuma-Tam O'Shanter Mines, Inc., at its property 18 miles southwest of Aspen, Colorado. John E. Costello, 528 Cooper Building, Denver 2, is president of the mining concern which was organized nearly a year ago to acquire and operate the old Montezuma and Tam O'Shanter lead-zinc-silver properties. A lead and a zinc concentrate will be produced. Total installation will cost about \$25,000 and completion is scheduled for this coming summer, or 90 days from the start of construction.

Because of smelter strikes elsewhere, the Ore and Chemical Company of Leadville, Colorado, has had to suspend milling operations at its heavy-media separation plant, having no outlet for its product.

SCHOOL OF MINES TO MOVE

The National University of Mexico, North America's oldest college which has functioned continuously since 1553, has decided to do something more for mining than just teach mining engineering and render geological service to the industry. It has assigned engineers to arrange for moving the mining school building, now across the street from the general post office in Mexico, D. F., to the University City. It is to be re-erected there along modern lines, yet retaining the grace given it by its builder, the famous Spanish architect Tolsa.

Mexico's National School of Mining is the third oldest institution of the kind in the world. It was founded in the late eighteenth century and is ranked in age only by the schools of Paris and Moscow. The building, as it stands, is about to fall to pieces and is considered a menace to life and limb. The University hopes that with a safer and better-equipped building the school will attract many more than the four students who have enrolled for the mining engineering course these past several years.

Some of the concentrates were sent to the Golden Cycle zinc plant, which is closed down as a result of work stoppages in the eastern zinc industry. The Utah smelters also are closed. Kurt A. Spohr of Leadville, manager of Ore and Chemical, states that repair work and improvements will be done during the shutdown and work strung out as much as possible in order to keep the crew intact. The plant has a rated capacity of 800 tons daily, but averages 1,200 to 1,400 tons and can be crowded to 1,800 tons. Clyde Overman, Leadville, is assistant mill superintendent.



The Vindicator Silver-Lead Mining Company, an Idaho incorporation capitalized for \$250,000, is the name of the reorganization of the Vindicator Mining Company, stock control of which was purchased recently by W. J. Logus and Company, 306 Blanchard Street, Seattle, Washington. The Logus interests acquired the property last summer and immediately started reopening the long-idle workings. The property consists of the Silver Horn, Barragh Buck, Siskiyou Belle, and a quarter interest in the Bull Dog claim, all located just east of Mullan, Idaho. The lower or No. 2 tunnel has been retimbered and retracked and a crosscut has been started northward to cut a known vein. When the vein is reached a raise will be put up to the surface, providing ventilation and a second outlet, after which deeper development will be started. V. R. Newbury, Box 232, Silvertown, Idaho, is general manager. The old Vindicator concern was dominated by Mrs. Katherine Powers of Oakland, Cali-

ing Company under lease from David Russell, Box 603, Prescott, and has its principal values in zinc, lead, and silver. The company is making regular shipments of ore. E. M. Moores, Crown King, is president of the Gladiator organization. A. N. Bennett, Crown King, is mine superintendent and Rudolph Sturm, Cordes, is mill superintendent.

The Rich Hill Mining Corporation is operating the Rich Hill group of gold properties located at Stanton about nine miles east of Congress Junction, Arizona. The property is owned by George B. Upton, Stanton, via Congress Junction, Arizona. Sinking of a test shaft to bed rock has been started and installation of a pilot plant is under way. The gold property is situated in an area which had been worked extensively in the 1860's and is reported to contain good showings of free milling ore. Harry Feick, 839 Glenmont Avenue, West Los Angeles, California, is president of the company. Albert A. Hall, 435 South Alexandria Avenue, Los Angeles, California, is general manager.

It is reported that the Bagdad Copper Corporation, Hillside, Arizona, is making plans to change to a float and leach milling operation. Under the flotation process now being used, approximately 75 per cent recovery is made due to the excessive amounts of oxide present. Bagdad is handling 3,000 tons daily and the ore runs a little under 1 per cent copper. The leaching will be an acid leach. Stripping the ground in preparation for a change to

USE AND MIS-USE OF ENGLISH

Government agencies can speak English when they are forced to, but usually they remain behind their screen of five-syllable jawbreakers, considered "refeened" during the Victorian Era. One poor dope made them get down to brass tacks, though. He wired a government bureau inquiring if hydrochloric acid could be used to clean a certain type of boiler tube.

Reply, "Uncertainties of reactive processes make use of hydrochloric acid undesirable where alkalinity is involved."

So the John Doe in question thanked the bureau for its advice and said he would use hydrochloric acid.

Reply, "Regrettable decision involves uncertainties. Hydrochloric will produce submicate invalidating reactions."

Again John Doe thanked the bureau and said he was glad to know that hydrochloric acid was all right.

Then it came. The bureau wired back, "Hydrochloric acid will eat hell out of your tube."

an open-pit operation has been started. The company is headed by J. C. Lincoln, Route 1, Box 350, Scottsdale, Arizona, and E. R. Dickie, Hillside, is general manager.

Shipping from the El Oro lead-zinc-silver producer near Chloride, Arizona, is

reported to be steady. Ore is being sent to the Mineral Park Milling Company's mill about seven miles from the mine. Robert Morgan, Kingman, is manager of the El Oro.

Preparations are being made at the Piedmont Mine, near Cordes, Yavapai County, Arizona, for early operation. The mine has been the scene of extensive surveying and reestablishment of the property as a copper producer is indicated. Ernest D. Foster, consulting engineer for the Foster Engineering Company, 2641 West Avenue 31, Los Angeles 41, California, is in charge of present work at the mine.



The Marath Mining Company, operating a gold property on the Klamath River near Yreka, California, is planning the installation of a 35-ton mill in the near future. Carl W. Yates, Box 297, Yreka, manager and engineer for the company, will design the mill and also supervise its construction.

The Golden Feather Dredging Company is continuing operations on the American River eight miles east of Auburn, California. The company started working the ground last fall after completing a five-year dredging project in the Feather River district near Oroville. The dredge is working at near capacity and is handling about

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6,000 yards per day. E. A. Wiltsee, Room 1002, Wells Fargo Building, San Francisco, California, is general manager. Another Wiltsee operation is being conducted by the Hoosier Gulch Placers on the American River near Georgetown. There a 150-yard per hour Bodinson washing plant and a 755 P&H dragline with Esco buckets are being used. John Biles is superintendent of both operations.

Development work, consisting of a series of open cuts and shafts, has uncovered a substantial deposit of bentonite on the Bentonite Knoll group of claims. The property is located in Kern County north of Randsburg, California. The ore body is reported to vary from three to nine feet in depth and is capped by a shallow deposit of pumice. Grover Kane, G. N. Hadley, and Bert Johnson, all of Randsburg, are the claim owners.

L. D. Foreman, Keeler, California, reportedly is continuing regular operations at the Cerro Gordo lead-silver property located in Inyo County, California, near Keeler. Production for the previous year was reported to be good.

The Newton copper property located about seven miles from Jackson in Amador County, California, continues to be a regular producer. Present operations are conducted by Pacific Mining Company, P. R. Bradley, Jamestown, California, president, under a contract agreement with the Winston Copper Company, which holds the lease from its owners. The Newton property is an old producer having been worked

LO! THE POOR PROSPECTOR

The day of the burro, the pick, and the pan seems to be on the wane, but the final blow is the discussed-to-death atomic bomb. Captain Eddie Rickenbacker has proposed to the Army, the Navy, and the Coast Guard that atomic bombs be used to prospect for gold and other minerals in the south Polar region. The idea is that the bomb be used to blast the ice-cap, thus making accessible the earth with its supposed riches.

A warning to prospectors, though—Don't give up your western U. S. claims and equipment and start trekking to the Antarctic just yet—remember, our summer is their winter—if that makes any difference.

as far back as the 1860's. After the turn of the century very little work was done at the mine until the property was reopened in 1942. In 1945 it ranked fourth in copper output in California.

Regular production of lead oxides at the Columbia No. 2 mine in Inyo County, California, is being maintained. The property is opened by a 770-foot inclined shaft, drifts, and raises, and is equipped with a Diesel electric power unit, Ingersoll-Rand compressor, and miscellaneous mining machinery. W. Buford Davis, Tecopa, California, is general manager for the Finley Company, successor to Shoshone Mines, Inc., the former operating company.

The Morris Ravine Mining Company, carrying on drift mining operations at its Morris Ravine mine, four miles north of Oroville, California, is producing some gold. The mine, one of the leading drift mines in the state, was the scene of limited work, confined mainly to maintenance and some prospecting, during the war years.

Natomas Company at present is operating six of its seven dredges in Sacramento County, California. The other dredge will be put into operation as soon as the necessary manpower becomes available. Two dredges were operated on a limited scale during the war. The company operates in Nevada through its subsidiary, the Manhattan Gold Dredging Company, and in Colorado through the South Platte Dredging Company, also a subsidiary.

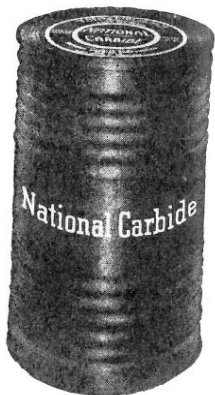
The Gold Hill Dredging Company which operated one dredge on Mokelumne River in San Joaquin County, California, by WPB permission, has added a second dredge to its operations in the same vicinity, and has a third dredge operating in Butte County. The company is headed by E. B. DeGolia, 904 Robert Dollar Building, San Francisco, California.

It is reported that John Carter Anderson, 812 Pacific Electric Building, Los Angeles 14, California, and Warner Clark, 220 Bush Street, San Francisco, California, are planning to begin large-scale dry-bank shovel operations in the Forks of Salmon, California, region.

Dallas W. Poston, 701 Spencer Avenue, Santa Rosa, California, is resuming opera-

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Fred F. Cassidy, president and general manager of the Alpha Hardware and Supply Company, Nevada City.

Resumption of gold mining operations is scheduled soon at the **Sure Pay** mine by the **Central Pacific Gold Mining Company**. The property, acquired by its 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. The property carries considerable lead and zinc in addition to its gold values and had been closed during the war years. 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.

Reopening the old **Gaston** mine in the Eureka district near Nevada City, California, is being continued by the **Tonopah Divide Mining Company** of Reno, Nevada, which acquired the property last year from Eldon L. Cleveland of Reno who had owned it for the past five years. Road construction and other preliminary work were not started till last December because of the shortage of manpower and materials. The mine has a production record of \$2,000,000 from operations during the last 50 years. Five veins are stated to be exposed by a series of tunnels. The lower tunnel, in nearly 5,000 feet, intersects a ledge 1,500 feet below the outcrop. Equipment on the ground includes a 70-ton mill, compressor, and drills. About 100,000 tons of developed ore are said to be on hand. Clyde D. Souter, Box 1466, Reno, is president of the Tonopah Divide concern. Purchase price for the Gaston mine was \$100,000 of which \$20,000 was the down payment and the balance will be paid on a royalty basis. Operations at the mine will be expanded as rapidly as manpower and materials become more plentiful. The Tonopah Divide company also has optioned the adjoining property, the **Giant King** mine, a gold producer of former days. Sampling operations are under way and no plans will be announced until results are obtained.



The Massco Fahrenwald flotation cells for the new 500-ton mill addition of the **Idarado Mining Company** have arrived in Ouray, Colorado, and installation is under way. The equipment will be tried on the complex ore of Idarado's **Treasury Tunnel** property. The present plant has a 250-ton daily capacity and gives a three-way separation, producing lead, zinc, and copper concentrates. With the installation of the new equipment, milling capacity will be brought to 800 tons a day. Oscar H. Johnson of Denver is president of the mining company and Charles W. Plumb of Ouray is general manager.

Production is expected this coming season from the **Molas** mine south of Silver-

ton, Colorado, which Joseph M. Gross of Los Angeles, California, and associates acquired last year. Until winter weather became too severe a crew of 10 men was conducting cleanup and development work in the mine under the direction of Ross Fitch, one of the leasing group. The shaft was rehabilitated and extended to the 120-foot level from which point a drift was started on the vein. It is reported that a large body of commercial ore was opened in an undeveloped portion of the mine and will be mined this season. Ore values are in gold, silver, and lead.

Reopening of the 4,500-foot **Genessee** tunnel in the **Red Mountain** mines at Ouray, Colorado, has been started by C. L. Stearns of Georgetown, contractor for the **American Smelting and Refining Company**.

When the adit is reopened, a 3,000-foot extension will be run into undeveloped territory. Later this spring the company expects to reopen the **Joker** tunnel which traverses the **Red Mountain** property for a distance of 5,000 feet. J. Fred Johnson, McCornick Building, Salt Lake City 1, Utah, is in charge of western mining operations for A. S. and R.

The **Last Chance** mine on the east slope of **Gold Hill** at **Cripple Creek**, Colorado, has been acquired from Troy E. Wade of **Cripple Creek** by the **Champion Mines Company**, Jesse Simmons, 941 Monroe Street, Denver 6, president. The **Champion** company has started work on the drift from the **Flying Cloud** shaft 400 feet along the **Flying Cloud** vein to the **Morning Star** line from where it will be



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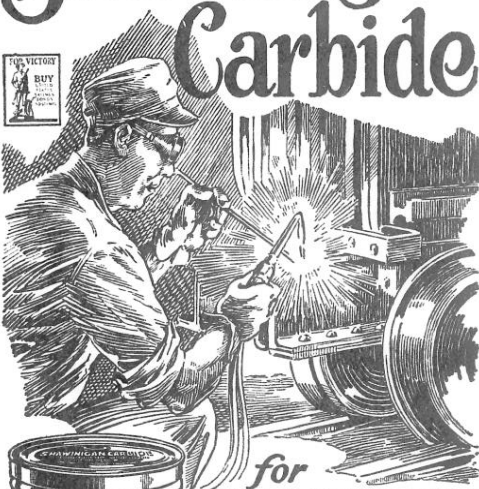
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What The Courts Say

RECENT DECISIONS OF INTEREST AND VALUE

Compiled by H. B. Walker, Attorney at Law, 312 Phoenix National Bank Building
Phoenix, Arizona

STRONG VS. SUNSET COPPER COMPANY

114 Pac. 2nd 526, (Wash.) June 1941
Chattel property may become part of
realty under certain circumstances.

Strong sought to foreclose a mortgage on and against the Sunset Copper Company and contended that certain property such as dishes, blankets, sheets, beds, etc., belonging to the mining company should be considered as a part of the real property and should be included in the mortgage. The beds in the bunk house were on specially prepared concrete foundations attached by bolts and could be removed by loosening the screws. The Supreme Court of Washington laid down the following rule:

"In determining whether a chattel annexed to the land is a trade fixture or a part of the realty the principal inquiry is into the intent of the party making the annexation. This may sometimes be difficult, but whatever may be the legal relation of the parties waging the controversy, where the intent is discovered it is generally controlling.

"A different rule obtains for determining the intent when the question arises between landlord-tenant, licensor-licensee, than obtains between grantor-grantee, mortgagor-mortgagee or heir-executor. When the annexation is made by a tenant or licensor the presumption is that he did not intend to enrich the free hold but intended to reserve title to the chattel in himself, while from an annexation by the owner of the property the presumption is the other way.

"In the present case the evidence shows that the property in question was attached to the real estate as firmly as it appears to have been reasonably possible to attach it, and, highly important, it was so attached by the owner himself. The things annexed (the beds) were in use and to be used in the actual operation of the mines. The lands were patented claims and were beyond stages of prospecting and ready for the work of production which could not be accomplished without these annexations that were installed as a part and parcel of the mining real estate. The presumption must be indulged in that they were attached by the owner with the intent to enrich the free hold."

The general rule and true criterion of a fixture is the united application of (1) actual annexation to the realty, (2) application to the use or purpose to which that

part of the realty with which it is connected is appropriated, and (3) the intention of the party making the annexation to make a permanent accession to the free hold, but it must be understood that a specific agreement on whether or not such chattel is or is not to become realty once installed prevails over all determinative tests.

KERSCH VS. TABER, ET AL

154 Pac. 2nd (Calif.) 934—Jan. 1945

In a mining contract "time is of the essence" regardless of whether the contract so states.

Kersch sued Taber in the Superior Court of Siskiyou County, California, for the recovery of \$1,500 advanced under a contract for the purpose of purchasing certain mining property. The defendant Taber did not buy the specific property and after 14 months delay, and while occupying the property, paid off labor claims with the money and finally abandoned the property.

Defendant Taber set up as a defense a claim of a partnership with Kersch and that the \$1,500 had been expended in a partnership enterprise. The trial court found in favor of Kersch and upon appeal the California Supreme Court affirmed the judgment to Kersch saying: that the contract as between the parties was for the purpose of purchasing a certain mine and "no other purposes whatsoever" and that the intentions of the parties should therefore be determined chiefly from the terms of the writing. Ordinarily the existence of a partnership is evidenced by the right of the respective parties to participate in profits and losses and in the management and control of the business and here Kersch, according to this contract, had nothing until that certain mine had been procured and which was never purchased. The court further held that 14 months was a reasonable time allowed Taber to perform and that when the time of performance of a contract is omitted the law implies a "reasonable time" which may vary with the peculiar character or type of property involved and that in respect to agreements for the purchase of mining property "time" becomes the essence of the contract whether so stated or not. The reason for this rule in law is the peculiar character of the property subject to frequent, sudden, or great fluctuation in value permitting an advantage to be gained or great loss incurred, hence performance within a reasonable time is required.

It is reported that Charles Brown, Prescott, Arizona, has uncovered a three-foot gold vein at the north end of Mingus Mountain, and north of the narrow gauge railroad, in Yavapai County, Arizona. Samples taken from various places have assayed \$86 to \$174 per ton. Seven tons of ore shipped to the Clarkdale smelter have netted \$57 per ton.

Clifford Wachter, 223 E. W. Dryden Street, Glendale, California, is reported to have begun development work on the Stanton and Last Chance placer claims, and the Midnight and OK lode claims he has recently leased from George B. Upton, Stanton via Congress, Arizona.

Construction of a 100-ton milling plant for the Arizona Barite Company has been completed by the Western-Knapp Engineering Company of San Francisco, California. Two-stage crushing operations will be used. The primary operation is by Universal jaw crusher, and the secondary by Telsmith Intercone in closed circuit. The milled product is to be sacked in 100-pound paper bags. Shakedown runs have been completed and full, continuous operations will begin very shortly. Arizona Barite is a direct subsidiary of the Houston Oil Field Material Company, Box 2859, Houston, Texas. The company's barite property is located 3¼ miles up the Salt River from the Granite Reef Dam in Arizona. William F. Paine, Box 926, Mesa, is general superintendent of mine and mill operations. W. M. Garney is resident business manager.

Work of replacing worn-out pipes from the 1,200 to 1,400-foot level at the Tennessee mine operated by the Tennessee Schuylkill Corporation is progressing satisfactorily. A new pump, designed to handle the flow of water at the deeper levels, is on the ground ready for installation. A new cable for the hoist has been provided. New pipes will be installed to the 900-foot level, after which developing of new ore bodies is slated to begin. Nye A. Wimer, 530 West Sixth Street, Los Angeles, California, is president of the company. T. L. Chapman, Chloride, is the new superintendent.



Development of the Ancho-Erie Mining Company's properties in Nevada County, California, continues with an expansion program designed to bring the mines to a new high in productivity. The Ancho mine was located in 1878 and when shut down in 1918 had had a production record of more than \$50,000. The Erie, with an average vein width of 12 feet, was located in the 60's and had yielded more than \$500,000 prior to its closing in 1918. The Ancho group of claims extends laterally for one-half mile east of Poorman Creek and covers an area of 420 acres. Recently acquired claims, consisting of the Republic, National, Keller, and Culbertson on the north side of Poorman Creek, and the Lara-

bee group west of the Republic, will increase the company's holdings to about 700 acres for a length of two miles along the strike of the veins. The main crosscut tunnel cuts through 2,175 feet to the Ancho vein which has been followed along its course southerly for an additional 975 feet on continuous ore with widths varying from 3 to 12 feet, but having a 5-foot average. The values are uniform and said to average about \$14 per ton, carrying less than 2 per cent of sulphides. The 100-ton mill, constructed early last year, and consisting of primary crusher, ball mill, and flotation cells, will be increased to 150-ton daily capacity as soon as additional machinery becomes available. Installation of a cyanide plant for the purpose of treating sulphides at the mine, begun in the fall of 1945, is nearly com-

pleted and the plant will be in operation in the near future. A raise from the adit tunnel for a distance of 474 feet to older workings in the Ancho, plus 600 feet of development work from that tunnel to the south, blocks out the available ore almost completely on three sides. Reliable sources estimate that there are 250,000 tons of ore available. With operations slated to start soon on the Larabee claims and deep development of the Republic-Larabee holdings, three individual operations will be carried on by the Ancho-Erie mining group. New road construction in the mine vicinity now permits all-weather travel to Nevada City. Over \$300,000 has been spent by the company in the past few years, and it is rumored that the mine discloses potentialities of at least eight times its initial investment. C. A. Hel-

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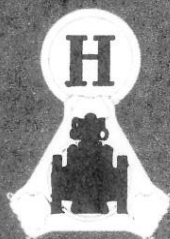
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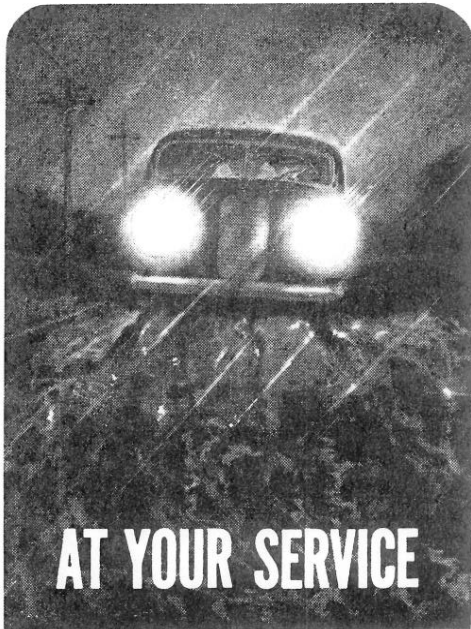


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bach, 370 Alta Street, Grass Valley, is president of the Ancho-Erie Mining Company, and Fred Anderson, also of Grass Valley, is general manager. C. C. Cushwa, former mine superintendent of the Spring Hill Gold Mines, Inc., and with a wide experience in western mining enterprises, recently assumed the superintendency for the Ancho-Erie operations. He may be addressed at Box 1001, Grass Valley.

It is reported that operations at U. S. Vanadium Corporation's Pine Creek mine near Bishop, California, which were halted because of a manpower shortage, will be resumed by April 1. Although mining operations were suspended, milling of concentrates from other company properties was carried on without interruption. Arch F. Boyd, Bishop, is superintendent of the Pine Creek mine.

Red Cloud Mines, Inc., a Hecla Mining Company subsidiary, is reported to be beginning an increased production program at its Blue Moon mine three miles north of Hornitos, Mariposa County, California. It is said that the 250-ton zinc-lead mill is in regular daily operation. Ore bodies have been developed to a depth of 400 feet. Over 40 men are engaged in operations at the Blue Moon property. Robert Dunn, Hornitos, is superintendent at the mine.

The U. S. Bureau of Mines' new pilot steel plant at Shasta Dam in California, was dedicated on March 14, 1946. Informal opening of the pilot plant was attended by prominent persons connected with the mining and metallurgical fields. The six-ton electric arc furnace has been installed for purposes of study to determine the best method of utilizing hydroelectric power in processing minerals from northern California and adjacent areas. William W. Stephens, Box 891, Redding, California, is engineer in charge at the plant for the U. S. Bureau of Mines. He is assisted by J. L. Morning.

The Southern Lead Company which operates the Lead King mines in the northwest corner of Death Valley in the Panamint Mountains, Ubehebe district, California, reports that production is now being resumed following release of the property by the U. S. Government. The government had used the property for aerial gunnery purposes. George Lippincott, Box 1811, Santa Ana, California, owner of the Lead King mines, reports that a nine-man crew is being employed at the present time. A picking belt is being provided and the operators believe that the present production of two carloads of lead ore per week will be increased as soon as necessary trucking equipment can be obtained. Ore shipments will be made from Goldfield, Nevada, about 100 miles from the mine site. George Lippincott, Jr., recently discharged from the Navy, has resumed his position as mine superintendent. C. P. Brooks, Santa Ana, is mining and mechanical engineer. The Lippincotts have an established mining camp and have been operating the property since 1942.

Ed Benefiel, Box 103, New Pine Creek, Oregon, reports he plans higher production this year and has about 8,000 tons of ore mined and ready to be milled at his

CALAVERAS FROG MEET SET

With the date of its annual Jumping Frog Jubilee set for May 17, 18 and 19, the residents of Angels Camp, Calaveras County, California, are preparing to celebrate the event in the traditional style worthy of pioneers.

Honoring the story of the "Jumping Frog of Calaveras," by Mark Twain, the townsfolk have purchased a site and named it Frogtown. Here festivities will be held, amid covered wagons, burros and their prospectors' packs, and croaking frogs. Visitors will be able to see a million-dollar display of gold nuggets, gravel gold and gold-bearing quartz. Early day tools used in gold mining will be displayed and the scene in its entirety will be reminiscent of pioneering and gold-rush days.

Present jump record is held by "Maggie," the lady frog with the "jumping" legs.

Klondyke mine in Modoc County, California. Average value of the ore is said to be about \$15 per ton. This ore was mined while prospecting and mining high-grade shipping ore. It is reported that the vein contains profitable milling ore, with sufficient reserves to keep a 50-ton mill in operation for a number of years. Previous discovery of a large deposit of ore which can be mined at low cost is believed to indicate that installation of a 100-ton or larger mill would be profitable. Weather conditions have halted sampling which thus far shows a return of about \$10 per ton. Sorted ore shipped last year to the smelter averaged nearly \$160 a ton. In the pilot mill that Benefiel operated in 1940 and 1941 at the Klondyke, he was able to secure a 95 per cent recovery by careful grinding at about 60 mesh. He reports that part of the values are in sulphides and that the free gold is very fine.

Plans for the early reopening of the Last Chance mine in northwestern Siskiyou County, California, are being made by A. A. Carlson and E. Stuart Cosgrove, 86 Cervantes Boulevard, San Francisco, California, together with W. E. Samuels, Ashland, Oregon, and R. B. Hall of Medford, Oregon. New machinery has been purchased and its erection is under way at the present time. A 50-ton ball mill with a duplex rake classifier is included. The property was closed during the period of the War Production Board ban on gold mining. Box 624, Yreka, is the mine address.

The Keystone Placer Mining Company expects to be on full production by April 1 at its hydraulic property located on the North Fork of the Trinity River, 16 miles north of Weaverville, Trinity County, California. The property comprises about 5,000 acres. Six men are now employed in the work, but it is expected that a 30-man crew will be used when full-scale operations begin. E. Frank Trubey, 1240 Twenty-third Avenue, Oakland, California, is president and manager of the organization; John D. Hubbard, Box 222, Paradise, is vice-president and superintendent.

Mine headquarters are maintained at Helena.

A newly purchased mill and other buildings will be erected at the **Nebraska** quartz lode located 10 miles north of Cherry Creek in Siskiyou County, California. Loren G. Severns, owner of the gold property, Santa Rosa, will supervise the building project. Work is expected to begin about April 15. The mine was located in 1882 and worked for a number of years with a small stamp mill. It is said that the property has a production record of \$500,000 taken from a 200-foot tunnel with an open cut 100 feet long. Core drilling to 100 feet recently revealed a quartz vein 13 feet wide with ore valued at \$17 per ton.

Ed McBroom and Louis Roff, both of Cecilville, California, are equipping their **Farnsworth** mine for hydraulicking operations. The property is situated in Siskiyou County on the South Fork of the Salmon River near Cecilville. Operations are to begin shortly.

William George of Sawyers Bar and Virgil Gray of Cecilville, California, are reworking mill tailings from the **King Solomon** mine five miles from Cecilville in Siskiyou County. Operations at the mine were terminated in October 1940 and all equipment and buildings sold. Prior to that about 300 tons of gold bearing ore were mined and milled daily by the former operating group.

A diamond drilling program has been started by A. B. Smith, 334 Mason Street, San Francisco, California, at the **Original** mine in Mariposa County, California. Smith purchased the mine and mill equipment in 1943, but had conducted no operations due to wartime gold mining restrictions. The property, comprising 11 claims, is situated at Incline a few miles below Yosemite Valley. A number of years back it was the scene of an extensive development program by the San Juan Ramsey Company which took the property over in 1935. The mine was worked on a broad scale from the early 60's until about 1880 when the owners died. During World War I the mine was operated by the Original Mining and Milling Company.

The **Tuolumne Gold Dredging Corporation** is now operating its dredge on a three-shift basis at its property about one and one-half miles south of LaGrange, Stanislaus County, California. The dredge is equipped with 100 12-cubic foot buckets and has a capacity of about 250,000 cubic yards monthly. Estey A. Julian, 1 Montgomery Street, San Francisco, California, is the general manager for the dredge operations and Alan Dunbar, the resident superintendent. Upon the enactment of S-208 the dredge was temporarily shut down, but permission for maintenance operation was granted later by the WPB and a seven-man crew was employed.

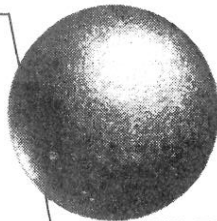
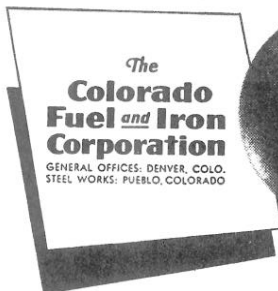
Full-scale operations are being conducted by the **Sierra Placer Mines, Inc.**, six miles north of Camptonville in Yuba County, California. The property is said to sample approximately 55 cents per cubic yard. J. H. Kayser is in charge of the operations. The company is headed by Fred W. North of Los Angeles.



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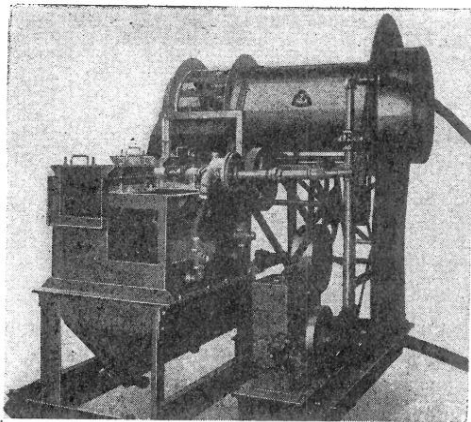
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 Phone 3-5161

It is reported that driving of the 420-foot tunnel has been resumed at the old Fidelity gold property on the Five-Mile Creek in the Columbia district of California. The tunnel is expected to reach the main vein within 100 feet, approximately 300 feet from surface. P. B. Coats, Wayne Stobaugh, both of Columbia, and Vernon Ray, U. S. Army, who recently acquired the property, have purchased new equipment and are making plans for early operation of the mine. The Fidelity is on the southern extension of the famous Mountain Lily vein, one of the richest gold producers on the Mother Lode in the early years of the Columbia area. The Fidelity has a good production record.

The Northwest Mining and Engineering Company, 412 Hoge Building, Seattle 4, Washington, is proceeding on a substantial basis at its properties along the South Fork of the North Fork of the Yuba River near Sierra City, California. The placers, consisting of a total of 2,850 acres, were acquired late last year by the operating company under lease and purchase contract. The Humphrey ditch which was completely overhauled and rebuilt for the entire length of 8,011 feet delivers its water to two large giants by a 3,200-foot steel pipe line. About 4,000 cubic yards of gravel can be handled per 24-hour day, and the gravel is said to assay about 40 cents per cubic yard. The Marguerita ditch, five and one-half miles long, is to be repaired soon and full scale operations will be started thereafter. Frank Redmond, Sierra City, is superintendent of the Northwest Mining and Engineering Company's project. Frank E. Nemece, 1802 Fifth Avenue, Los Angeles 6, is general manager and chief engineer.

George H. Johnson, Box 123, Dobbins, California, and his associate, Earl Reeves, of Winnemucca, Nevada, who recently acquired the A. D. Hinton property at Dobbins, California, are planning early reopening of the Sur-Nuf mine. Development of the mine consists of a 100-foot shaft and two tunnels, the longest being about 500 feet. A 10-ton mill, part of the mine's equipment, has been augmented by the delivery of two cargoes of new machinery and equipment.

In response to prevailing rumors that the Central Eureka Mining Company's property at Sutter Creek, California, would not be reopened, C. C. Prior, president and general manager, 111 Sutter Street, San Francisco, California, has issued a statement declaring that such reports are unfounded. The company's holdings, which have been closed down since October 1942, are slated for operation as soon as the scarcity of manpower and equipment, and other difficulties are alleviated. It is reported that the potential future of the mine from developed ore is estimated at more than \$1,500,000, and diamond drilling indicates that an additional \$1,500,000 is possible from production above the 4,000 level. Prior also added that it is not possible at this time to estimate either cost or time of placing the property in condition for operation. The mine is said to have been maintained in excellent condition during its shutdown.

COLORADO

Recent improvements of the Highland Mary Mines, Inc., of Silverton, Colorado, include the installation of a larger hydroelectric generating plant which will supply power for four or five months of the eight-month operating season. During the balance of the time power will be obtained from the Western Colorado Power Company's transmission lines. At some later date the company, which is headed by Albert R. Jones, 900 Land Bank Building, Kansas City, Missouri, will make arrangements for operations to be conducted on a year-round basis. R. M. Andreatta of Silverton is superintendent.

The 550-ton flotation plant of the Telluride Mines, Inc., at Telluride, Colorado, is treating 350 tons of ore daily, with gold being recovered by jigging and amalgamation and lead and zinc by flotation. Originally a gold-silver producer, the company turned to lead and zinc ores during the war. Harold S. Worcester of Telluride is president and general manager.

Plans for mill construction are being considered by the Ridsen Engineering and Mining Company which operates the Smokey Gold United property in Boulder County at Ward, Colorado. A. E. Ridsen is president and general manager of the company and F. P. Ridsen is vice-president. Present mine development work consists of sinking a three-compartment winze from the U. P. tunnel at a point 450 feet from the portal. The winze is being put down to open a body of gold-bearing ore which is also being explored by a drift being run on the shear zone. J. E. Emmons, 1427 Clayton Street, Denver, who is president and general manager of the Ward United Mines Company with holdings in the same area, is interested in the Ridsen operation. A blacksmith shop, dry house, engine house, and powder magazine have been built and an assay office is under construction.

Sampling and exploration are under way at the Globe Hill and Ironclad Hill properties at Cripple Creek, Colorado, by the Mines, Inc., 219 Independence Building, Colorado Springs, under the supervision of William H. Burgin and Colin G. Rose who are both at Cripple Creek in personal charge. No plans are being made for early operations as prolonged investigations will be conducted before the company reaches any conclusions. The Globe Hill is part of the Stratton Estate and the Ironclad Hill mine is owned by Thomas Kavanaugh of Cripple Creek who operated the mine and 100-ton mill before gold mining was suspended during the war.

As soon as buildings can be replaced and new equipment obtained, the Success Gold Mining and Milling Company will resume operations at its Pittsburg mine in the Russell Gulch district near Central City, Colorado. Fire of unknown origin destroyed the shaft house, conveyor system, ore bins, buildings and machinery.

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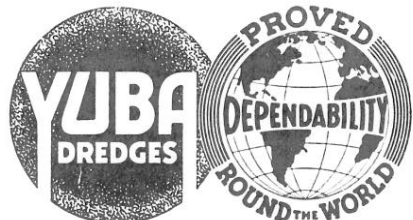
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mining industry; and Nye A. Wimer, president of the Tennessee company. The Tennessee mine has been idle since October 1945 when production was halted because the contract under which the operation was being conducted was declared to be in violation of several Office of Price Administration regulations. The contract has since been rescinded and a new form of agreement, satisfactory to the OPA restrictions, has been effected. The operating agreement is drawn up on a co-operative basis. Each member of the association is working for himself and no outside labor is employed. It has been found that under this system, production has been increased while costs have been held down, laborers have made more money, and the group has been able to employ a higher type of worker. During the recess in production, repair and maintenance work has progressed. A new pump has been purchased and is at the property for the 1,400-foot level of the main shaft. The 4-inch water column, from the 1,400-foot level to the 700-foot level, has been replaced by new pipe, and the balance of the pipe has been carefully gone over, and all necessary repairs made. A complete new set of ball mill liners is being installed so that operations may begin with a minimum of delay when production is started. Underground there is ore in place ready to be mined. Thomas L. Chapman, Chloride, is the new superintendent of the Tennessee operations.

Vernon M. Peck, Prescott, Arizona, is reported to have purchased the **Blue Jay**

and five other mining claims. The property lies in the Walker district of Yavapai County, Arizona.

Development continues at the **St. Louis** mine near Greaterville in Pima County, Arizona. The property which was acquired by the present operators in 1944 has its values in lead and zinc with some gold and silver. Considerable development has been underway since early last year and it is reported that production soon will be started. The property at one time had been operated by the Liberty Mines Silver Company, but had been idle from 1919 until the present group took over. Robert Q. Bushnell, Box 83, Tucson, is in charge at the mine.

Diamond drill operations are proceeding at the Abril mine operated by the **Shattuck Denn Mining Company**, Bisbee, Arizona, and a 50-ton ore bin is being erected. The property is located at the west end of the Dragoon Mountains near Tombstone, Cochise County, Arizona. Shipments of the copper-lead ore to the Shattuck Denn mill at Bisbee are slated to begin shortly and will be made via Tombstone. Operators are still drifting and are said to have encountered copper and zinc ores of good values. J. A. Wilcox, Bisbee, is manager of operations for Shattuck Denn. About 10 men are employed at the Abril.

The **Moss Canyon Mining and Milling Company**, which is operating the old Moss Canyon property on a lease basis, is engaged in equipping the mine for early production. The property is located 28 miles south of Kingman in the Hualpai mountain

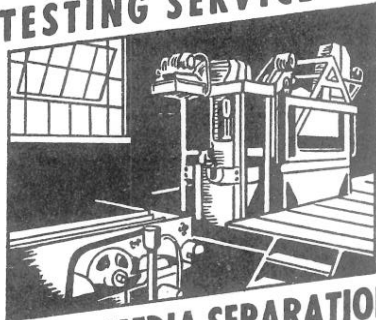
range of Mohave County, Arizona. It has a good record of production in gold, silver, lead, zinc and copper. The company was incorporated last October and has spent the past five months in reconditioning the mine and mill. New machinery will be installed shortly and the mine is expected to be in production within the next 30 days. H. R. Stayton, 333 North Palm Drive, Beverly Hills, California, and A. H. Cleves, 2000 Miramar Street, Los Angeles 4, California, head the Moss Canyon group



A shaft is being sunk on the Glorieta and Discarded claims located one-half mile southeast of Randsburg, California, by the **Rand Central Mining Company**. The Rand Central group has succeeded the Parks Syndicate which formerly operated the property. A new compressor has been installed near the shaft. The shaft, now down about 40 feet, will be sunk to the 50-foot level and then exploratory cross-cutting will be done. T. L. Parks, Randsburg, is the managing director of the Rand Central concern.

Operations, which were suspended during the war, will be resumed shortly at the **Morning Star** gravel mine at Iowa Hill, Placer County, California. The mine was noted as one of the foremost producers of gold bullion in the early days and

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is said to contain considerable valuable but unworked ground within its boundaries. Alex Rossi, 1021 Twenty-second Street, Sacramento, California, and associates, are working the property.

Development work continues at the Price mine in the Humbug district about 14 miles west of Yreka, California. Recent operations are said to have disclosed an eight-foot vein containing quartz sampling \$40 per ton. W. H. Price, Box 637, Yreka, who heads the **Price Mining Corporation** operating the mine, controls by lease and ownership 1,400 acres in a strip more than a mile long. Price has operated the mine since 1942 when the tunnel was started. Work has proceeded slowly because of labor and material shortages. Milling equipment was purchased last year, and some work had been done on the millsite near Humbug Creek.

Operations, which were halted temporarily in January, have been resumed at the Kelley Dogtown gold placer property in Mono County, California, about six miles south of Bridgeport. The **Sunmar Dredging Company**, which until the war had worked at Oroville, is operating on a substantial basis on gravel which is reported to be richly productive. Until the Sunmar group began its dredging at the Kelley-Dogtown property, it had been idle for many years. This is the first dragline dredge project in Mono County. J. H. Frasher, Box 228, Oroville, is general manager of the Sunmar operations.

It is reported that Clark P. Terwilliger, Crescent City, California, has sold his **French Hill** hydraulic gold property to John Hopkins. Plans for expansion are being made by the new operator. The property was located in the 1870's and has been worked on a small scale only.

Trumble De Roode, Hotel Freeman, Auburn, California, executor of the estate of Kate Woolsey, which includes the **Pond** mine in Placer County, California, has filed suit for damages against the County of Placer for \$27,000. He alleges in his complaint that the board of supervisors or its agents have caused the removal of some 5,000 cubic yards of bedrock and dumped fragments down the shaft, thereby blocking the 3,000-foot tunnel in the mine. In removing the rock, blasting was necessary, with the result that further damage was done. De Roode states that among other damages incurred was the blocking of the flow of water from the tunnel. He assesses the damage done to the tunnel at \$25,000 and value of the bedrock removed for road metal and filling purposes at \$2,000.

A mercury furnace plant is being installed by the **Atomic Corporation** at its Dos Picacho property in San Benito, California. The cinnabar deposit, located near Idria, is said to be one of the largest known in the state. It is situated near the New Idria mine, which is a quicksilver producer. The Atomic Corporation also operates the **Beame** gold mine near Pike, California. Vic L. Smith, Idria, is president and general manager for the concern.

As soon as material and labor become more abundant, the **Vivian Mining Company** will begin operating its Pine Hill

mine about 15 miles southwest of Grass Valley, Nevada County, California, which it recently leased from the Red Pine Mining Company. The Red Pine company operated the mine for a number of years, shipping gold-silver ore to a custom mill at Grass Valley. Work was suspended in 1942 when the L-208 order was effected. About \$30,000 had been spent by the Red Pine group on improvements and development. The ground comprises 160 acres, including the Golden Gate, Golden Gate Extension and the Thresher claims. The Vivian Mining Company, which formerly operated the Vivian mine near Oatman, Arizona, is headed by H. W. Klipstein, 206 Sansome Street, San Francisco, California. B. C. Austin, consulting engineer, Mills Building, San Francisco, will serve as managing director in charge of operations. Austin served as consulting engineer with

the Red Pine Mining Company in earlier operations at the Pine Hill property.

The **Knob 1 and Knob 2** mines in Pleasant Canyon, Inyo County, California, which were recently leased from the Slafter Brothers of Trona, California, by Clarence Kirk, Homewood Canyon, and J. C. McManaman of San Francisco, will be in operation soon, it is reported. The property is developed by shafts and tunnels and includes ore dumps which will be treated as well as the mine ore. A dual gold-recovery process of cyanidation and amalgamation is reported to be considered by the new operators. It is believed that a 75 per cent recovery can be made by the amalgamation process and the balance by cyanidation.

A diamond drilling program is scheduled to be started soon at the **Pioneer-Lilyama** mine in the Pilot Hill district of Eldorado



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County, California, as soon as equipment becomes available. The property is operated by O. H. Griggs, E. L. Reeves and Mrs. Freda McGill, all of whom make their headquarters at the Raffles Hotel in Placerville, California. The company formerly operated under the name of the Volo Associates and had worked this property for about two years. Extensive development work has been accomplished at the property and ore is treated in the company's 250-ball mill. Concentrates are shipped to Utah and Montana smelters. The principal values are in copper and gold.

Ralph and Ross Johnson, Cecilville, California, are preparing their South Fork mine for early production. The property which is located near Ray's Gulch near Cecilville, Siskiyou County, California, has been idle for nearly five years. The Johnsons are engaged in resetting their hydraulicking equipment.

Development work is progressing at the old Uncle Sam copper-gold mine on the Shasta copper belt about eight miles northeast of Shasta Dam in California. The plant was leased and optioned last year by the High Divide Mining Company, A. L. Damon, First National Bank Building, Reno, Nevada, general manager. The company also operates a placer property in Trinity County, California. The main tunnel at the Uncle Sam, which is nearly 3,000 feet long, has been repaired. Shipping ore is said to be in sight and plans are being made for early production.

It is reported that the French Gulch Dredging Company, Etheredge Walker, president, 974 Mills Building, San Francisco 4, California, is operating at peak capacity. Equipment includes a 4½-cubic foot, continuous bucket-line dredge, electrically operated, and with a daily capacity of 3,000 yards. The company's holdings are in Shasta County just above the town of French Gulch, California, and cover an area two miles long and 600 to 800 feet wide along Clear Creek. E. M. Shuford, French Gulch, is dredgemaster. About 20 men are employed at the property.

The Argonaut Mining Company, Ltd., had a reported net loss of \$20,877 after all charges for the year ended December 31, 1945. This compares with a net loss of \$34,578 for the year ended December 31, 1944. The company's Argonaut gold mine at Jackson, California, has been closed since March, 1942, and the company has announced that present labor and material shortages make it impossible to predict when operations can be resumed. The mine is being kept in condition with only maintenance work being performed. The Argonaut company is headed by John T. Smith, 1775 Broadway, New York 19, New York. Alex F. Ross, Jackson, is general mine superintendent.

The Experimental and Vine Spring mines which are operated by the United Gold Mining Company, Inc., Julian R. Sanchez, owner, 1071 Valencia Street, San Francisco 10, California, are being developed on a substantial scale, it is reported. The property is located near Columbia in Tuolumne County, California. A good grade of ore is said to have been uncovered at the Experimental and is being milled at an average rate of about 15

ATOMICALLY SPEAKING

Since we are, at present, very atom-minded, it might be a good idea to review our knowledge of atomic weights. Of the 20 elements given, how many of them can you pair up with their atomic weights? Ten right is very good and everything over that should make you at least a scholar.

1. iron	.....	A.	1.0
2. neon	.....	B.	4.0
3. hydrogen	.....	C.	9.1
4. beryllium	.....	D.	11.0
5. uranium	.....	E.	16.0
6. iodine	.....	F.	20.2
7. radium	.....	G.	24.3
8. aluminum	.....	H.	27.1
9. vanadium	.....	I.	40.1
10. bismuth	.....	J.	51.1
11. calcium	.....	K.	55.8
12. helium	.....	L.	63.6
13. boron	.....	M.	107.9
14. gold	.....	N.	118.7
15. copper	.....	O.	126.9
16. oxygen	.....	P.	197.2
17. magnesium	.....	Q.	200.6
18. tin	.....	R.	208.0
19. mercury	.....	S.	226.0
20. silver	.....	T.	238.2

Answers to Above Questions Will Be
Found on Page 24

tons per day. A considerable amount of ore is being blocked out for future use. Plans are being made for the installation of a Centriplant mill as soon as conditions permit and large-scale production will then be started. The property was the scene of extensive clean-up, repair and development for the major part of the past year.

Contrary to existing reports, the Red Cloud Mines, Inc., a Hecla Mining Company subsidiary, neither has reopened nor intends to reopen its Blue Moon mine near Hornitos, California. The mine caved in last November and was shut down. All machinery and equipment have been moved away from the site. Robert Dunn, Snelling, California, is superintendent for the Red Cloud company operations.

COLORADO

Work is being started at the Brooklyn mine near Central City in Gilpin County, Colorado. E. G. Fye of Central City, who has operated several properties in the district, is in charge of the mine.

Production is being continued at the Boodle silver-lead-zinc property near Central City, Colorado, the concentrates being shipped to the International smelter in Utah. The property is being operated by Lowell Griffith of Central City and associates who have worked it for some years.

Production is reported from the Phillips claim of the Wolf Tongue Mining Company near Nederland in Boulder County, Colorado. The work is being done under lease by Elmer Hetzer of Boulder, who is mining an ore body recently located and developed. On its own account the Wolf

CHARLES F. WILLIS, EDITOR AND PUBLISHER
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M. H. PRYOR, ASSISTANT EDITOR
JACKSON HOAGLAND, RESEARCH EDITOR
R. R. LASALLE, NEWS EDITOR

THE MINING JOURNAL

PUBLISHED SEMI-MONTHLY SINCE 1917

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PHOENIX, ARIZONA

ANNOUNCEMENT

On March 1, 1946, the ownership and management of The Mining Journal passed to Miller Freeman Publications, Inc., of San Francisco and Seattle, publishers of The Mining World and other magazines devoted to the natural resource industries of the western states. A consolidation of the two magazines will be effected in May.

Ill health, and doctor's orders that I must be relieved of the details of the widely diversified load that I have been carrying, has brought about the change. After twenty-six years of serving as editor and publisher of The Mining Journal and devoting myself to a program of public relations for western mining the decision as to what to do was a tough one. I felt that I was obligated to the industry that had been so kind to me and must make some provision so that the ideals, policies and program on which I had been working would be continued.

It was with this thought that an arrangement was made with Miller Freeman Publications to carry on and expand that for which The Mining Journal stands. They had already demonstrated through The Mining World their ability to do so, as well as ideals and policies which have been along the line which we felt were for the advancement and progress of the industry. They have done a good job and, with The Mining Journal and its organization and standing, they can - and will, I believe - do a better one. It is my feeling that the western mining industry and those who do business with it will be materially benefited by the consolidation of interests.

After forty years in western non-ferrous metal mining, twenty-six of which have been as editor and publisher of The Mining Journal, there are pangs in my heart at giving up the intimate direction of the work which I have been doing and on which I have seen much progress. This is offset, however, by the fact that I do not anticipate being completely out of the picture, for I am to serve as editorial consultant to the organization and will continue to participate in public relations activities relating to western mining and in mining organization work. My efforts along that line will be augmented by a bigger, better and more serviceable western mining publication.

I wish to take this opportunity to express to my many friends and associates in western mining my sincere appreciation for their cooperation in the past which has made our program successful and ask that they continue to work with the new publishers of The Mining Journal and me towards greater opportunities for those who are exploiting our western natural resources.

Charles F. Willis

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ADDISON N. CLARK* describes

Nevada's Manhattan Gold Dredge

NEVADA mining man with a sense of humor casually remarked to me that the Manhattan Gold Dredging Company's job—or rather, the prefatory part of the job—had been a strip-tease act. The gentleman, as I found from a reasonably close-up scrutiny, was right.

Since above the auriferous gravels of the ancient river channel west of Manhattan, Nevada, there lies a blanket of barren overburden averaging 30 feet in depth, its stripping, ahead of the company's bucket-line dredge, is a major feature of the operation. And that part of the job has been somewhat of a teasing addition to operating costs.

Since operations began in October of 1938, about five miles below (west of) the old mining town of Manhattan, they have been—even during the stifling era of the WPB's Order L-208—the outstanding mining enterprise of Nevada's Nye County; and Nye County happens to be the biggest county in the United States. In fact, one of the outstanding gold-producing jobs in the West.

As the first and only successful bucket-line dredging operation in the state, the job, under direction of John L. James, has overcome the handicap of Nevada's aridity, hung up a mark for other far-seeing capital to shoot at, and blazed a trail which could be followed elsewhere not only in Nevada but in other desert states where auriferous gravels await development.

Since rescission of L-208 the enterprise has been moving forward and upward in two senses of those words: Financially, with war restrictions removed; and physically, against gravity, since the ancient river channel that laid down the auriferous gravel has a fall-grade averaging about 3.5 per cent, and the big boat is digging its way upstream.

Naturally, since the operation became a proved economic and engineering success, it has attracted increasing attention from operators and engineers throughout the West, for there are numerous spots where similar projects could be inaugurated. Thus far no other bucket-line dredging has been tackled; although dragline dredging is to get under way at the Copper Canyon placer gravel area in Lander County, Nevada, through arrangement between James O. Greenan and the Natomas Company. Incidentally, the Manhattan Gold Dredging Company is a Natomas subsidiary, and Manager James gained his dredging experience with Natomas in California.

For many years, at numerous auriferous placer-gravel spots all over the desert, tries at dry-placering have started with a bang but petered out or else met with insignificant results. I've listened to many inventors of sure-fire dry-placering machines, at

*Consulting Mining Engineer,
Oakland, California.

The only successful bucket-dredge mining enterprise in Nevada's long mining history is blazing a trail and setting a record for others to seek, as it climbs the ancient river channel known as the "Cole-Kirchen Placers" west of Manhattan. The project is discussed in this article.

my office and elsewhere; still listen—because you can't muffle an inventor when he gets going. Chances are that this paragraph will bring down the wrath of some of them on my hapless pate—but thus far I have yet to see one that I personally would deem commercially feasible.

In the mid-thirties, a combination of capital and experienced engineers who had studied the rich Manhattan placer-gold area made an intensive survey of it. The area was thoroughly tested, by shaft and drilling, and when operations began it was estimated that the total available yardage of auriferous gravel, recoverable by a modern floating bucket-line dredge, approximated 25,000,000. Since then, on the southerly side of the old channel, high (bench) spots have been disclosed, hiking up the total yardage substantially. And biting steadily into it, up that 3.5 per cent grade and a little over four miles from where operations started at Jamestown—name given the large administrative and operating camp, in honor of the manager—

is the big "boat" shown in the largest of the photographs. How well it is biting is evidenced by the small portrait-shot of Manager James with the week's clean-up brick and the \$8,000 auriferous smile.

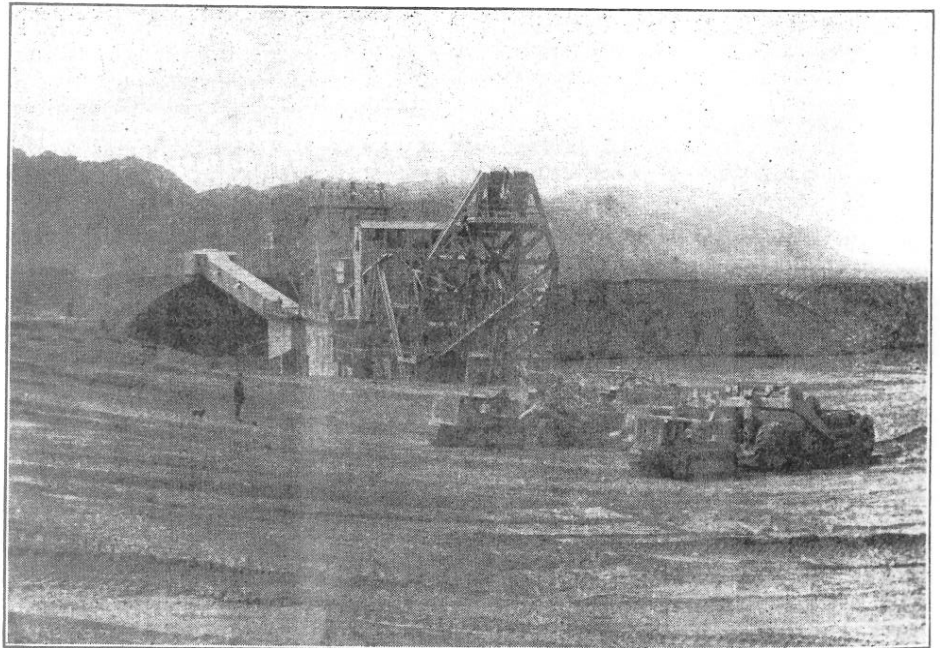
WHILE there are bigger bucket-line dredges at work over on the California side of the Sierra, and elsewhere, the Manhattan dredge, as the photograph attests, is a man-size job.

Exclusive of the steel bow-gantry supporting the bucket line, and of the 125-foot twin tailing stackers at the stern, the craft is 172 feet long; has a 60-foot beam and draws 9 feet of water. Its chain of 105 buckets, each with 10 cubic feet capacity, digs to a depth of 75 feet below the surface of the pond.

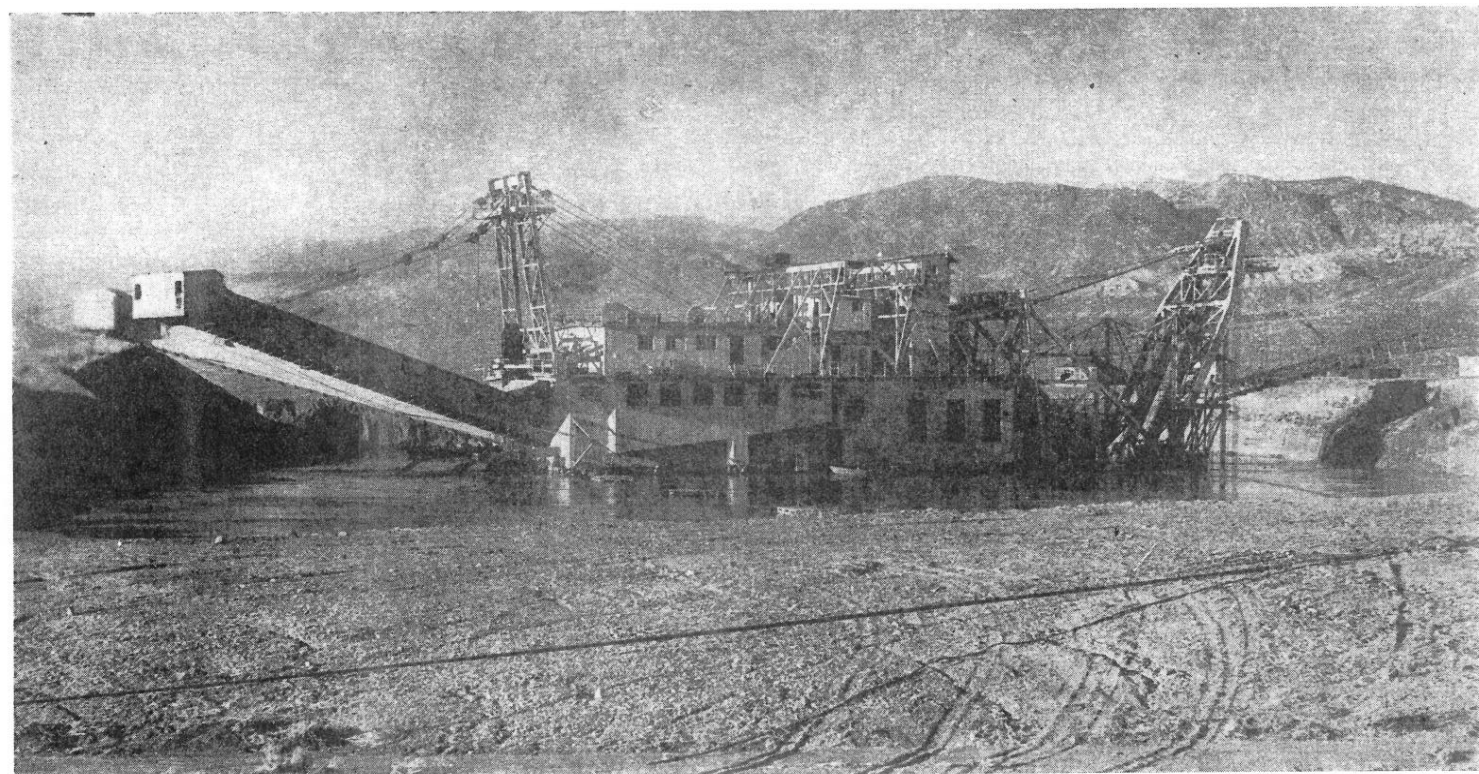
At normal operating speed 37 buckets of gravel per minute are delivered to the trommel that eliminates the rocks—2,220 per hour, 17,760 per 8-hour shift. That is 6,580 yards per 8-hour shift. At full-time (two-shift) operation, allowing for pauses for lubrication or minor repairs, yardage capacity averages around 12,000 yards per diem.

Weight of the dredge is 2,000 tons. Electrically operated, it has a connected load in itself, on the near-by line of the California Electric Power Company, of 2,200 horsepower. That is for the boat alone, operating excavating, gravel-washing, and tailing-stacking machinery.

Atop that is the power used to pump 1,000 gallons of water per minute the 12



The Manhattan dredging project has a "strip-tease" side-aspect. Before the boat comes along in its movable pond the barren overburden must be stripped from the gravels by modern scraper and dirt-moving equipment such as appears in this view. Stripping is done by contract. The equipment used includes Le Tourneau "Pushdozers", La Plant-Choate "Carrimor" scrapers, 17 and 34 cubic yard capacity, and Caterpillar tractors.



A close-up of Nevada's first and thus far only successful bucket-line gold dredge, operating in the gravels of an ancient river channel just below Manhattan, Nevada. Eroded ages ago from the then apices of veins in the rich Manhattan district lode areas, the auriferous gravels lie under barren overburden in places up to 30 feet thick, which first must be stripped with scrapers. At the right is the bow, its ladder carrying the line of 105 buckets, 10 cubic feet capacity. At left (stern) are the twin stacking booms that deposit overlapping tailing piles. Between them aboard is the washing plant—trommel, 18 jigs, riffled sluices, two scouring ball mills, and a reriffle area. Water for the pond and washing plant is pumped 12 miles, over a 1,000-foot hump, in a 14-inch pipeline from wells at Peavine. Pond and dredge move up a 3.5 per cent grade as operations advance; have moved up-gulch four miles since work was started.

miles from wells at Peavine, through a 14-inch pipe-line, with a 1,000-foot lift; plus the power-load for lighting and domestic appliance use at Jamestown camp. In round figures, the electric power bill somewhat tops \$8,000 per month.

Built during the summer of 1938, and assembled on the ground, the dredge cost \$700,000. It was designed and erected by Leland S. Rosener of San Francisco, along California type lines, with all recent refinements in fine-gold-saving equipment embodied in its washing plant. Nearly six months were required to assemble it at the site. To the \$700,000 must be added the cost of construction of the operations camp, Jamestown, and the 12-mile pipe line and pumping equipment, which approximated \$300,000; which adds up to about an even million dollars.

Cost of the earth-moving equipment for overburden-stripping is not linked to the above, since that part of the job is done under contract by the Nevada Rock and Sand Company. That equipment itself is interesting, in view of the key part played in the operation by stripping. Largest piece of that equipment, which stirred Tonopah and Manhattan to their depths as it rolled through, was the huge 34-cubic yard "Carrimor" scraper, product of the LaPlant-Choate Manufacturing Company, at Cedar Rapids, Iowa. As the original work proceeded, that behemoth was removed and stripping was carried on by smaller (17-yard) "Carrimors" plus some LeTourneau and Woodridge scraper units,

hauled by Caterpillar tractors and by LeTourneau "Pushdozers."

Removal of the blanket of barren overburden by that fleet of dirt-moving machinery naturally has confined operations of the dredge itself almost entirely to handling auriferous gravel, hence has kept up the gold-content per yard washed to profitable average levels. And—operators of the fleet can be termed the strip-tease members of the "cast."

The boat, as the photograph shows, is a three-decker. Area of the main deck is almost a quarter of an acre (10,320 square feet); and distributed about it and the two upper decks is the assortment of modernized gold-recovery equipment, some of it with pedigrees running far back into the history of California's vast gold-dredging industry and designed and built out of the fund of experience gained by such major organizations as the Natomas Company itself, the W. P. Hammon and Yuba interests, and others.

Flotation support for the machinery load is given by 39 steel hull-pontoons, bolted together, 17 on each side and 5 in the center. Tonnage displacement, as stated, is approximately 2,000.

To eliminate boulders, "nigger-heads," and large stream-pebbles brought up by the bucket-line, the excavated material is elevated to the intake end of a trommel which is big enough to drive a miniature auto through. It is 8 feet inside diameter and 48½ feet long, driven by twin 40-horsepower motors.

Fines passed by vari-sized holes in the manganese-steel trommel lining (the holes ranging from ⅞-inch down) are delivered to a battery of 16 Pan-American Engineering Company placer jigs. These jigs are arranged in two banks, one on either side of the boat; each bank driven by a 10-horsepower motor. Jig overflow passes over a series of double-deck sluice-boxes; thence to the sumps, where it is lifted by sand-wheels to two short conveyors leading to the twin tailing stackers.

The hutch product is distributed to tables below, which are equipped with rubber riffles charged with quicksilver. Those are followed by Hungarian wooden riffles. Overflow from the riffles is elevated by a belt-conveyor to the cleaner jigs (also Pan-American) and their output is passed to a Straub ball mill which scours dirty and rusty gold so it will amalgamate.

Thence, after one more pass (by way of Scotch thrift) over a riffle-area, since much of the gold is so fine as to be hard to save by older, less-refined methods, the tailings go via the twin stackers to the waste-piles. What that processing leaves in the gravel, it is reported, would not "make beans" for a gleaner with a pan.

To hold the fine gold, at various points along the flowsheet, some 20 flasks of quicksilver are used. It is not all "expensible," since in the retort plant where the amalgam is processed a considerable recovery is made. At wartime quicksilver price that was a heavy item. At the current price of quicksilver, however, total

per yard washing cost is held to around 10 cents.

THE huge steel bow-gantry, digging ladder, and bucket-line assembly at the bow end (right of photo) are interesting. The ladder and bucket-line alone weigh more than 400 tons. The ladder is 150 feet long, and the limits to which it can be raised and lowered are controlled by a Lilly hoist controller. The gantry is 65 feet high. Bow-swing of the ladder is effected by independent winches, one on each side.

In operation the ladder and bucket-line are largely submerged, hence not so visible except from a bows-on viewpoint. But the cast manganese-steel buckets, with hardened manganese-steel lips, are a vital factor. They scrape the bottom of the old river channel whither the heavier gold had gravitated, and scrape it economically clean. About every nine months the hardened lips must be burned off and replaced. Standby re-lipped buckets are kept available, and it takes only about 20 minutes to replace a worn-out one.

Instead of a winch room to starboard, as in older model dredges, this one is located right above the bucket-line, facilitating control of its movement. A Bristol time-recording instrument is a feature of the winch room, to keep tab on operating time.

Since such heavy-duty machinery calls for much lubrication, especially of bearings submerged in water, 10 barrels of lubricants per month make an appreciable item in operating costs.

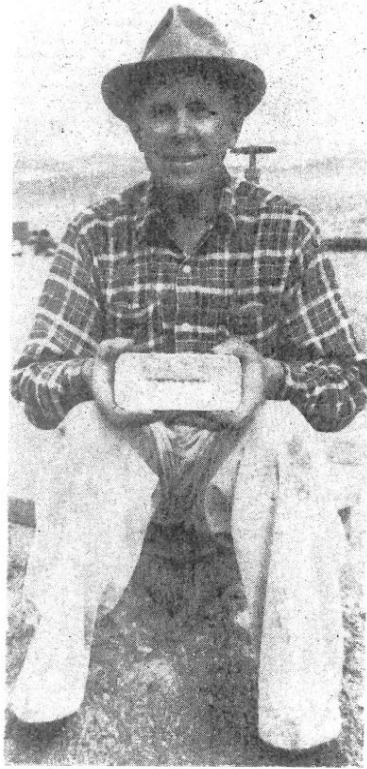
A few other pithy facts are:

That since inauguration of operations the company has paid out more than a quarter of a million dollars in taxes to Nye County—property and bullion. Hence Nye County looks with favor upon the enterprise. Naturally, it is not within the ethical scope of this article to discuss what the profits of the operation have been, but the caption beneath the Golden Smile portrait of its engineer-manager can be the basis for some reasonable guessing.

An odd yet somewhat natural sidelight on the picture is that, despite the quarter-million paid Nye County in taxes since '38, there has been appreciable and noticeable local opposition to the enterprise, especially in its early stages. Before the company took over the ground for large-scale gold recovery, many old-timers had washed out livings, ranging from bacon-and-beans up, with ground-sluices, rockers, and pans. The ensuing rumblings were reminiscent of those against steam-powered looms from the old-time hand weavers in England—dramatically described in "John Halifax, Gentleman."

There is at least a year's more work ahead of the present pond. Much good gold gravel, on paralleling benches, was too high to reach with the dredge. Latterly it has been stripped with the 'dozers and "Carrymors" and shoved down into the path of the dredge. When the job is done and the plant dismantled, an expensive aftermath, it will require a hundred freight cars to move it elsewhere. Where that will be is not yet determined.

A parting sidelight on Engineer-Manager James is not amiss. He cut his eyeteeth



John L. James, engineer and manager of dredging operations, isn't goldbricking the photographer here. The brick he holds, a week's clean-up, is worth about \$8,000. Under L-208 restrictions the bricks didn't grow that big, but things are different now.

on gold dredging in 1906 when operating boat dredges of that vintage at Oroville, California—when 45 boats were working along the Feather River within six miles of town. He also has built many dredges, hence knows both sides of the business and knows a dredge as a GI knows his rifle. And as to soldiers, he served with the 20th Army Engineers, as a lieutenant, in World War I. It was he who personally supervised advance-testing of the Cole-Kirchen ground; and up to January of '43 more than 400 churn-drill holes and 165 shafts had been sunk, to depths from 75 to 175 feet, ahead of the boat.

As a foil for his vocation and job he rides an avocational hobby—James is a rock-hound with a passion for gemstones and homebrewed lapidary work, and rides that hobby straight-up with spurs. He does beautiful cutting and polishing, and his work ranks with that of top-flight professionals. Mrs. James also is an ardent rock-hound, but has some hobbies of her own. One of these is taming desert-country birds in the open, so they come to her for housing and subsistence, for she has a horror of the caging of wild creatures. In her spare time she raises fruits and vegetables in their Jamestown garden, and tropical flowers in her front-porch hothouse. It was she who bossed the job of painting all Jamestown structures white with green trim, unique for a mining camp.

As for the corporation's Who's Who: William Gerstle is president and D. A. Cormack is secretary-treasurer, with executive offices in the Balfour building, San Francisco.

INSPIRATION COPPER SHOWS LOWER PRODUCTION FOR 1945

INSPIRATION Consolidated Copper Company, in its annual report for the year ended December 31, 1945, states that the production of copper available for sale amounted to 53,292,670 pounds, compared with 81,996,557 pounds for 1944. The decline in production was caused by shortage of labor which hampered all operations throughout the year. The company's income was given as \$1,331,952, equivalent to \$1.13 per share, as compared with \$1,588,770 or \$1.34 per share earned in 1944.

During the first half of 1945, the dual process of ore treatment was continued pending completion of reconstruction of the electrolytic tank house which was destroyed by fire in October 1944. The reconstruction was completed in the latter part of May, when ore treatment by the dual process was discontinued and treatment by the ferric sulphate process resumed.

In 1945 there were mined 2,672,370 dry tons of ore assaying 1.174 per cent total copper, of which 0.546 per cent was oxide and 0.628 per cent was sulphide copper. Of the total ore mined in 1945, 61,128 tons were from development work. The area undercut and caved during the year was 2.219 acres. Total underground development performed during the year amounted to 22,378 feet of drifts and raises and 1,566 cubic yards of miscellaneous development.

Operations at the main leaching plant involved treatment of 2,472,471 dry tons of ore from which the slimes had been removed. Sulphuric acid leaching was used for the first six months of the year and during the last six months of the year 1,375,711 dry tons of ore were leached by acid ferric sulphate solution. Slimes removed from the ore were subjected to flotation concentration for extraction of their sulphide copper content and the tailings from this operation were leached with sulphuric acid for extraction of their oxide copper content. A total of 199,899 dry tons of slimes were treated assaying 1.223 per cent total copper, of which 0.773 per cent was oxide and 0.450 per cent was sulphide copper. Inspiration Consolidated purchased one mining claim of approximately 20 acres during the year to obtain ground which eventually may be covered by flood waters impounded by the tailings dump.

P. D. I. Honeyman, Inspiration, Arizona, formerly assistant general manager, was appointed general manager to succeed Thomas H. O'Brien, who retired. H. Carroll Weed, Inspiration, formerly assistant mine superintendent, was named general superintendent.

PHILIPPINE CHROME ORE ARRIVES IN UNITED STATES

SHIPMENTS of chrome ore from the Philippine Islands, at a standstill since the war started, have been resumed and the first consignment from the Islands has arrived in the United States. The ore originated from the Masinloc Chromite Company, a Benguet Consolidated Mining Company subsidiary which produces a refractory-grade chromite.

NATOMAS COMPANY REPORTS NEAR NORMAL OPERATIONS

IN its annual report for 1945, the Natomas Company, Thomas McCormack, president and general manager, 607 Forum Building, Sacramento, California, reported that it was rapidly approaching normal dredging activity as the year ended. As WPB Limitation Order L-208 was rescinded on July 1, 1945, and as soon thereafter as labor could be recruited and materials secured, three dredges were placed in operation in the Folsom district of California, in addition to the two which were permitted to operate during the war under special permit. A sixth dredge started operating in the same area in January 1946.

The company's remaining dredge, which was stripped of parts during the war years to keep the others supplied, is now awaiting necessary equipment and materials. It will in all probability be placed in operation within the next three months.

For the year of 1945, the total area dredged was 143 acres and recoveries amounted to 30,006 fine ounces from 10,008,835 cubic yards of material handled. Net return per yard is reported as 3.90 cents as compared with 3.59 cents for 1944.

With the revocation of L-208, work at Greenan Placers in Nevada was undertaken with a view toward resumption of production at the earliest possible date. A dragline will be started in shallow ground within three months and this operation will continue for a period of about a year, when, it is expected, the depth of the ground will require installation of a dredge. Present plans call for remodeling one of the seven dredges in the Folsom field and its removal to the Greenan property sometime in 1947.

The Manhattan Gold Dredging Company, in which Natomas holds 32.8 per cent of the outstanding stock, continued to operate its property at Manhattan Gulch, Nevada. The South Platte Dredging Company, a Colorado operation in which Natomas Company has a 50 per cent interest, resumed dredging on July 12, 1945, and for the period ended November 30, dredged material totaled 1,845,344 cubic yards. South Platte has sufficient ground available to continue profitable dredging for a considerable period.

Merced Dredging Company, a Natomas subsidiary, began operations as soon as the WPB restrictions were lifted, and San Joaquin Mining Company, another Natomas subsidiary, was about to do so, when Merced County, California, passed a local ordinance requiring resoiling of dredged ground. The validity of the ordinance is presently being litigated in the United States District Court.

As in the past most of the Natomas Company's agricultural lands were leased during 1945 on a cash and crop-share rental basis. Income from all agricultural lands for the year showed a net of \$6.77 per acre as compared with \$6.90 for 1944. Approximately 8.075 acres were sold in accordance with the company's policy of disposing of its agricultural lands and the gross realized was \$379,530. Sales for the most part were at prices less than the cost

of the land as carried on the company's books.

Net income from all operations for the year 1945 was \$623,478 as compared with \$532,128 for 1944. Due to the book loss on land sales contracts in the amount of \$556,362, the net income from all sources amounted to only \$67,115.

HECLA COMPANY REVIEWS 1945 OUTPUT IN THREE STATES

THE Hecla Mining Company of Wallace, Idaho, reports that during the past year it treated a total of 829,343 tons of material, including output from its Osburn tailings lease in Idaho and its Silver Cable lease in Montana, and operated its Gem mill on full time. During the fall of 1945 the Silver Cable ore was exhausted and the lease was terminated. The Osburn tailings plant handled 974,433 tons of tailings and made a profit of \$1,004,142 before income tax provisions.

Operation of the Blue Moon property in California was continued until November 15, 1945, when a serious cave-in occurred. As only a few months' supply of known ore remained to be taken out, it was decided not to recondition the mine for the remaining tonnage. Profit for the year from this operation amounted to \$52,843 after charges for depreciation, depletion, and income taxes.

The company's other interests consist of half ownership in Sullivan Mining Company, the operator of the Star mine and zinc plant at Kellogg, Idaho, which showed a net income of \$749,803 for the year; a third interest in the Resurrection Mining Company of Leadville, Colorado, which showed a profit of \$164,416 after depletion, depreciation, and taxes; and control of the Polaris Mining Company which reported a net income for the 13-month period ended December 1945 of \$388,165 after all charges, including income taxes.

All operations were hampered by the shortage of labor and toward the end of the year the C. I. O. employees in the Coeur d'Alene district demanded a 30 per cent wage increase. Negotiations on this subject are under way. Production for the year amounted to 11,453,266 pounds of lead; 592,872 ounces of silver; and 16,834,892 pounds of zinc.

Dividends paid during the year amounted to \$1,000,000, bringing the grand total paid to date to \$28,905,000. Net income from ore sales amounted to \$2,169,272 and after deductions and other income, a net income of \$1,399,092 is reported for the year. This compares with net income of \$1,293,309 for the preceding year.

GOOD-BY GOLD DUST

When the steamship Yukon sank in February no mention was made of any material loss, because of the many human lives involved in the disaster. Now, however, it is learned the Awe Mining Company owned \$9,000 of the \$11,000 in gold dust that went down with the wreck. But, says Charles Awe, a company official, the poke was insured.

Moral: See your nearest insurance company. (End of commercial.)

COPPER FIGURES FOR MARCH REFLECT STRIKE PICTURE

COPPER statistics for March reflected the full effect of the strike at copper refineries and the month's output of refined copper dropped to 20,139 tons from the preceding month's total of 49,923 tons. According to figures compiled by the Copper Institute, mine output in March showed very little change, the months total being 41,042 tons as compared with 41,677 tons in February.

Shipments of refined copper to consumers in March totaled 58,590 tons, against 86,089 tons in February. Of the March total, 24,229 tons were of domestic origin and 34,361 tons were foreign copper furnished by the Office of Metals Reserve. With only two major copper refineries operating in the entire country, the deliveries of domestic copper in March were about as expected. Since there are no signs of improvement in the labor picture so far in April, trade circles predict that the statistics for the current month will be at least as bad, unless an important quantity of foreign copper in readily usable shapes arrives in the meantime.

The radical change in the copper picture can be seen when the figures on March deliveries of copper to domestic fabricators are compared with those of previous periods: March 58,590 tons; February 86,089 tons; January 115,601 tons; and the wartime peak of 218,488 tons, established just a year ago. As a result it is understood that the Civilian Production Administration is preparing to impose several measures calculated to insure most equitable distribution of available supplies to consumers.

BATTERYLESS TYPE TELEPHONE DESCRIBED BY MINES BUREAU

SURFACE officials and fire-fighting or rescue crews working underground now can communicate with each other instantly by means of a new portable, batteryless telephone which is described in a report just released by the Bureau of Mines. The new unit was invented by F. E. Griffith, former engineer with the bureau who was awarded \$1,000 in cash and a salary raise for his achievement by the Suggestions Award Committee of the Interior Department.

Members of mine rescue crews cannot talk through an ordinary telephone mouthpiece while wearing oxygen-breathing apparatus, so the new telephone has a transmitter fastened to the underground crewman's throat and operated by body vibrations from spoken words or sounds produced by the larynx. The batteryless feature of the new equipment and the absence of sparks makes it safe to use in mines where there is explosive gas.

Used at several mine fires and explosions by bureau men, the new telephone has proved far superior to the old sash-cord lifeline and the hand-operated signaling systems. The rubber-insulated telephone wire, wound on a revolving drum outside the mine, also serves as a lifeline for the crewmen to grasp as they move into a gassy or burning mine.

Also described is another portable telephone operated by batteries and employing

Another Bucket of Dredged-up Miscellany



... from Addison N. Clark

* * * Well, here goes my last "column" under the Old Masthead—after almost a dozen years. It has been fun, a perfect safety-valve, and has elicited many letters from the Brethren of the Industry which I cherish.

* * * With the Interior Department without west-minded men and experienced engineers where they are so sadly needed, and with the SEC continually growing more and more gestapo-minded . . . our industry faces a long up-hill fight. As was said a fortnight back, we do have some alert allies in both House and Senate, and Representative Bunker of Nevada ere long will introduce his bill to remedy evils that have sprouted and grown out of the original Securities Act of 1934. IT IS VITALLY URGENT that EVERY man in our industry, from manager to mucker—including every mining attorney—keep close to that picture and make his ideas known to his senators and representatives. Pat 'em on the back if they're hitting the ball right, prod 'em if they're not. After all, we hired 'em and sent 'em back to Washington to WORK FOR OUR WEST. Don't leave the corrective jobs all to the editors and writers of your industry's magazines. Write your congressmen YOUR own thoughts and ideas. It is a common cause; a war against evils that, if not scotched, will reduce our industry to the status and magnitude of retailing peanuts.

* * * With the smelter and refinery labor strikes throttling lead, silver, zinc, and copper production, putting thousands of miners and lessees out of work, one bright spot is Chet Bowles' April announcement that metal subsidies will be upped. That, however, is a bit like painting a cancer with iodine; a kid-'em-along subterfuge. The symptoms call for a major operation.

* * * With the problem of Unity and No Unity itching the world just now, and with all of us wondering just what will happen in the Interior Department with Cap Krug steering it, it is amusing to glance back to January and December. Objective of that glance is to note the antithetical viewpoints expressed by (a) the late Secretary Ickes in the Yuletide American Magazine, in which he swiped the gloomy stuff of Elmer Pehrson and fed the American people the weird phantasmagoria about the imminent vanishing of our mineral resources; and (b) the paper presented by Dr. Wrather, head of the Geological Survey, at the January meeting of the Colorado Mining Association. While Wrather's paper did speak frankly of war's drain on our mineral wealth, he sanely stressed the logical answer to that—wider and more intensive application of modern scientific methods of exploration, specifically geophysical prospecting. He drew a wise parallel between our industry and the oil industry and pointed out pithily how the latter, stymied for new field discoveries, had turned on geophysical engineering (seismographic, where we use electrical methods) and set a record for new oil-pool discoveries.

* * * Using proper geophysical engineering methods, in the proper way, we miners can do just as well as did our oil confreres.

BRADLEY TO RETIRE JULY 1 FROM CALIFORNIA BUREAU OF MINES

WALTER W. BRADLEY, state mineralogist and chief of the California Division of Mines, Ferry Building, San Francisco, has announced his plans for retirement July 1, 1946. Having joined the bureau in 1912, he will conclude a 34-year career in the state service.

He was born in San Jose, California, and was educated at the University of California graduating with his bachelor of science degree in mining in 1901, with honorable mention for distinguished scholarship. A degree in mining engineering with doctorate rank was bestowed upon him in 1917.

Bradley began his professional career in 1901 as miner and millman for the Melones Mining Company, Melones, California. Two years later he became associate editor of the Mining and Scientific Press, San Francisco. In 1905 he again turned to active mining and served as mill superintendent for the Standard Consolidated Mining Company, Bodie, California. The years of 1907 and 1908 were spent in Mexico where he was assistant manager for the Ventanas Mining and Exploration Company at Ventanas, Durango. Bradley then returned to the States as assayer, with the DeLamar Company, DeLamar, Idaho. He left that position to become affiliated with the California State Mining Bureau, now known as the Division of Mines, State Department of Natural Resources.

The positions he has held successively with the bureau have been librarian, field assistant, statistician and curator, deputy state mineralogist, and state mineralogist, which position he still retains.

From 1915 to 1917 he engaged in extensive research in ore dressing of quick-silver ores, and the results of this work were embodied in California State Mining Bureau Bulletin No. 78, Quicksilver Resources of California. He also is the author of a number of other bulletins for the bureau as well as various magazine articles.

WASHINGTON DEPOSITS COVERED IN PRELIMINARY REPORTS

A NUMBER of reports on various mineral deposits in the West have been released by the federal authorities. The Bureau of Mines has published a report on the results of a pilot plant and laboratory investigations of the concentration of oxide manganese ores from three Callam County, Washington, ore samples. The work came as a part of the research program instituted in 1940 for the production of high-quality manganese metal from low-grade domestic deposits. The three samples were taken from the Madeline, Lakeview, and Victory claims and when they were found to be not amenable to ordinary ore-dressing treatment, bureau scientists explored the feasibility of gravity, flotation, and magnetic methods of separation. The procedure is discussed in the publication, Report of Investigations 3837, "Concentration of Oxide Manganese Ores from Callam County, Washington," by T. F. Mitchell and Walter J. Long, bureau metallurgists. It may be obtained free by writing to the Bureau of Mines, Washington, D. C.

In cooperation with the Geological Survey, the bureau studied six high-alumina clay deposits in Washington. The report, with maps and geologic cross-sections of the deposits, has been put in open file at the offices of the survey in Washington, D. C., and Spokane, Washington; at the Department of Conservation and Development, Division of Mines, Olympia, Washington; and at the Bureau of Mines Experiment Station in Seattle. Also on open file in Washington, Spokane, and Olympia are maps and cross-sections of the Deep Creek, Red Top, Gladstone Mountain, and Deep Lake mining areas, all in the Northport district of Washington. The maps show the location of the mines and prospects, the areal extent of the lead and zinc deposits, and the detailed regional structure.

U. S. SMELTING REPORT REFLECTS ACUTE LABOR SHORTAGE IN 1945

THE United States Smelting Refining and Mining Company reports net profit for the year 1945 of \$1,701,308, with the gross value of production and gross revenue from other operations amounting to \$34,806,081. This compares with a net profit of \$2,025,601 in 1944.

In a statement concerning operations at its various properties the company reported that only a limited amount of dredging was done at Fairbanks during 1944 and 1945 and no dredging was conducted at Nome since 1942. Shutdown expenses at these properties were taken care of partly by income from rentals on some of the buildings and equipment and from other credits, including the profit from the small amount of dredging done at Fairbanks. The balance, together with the shutdown expenses of the Goldroad mine in Arizona, was charged to the reserve of \$500,000 for shutdown expenses set aside out of earned surplus in 1942. This reserve stood at a balance of \$255,411 at the end of 1945. While a large yardage of proved ground is available for dredging and the equipment is in condition to resume full-scale operations, it is impossible to predict what the rate will be for 1946 because of the manpower situation. However, the company hopes to exceed half capacity.

In the Utah metal properties there was a further drop in output, due to the lack of labor. Although the average grade of ore mined was somewhat better than in 1944, profit margins continue to decrease as a result of fixed metal prices and steadily increasing costs. The men at the mines and at the Midvale plant went out on strike January 21, 1946, demanding further increased wages and benefits. Negotiations are now in progress. The electrolytic lead refinery at East Chicago continued to treat all of the lead bullion production of the smelter.

Operations at the zinc-lead property at Bayard, New Mexico, were continued throughout the year and at about the same rate of output as in 1944. Additional ground was acquired and exploration and development was continued with good results.

Reports from the company's Mexican properties state that the tonnage of ore

hampered by financial difficulties. The ore is mined from underground workings and from a large blanket deposit near the surface. Lease agreements existing prior to the change will not be affected. Ben Jacoby, who has been working the underground part of the property under contract agreement, will continue as before. Maurice B. Lauzon, Box 422, Oatman, Arizona, and Cyrus F. Weeks, Box 227, Kingman, who was formerly associated with the Emerald Isle group as consulting engineer and general superintendent, hold a lease from the owner and will retain their interest in the property. The new operators, all of whom have had wide experience in mining and milling activities in the area, are: R. G. Hall, Box 276, Chloride; Kenneth R. Hall, Box 683, Ajo; D. M. Kimsey, Chloride; Joseph G. O'Brien, Box 153, Chloride; Albin Larson, Box 333, Chloride; J. E. Layton, Box 227, Chloride; as well as Herman Stouffer, Irby King, R. B. Reed, Ray Nuttycombe, Carl Smith, Ted Ryden, Bert Larson, and Alfred Sporer, all of Chloride. Regular production has been started under the new management. The copper concentrates are shipped to the Clarkdale smelter.

Karl and Charles Fackler, Skull Valley, Arizona, have acquired under lease and option to purchase the property previously held by Arthur Bowen. The lead-silver-gold property, which Bowen has owned for the past 24 years, is known as the Silver Chloride No. 1 and No. 2. The mine is located in Battle Flat in the Turkey Creek mining district of Yavapai County, Arizona. It is 12 miles southwest of Mayer,

the nearest shipping point. It is situated two miles west of the famous old Peck silver mine and one-half mile east of the old Bully-Wayno gold mine. The property had been idle for a long time due to transportation difficulties, but this condition was alleviated when the government constructed roads from Mayer to Barrel Springs. The Facklers plan to start work immediately and development plans include a new shaft and construction of one-half a mile of road. The property is said to have a good surface showing and the vein is from seven to eight feet wide. The values are reported as 8 to 16 per cent galena; 6 to 20 ounces silver; \$3 to \$6 gold; and 3 to 3.25 per cent copper, plus small showings of embolite of silver and yellow chloride.



It is reported that the Grant Mining Company is operating a 3,000-yard Bodinson plant at its Mokelumne Hill, Calaveras County, California, property. Thomas L. Woodruff, Mokelumne Hill, is manager of the operation.

Development work is continuing at the Our Chance mine in the Sherlock district near Mariposa, California. The property was taken over late last year by E. L. McConnell, former chrome mine operator, and Robert A. Polk, from the owner Arthur

E. Clark, Box 115, Mariposa, who formerly operated the mine. Work at the present is confined to opening the ore shoot at a deeper level. The shaft is down 175 feet below the main tunnel level and ore is being uncovered in a drift at the 170-foot level. The ore encountered is reported to be high-grade and to consist of seams of gold with a little quartz cutting through the footwall formation. These stringers, which are said to represent the margin of the ore shoot, are expected to lead into the main gold ore deposit. The mine is equipped with a 25-ton mill.

The Dudley gold mine near Minersville, Trinity County, California, has been sold by Harold H. Bragdon, Minersville, to J. C. Brookins of Los Angeles. Bragdon operated the property in the early 1930's. It is reported that the new owner is planning to operate the mine and to erect a mill on the ground in the near future.

The Idaho Maryland Mines Corporation reports a net income to surplus of \$19,618 for the year ended December 31, 1945, as compared with a net loss of \$127,269 for 1944. Net income from operation was reported as \$44,864, compared with a loss of \$116,667 for 1944. The company holds the Idaho Maryland and New Brunswick mines in the Grass Valley, California, area. The properties at one time were the largest producers of gold from quartz in California, and the second largest in the country, being exceeded only by the Homestake in South Dakota. President Edwin Letts Oliver, 260 California Street, San Francisco, states that the outlook for Idaho Maryland is promising though somewhat

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uncertain due to increasing costs of all items entering into mining operations. The company is also hampered by its inability to obtain adequate manpower. Neil O'Donnell, Box 1208, Grass Valley, general manager, has been named executive vice-president. Errol MacBoyle, who a year ago lost control of the corporation and was ousted from its directorate, regained his seat on the board of directors, and was elected vice-president at the annual stockholders meeting held recently. Edgar T. Zook and Fred W. McNear also were named vice-presidents at the meeting.

A tunnel is being driven at the **Gold Mountain** mine by D. D. Kirkham, Box 192, Central Valley, Shasta County, California. The mine is located 12 miles from Hilts in Siskiyou County. The present work is designed to strike a ledge from 10 to 30 feet wide at the 125-foot level. Other exploratory work is being hampered by inclement weather, but will be started as soon as conditions permit. The ore is reported to assay from \$30 to \$60 per ton with surface material running from \$5 to \$12.

It is reported that the Graham brothers, Arcata, California, contractors, have leased the **Lucky Boy** placer property from Ben Wyant. The mine is located near Happy Camp in Siskiyou County, California. New machinery is being moved to the placer holdings preparatory to dredging operations.

New equipment has been installed at the old **Lonesome Pine** gold quartz mine in Mariposa County, California. A 120-foot shaft has been sunk and a new shaft below the old workings has been started. The property is located at Mount Bullion and is believed to be an extension of the famous old Princeton vein. Oscar Hagen of Mariposa is the operator of the mine.

The **Providence Tuolumne Gold Mines, Inc.**, is installing two miles of new power lines at its Providence mine. The property which is comprised of three claims and a mill site in the East Belt of the Mother Lode, Tuolumne County, California, has been held by the company since 1939, when the concern was incorporated. The mine has been closed since the WPB gold closing order. The operators propose to extend the drifts on the vein intersected by the crosscut tunnel both to the north and to the south to open at that depth ore bodies found in the upper workings. A. Vanninni, 210 Post Street, San Francisco, is president and general manager of the company.

A cave-in at the **Red Hill** hydraulic mine near Junction City, California, swept out the flume and caused the loss of the entire season's work. The flume had been constructed early this year. Repairs have been effected and work was resumed shortly thereafter. Due to the delay caused by the cave-in and the lateness of the season, present work is of a prospecting nature. The Red Hill property, which has been mined continuously since 1853, is operated by Warren M. and J. A. Gilzean of Junction City.

Central Eureka Mining Company reports a net loss of \$149,047 for the year ended December 31, 1945, compared with \$122,352 for 1944. C. C. Prior, president

and general manager, 111 Sutter Street, San Francisco, California, states that the stockholders, of whom there are about 1,500, should be prepared to pay three assessments of 25 cents each before profitable mining is underway. Two assessments of 10 cents each have been levied thus far, as a result of the three and one-half year shutdown which depleted the company's \$472,724 cash reserves. The plan for future operation calls for deeper digging by dewatering the Central Eureka shaft on the 3,500 and 4,000-foot levels. A drift would be run from the Old Eureka mine to the north ore body of the 4,000-foot level. This would involve up to 25 months of work at an estimated cost of \$450,000. Manpower shortage, lack of materials, and housing shortages have seriously hampered the company's rehabilita-

tion program. Prior states that the potential future of the mine from developed ore is conservatively estimated to be more than \$1,500,000, and diamond drilling indicates that an equal amount can be realized from above the 4,000-foot level.

It is expected that gold production at the Oro mine near Downieville, California, will be started soon by the **Associated Metals, Inc.**, 611 American Building, Seattle 4, Washington. Work was resumed at the Oro late last year after having been suspended for about five years. Present operations are on the fifth level which is 270 feet below the fourth level. A raise will be cut, following the footwall, to give access to ore reported to be of a good paying value. The raise is designed to permit operation by gravity. After being graded, the ore will go to the mill, 170 feet below



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the fifth level portal. Numerous diamond drillings on each side of the fifth level have been completed and these cores are said to disclose ore which will warrant a long-time production program. The present mill at the Oro will be replaced within the next 90 days by a new 50-ton daily capacity ball mill complete with classifiers and flotation cells, and a leaching plant for very low-grade ore. Much of the old equipment and buildings are expected to be used as work progresses at the Oro. A crew of eight men is employed. James T. Bonner, Box 109, Downieville, resident engineer, and Angus James, also of Downieville, foreman, were associated with the Oro mine prior to its closing. Ira Mahon, president and manager of Associated Metals, recently visited the mine. He was accompanied on his tour of inspection by Charles Davis who is consulting engineer for the company. The company lately acquired the Pine Grove mine in Amador County near Jackson, California, and has other holdings in Idaho and Oregon.

In the annual report of the **Empire Star Mines Company, Ltd.**, for the year ended December 31, 1945, Fred Searls, Jr., president, 14 Wall Street, New York, New York, states that the company's mining operations at Grass Valley, California, may be closed unless conditions improve. Properties which would be affected, are the Empire, Pennsylvania, and the North Star mines. Searls said that although the ban on gold mining was lifted last June, production at the company's properties were not resumed due to the continuing shortage of labor. Searls declares, "Assuming no rise in the price of gold, we must either obtain within a reasonable time an adequate operating force at wages somewhat below current nonferrous pay for similar skills, or else close the mines, which under physical conditions prevailing would be equivalent to abandoning them." Proposal has been made to use the company's Pennsylvania mine in Brown's Valley, California, as an experimental test operation before coming to a final decision. An operating force of 50 men will be maintained at the property and will serve to show whether or not the policy of keeping the other mines dry and in repair has been justified. The net loss of the Empire Star Mines Company for 1945 was \$332,491, highest of any year. Loss for 1944 was \$252,748, and in 1943, \$262,372. John R. C. Mann, Grass Valley, is general manager for Empire Star.

COLORADO

The **Vanadium Corporation of America**, 420 Lexington Avenue, New York, reports a net loss of \$226,559 for last year, compared with a net profit of \$459,713 in 1944. Net sales in 1945 amounted to \$13,297,536 against \$16,450,621 in the preceding year. Western operations of the company are located in Colorado and Utah.

Work at the Flying Cloud mine at Cripple Creek, Colorado, has been resumed by the **Champion Mines Company**, Jesse Sim-

"FORMULA" FOR WHAT?

When a government official, cabinet officer or conciliator produces a "formula" for settlement of strikes consisting of raising wages 15 to 30 per cent while forbidding any increase in prices, he is merely demonstrating once more the inability of the politician to comprehend economics. Between taxes and competitors, there is no such margin of profit in modern industry to absorb so great an increase in the major factor of costs.

Such a "formula" is conceived in terms of votes, not of economics. It is irresponsible, for neither the official nor the administration he represents bears any part of the burden imposed on industry. It is economic illiteracy, for it bars reconversion on a sound basis. It opens the door to government seizure of private industry which, becoming permanent, becomes state socialism or totalitarianism.

Is that the objective back of these strikes and "compromises"? Neither strikers nor government give any consideration to the little man who made industry, taxes and wages possible—the stockholder.

mons, 941 Monroe Street, Denver 6, president. A new hoist house has been rebuilt and a gasoline hoist has been installed, replacing equipment destroyed by a fire early in March. The company also holds the Last Chance and Morning Star properties in the same district. Francis W. Gunn of Cripple Creek is mine superintendent.

Gold production will be started in the near future from French Creek near Breckenridge, Colorado, at the rate of 2,250 yards daily. Edward Cooper recently purchased a dredge which is being prepared for immediate operation. The property has been idle for years because of litigation which has now been settled.

It is reported that machinery will be installed and operations resumed at the **Ward Big Five** mining property in Boulder County near Ward, Colorado. The mine, formerly held by the North American Mining Company, is now owned by Dr. E. R. Fredette, Sam F. and Tom Wright, and Elbert G. Fye and Elbert G. Fye, Jr. The latter, who makes headquarters in Central City, Colorado, will supervise equipment installation.

Production of about three carloads of zinc ore a week is slated for the Sally Barber mine at Breckenridge, Colorado. Whitey Reynolds, Breckenridge, has contracted the underground work in the mine from Mike Vinson of Breckenridge who holds the property under lease.

At the present rate of advance the **Idarado Mining Company** expects to complete the raise from the Treasury Tunnel to the lowest Black Bear workings by July. All machinery for the new 500-ton milling addition is on the ground, except electrical equipment. Installation is under way. Meanwhile the company continues production from the old mill, which handles about 300 tons of ore daily, sending the zinc to

THE MARKET PLACE

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- 1—100 cu. ft. two cyl. belt-driven I.R. Compressor with V pulley.
- 1—100 cu. ft. two cyl. belt driven Le Roi Compressor with V pulley.
- 1—315 ft. I.R. Portable Compressor.
- 1—No. 3 Buffalo Blower 6" outlet.
- 1—No. 5 Buffalo Exhauster, 10" outlet.
- 1—No. 2 Sturtevant Exhauster, 7" outlet.
- 1—New 2" Wemco Sand Pump belted.
- 1—New 8" Cent. Pump for belt drive.
- 1—2 1/2" Viking Rotary Pump, belt drive.
- 1—New C.P. No. 5 Drifter, for 1' Steel.
- 1—New C.P. No. 34 Rotating Stoper, 1".
- 1—New C.P. No. 365 Impact Wrench.
- 1—Large Air Receiver heavy type made of Boiler shell with thru bolts, 66"x16'. Has been used on 100 lbs. working pressure.
- 3—Deister Plat-O Concentrating Tables RH and LH, with Grooved Pulleys for V drive.
- 1—Wilfley Lab. Table Mechanism less decks.
- 2—Denver Equipment Co. Flotation Machines, one 6 and one 8 cell, motors and drives.
- 2—1 1/2" Denver Vertical Sand Pumps.

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- 1—20 hp 440-v Sullivan HDE-2
- 1—Without power 2500-5000 lb. Sullivan HDE-3; suitable either engine or elec. drive

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The Manufacturers Tell Us

New Safety Feature — Gardner-Denver Company, Quincy, Illinois, announces the addition of an important safety feature on the Gardner-Denver Model HKK hoist. It consists of a spring-loaded brake, held in the off-position by air pressure. If the air supply fails for any cause, if an air hose ruptures, or a line breaks, this brake is automatically applied. The brake is automatically released when the throttle valve is moved in either direction. The throttle valve returns automatically to the neutral position when released by the operator.

The manufacturer states that the new brake is positive and entirely automatic. It will hold in suspension any load within the capacity of the hoist and cannot be released until air is admitted to the motor and the load is picked up.

Gardner-Denver Model HKK single-drum safety hoist has a rated vertical lift of 2,000 pounds at 8 pounds air pressure.

Welding Supplies — What probably is the most comprehensive supply catalog ever published is being distributed by the Victor Equipment Company, 844 Folsom Street, San Francisco, California. It covers a very large assortment of every type of supply required for gas or electric welding and flame cutting. The catalog is profusely illustrated and contains complete descriptions, specifications, and prices of hundreds of items. Free copies will be furnished by the company on request.

Aluminum Safety Ladders — To meet conditions peculiar to the mining industry the Duo-Safety Ladder Corporation, 811 Ninth Street, Oshkosh, Wisconsin, has developed a special type of aluminum ladder. Single ladders can be furnished up to 35 feet in length, two sections up to 70 feet and three sections up to 105 feet. The extra-length ladders require stabilizing supports such as guy wires, ropes, or braces to eliminate sag.

The first Duo-Safety aluminum ladders were manufactured about five years ago, initially for use in the fire field, then in the industrial field. When the war started and aluminum was frozen, production of the ladders had to be discontinued. At the National Safety Congress in 1945, the problems of the mining industry were brought to the attention of the ladder company. With the cooperation of mining associations and safety engineers the mining type of aluminum ladder was developed. The extra strength provided by the tubular rail construction, and the fact that aluminum ladders are not affected by moisture and will out-last wooden ladders, are important safety factors for mine operators to consider.

Wood Tanks for Mines — A comprehensive, informative bulletin on "Wood Tanks for the Mining Industry" has been published by Santa Fe Tank and Tower Company, 4820 Santa Fe Avenue, Los Angeles 11, California. It gives the mine operator clear, concise information on wood tanks and wood equipment which are used in extracting and processing fields.

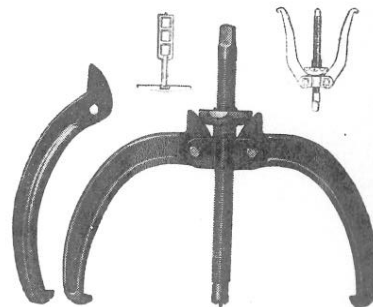
In the chapter on cyanide plants, specifications are given for leaching plants requiring 24 and 48-hour contact, special

notes on agitators, leaching tanks, solution tanks, zinc precipitation boxes, etc. The bulletin also includes extensive reference tables on cyanide, prospector's gold table, gold values per cubic yard of gravel, simple ore tests, acidity tests, tables for determining alkalinity of cyanide solution, sizes and weights of mining tanks, conversion factors, and many others. Complimentary copies may be obtained from the company.

California Manhattan Distributor — Appointment of the Republic Supply Company of California as distributor of Manhattan industrial rubber products has been announced by Raybestos-Manhattan, Inc., Manhattan Rubber Division, Passaic, New Jersey. With its 12 oil country field stores, Republic will serve the petroleum industry throughout California and the general industrial trade in Southern California.

Republic Supply will be under the supervision of A. R. Bradshaw, Manhattan's Pacific Slope manager at San Francisco, and R. G. Huetman, Manhattan factory representative, will make his headquarters at Republic and will be available to assist in solving mechanical rubber goods problems. Republic Supply Company headquarters are located at 1725 East Seventh Street, Los Angeles, California.

Puller for Wheels and Gears — The Klay puller, in which the pulling and gripping actions are independent of each other, is claimed to develop greater pulling power plus a safer and more positive grip on the object pulled. These pullers are made in two and three-hook types for pulling anything from a 1/2-inch gear up to a 40-inch wheel or hub.



The Klay puller for removing wheels and gears.

The puller is said to be fool proof in operation — no loose parts to be fumbled with or adjusted. In addition to regular straight and curved hooks, many types of special hooks are available and interchangeable for specific applications, including expansion hooks which work just the opposite from regular hooks in that they are used in pulling from the inside. The Klay lock-nut is said to lock the hooks to the gear or wheel so that they will not slip off, but the grip is applied equally on all sides. Thus the total force developed by the pulling screw is directed toward removing the wheel instead of part of it being diverted into gripping power.

The Klay puller is manufactured by the Scott and Ewing Company, Department G-8, Findlay, Ohio, from whom further details of construction and use may be obtained.

THE MARKET PLACE

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- 1—28" Apron Egg Conveyor, 21' Centers
- 1—18" Drag Chain Conveyor, 7' Centers
- 1—9" Drag Chain Conveyor, 60' Centers
- 1—16" Jack-Knife Drag Chain Conveyor, 18'6" Centers

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- 2—6 Cell No. 21 Denver, Sub-A, Rubber Lined, Motorized

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- 11—16 Cu. Ft. Roller Bearing, 18" Ga.
- 7—1½ Ton Gable-Bottom Cars
- 4—Card Iron Works Skip Cars

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- 3—No. 6 Wilfleys, V-Belted to Motors
- 3—No. 6 Wilfleys, T & L Pulley Drive
- 2—Plat-O Tables, T & L Pulley Drive

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- 3—Ingersoll-Rand N-75 Wet Drifters
- 4—Ingersoll-Rand L-74 Wet Drifters
- 6—C.P. 60 Wet Drifters
- 1—Ingersoll-Rand DA35 Wet Drifter
- 4—Model IJA55 Ingersoll-Rand Jackhammer
- 1—Model S-49 Ingersoll-Rand Jackhammer
- 1—Model 70 Cochise Jackhammer
- 5—Gardner-Denver 77-H Stoppers
- 1—Model 475 Cochise Stoper
- 17—C.P. 43 Stoppers
- 1—Ingersoll-Rand SAR-120 Stoper
- 23—Gardner 1 Pt. Line Oilers
- 15—Bxs. B-1-3/4 New Timken Bits
- 2—Bxs. H-2 New Timken Bits
- 25—Timken Bit Carriers
- Air and Water Hose

AIR COMPRESSORS

- 1—17x10x14 I.R. Imp. 10 with 100 H.P. Motor
- 1—14x7½x12 I.R. Imp. 10, without Motor
- 1—8-1/8x4-3/4x5 Class PB4, Chicago-Pneumatic Semi-Portable, 277 Cu. Ft. on Steel Skids, V-Belted to a Mercury Ford Power Unit
- 1—445 Cu. Ft. I.R. Imp. 10, with 75 H.P. Motor
- 1—160 Cu. Ft. Chicago-Pneumatic Portable on Steel Wheels

HOISTS—AIR

- 1—1500 Lb. Leadville Tugger
- 1—2000 Lb. Sullivan Slusher

PUMPS

- 1—1" Wilfley Sand Pump
- 2—2" Wilfley Sand Pumps
- 1—3" Wilfley Sand Pump
- 1—3" Deming Centrifugal, B. D.
- 3—3x4¼ Goulds Pyramid, Motorized
- 1—4x3 A.C. Cent., Motor Mounted, 300 GPM, 170' Head
- 1—5x4 A.C. Cent., 750 GPM, 125' Head
- 1—5x5 Deming Oil-Rite, Motorized

HOISTS—ELECTRIC

- 1—200 H.P. Double Drum Shaft Hoist, with Motor and Mine Cages
- 1—52 H.P. Converted Hoist, with Motor
- 1—25 H.P. H&B Converted Hoist, with Motor
- 1—15 H.P. Ottumwa, with Motor
- 1—7½ H.P. Vulcan, with Motor

UNIT CELLS

- 1—No. 100 Denver Unit Cell
- 1—No. 500 Denver Unit Cell

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| 5—20"x9' | 1—36"x18' |
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| 1—30"x9'6" | 1—44"x10' |
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- 3—75 KVA G. E., 13200-2300/4000Y (New)
- 3—50 KVA G. E., 13200-12000-230/460
- 3—50 KVA G. E., 13200/2300
- 1—10 KVA Gregory, 440-110/220
- 1—7½ KVA G. E., 1150-2300-115/230
- 1—5 KVA West., 440-110/220
- 1—3 KVA G. E., 550-110/220

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- 1—45" Akins High Weir, Motorized
- 1—45" Akins Low Weir

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- 1—3 Ton Atlas Battery Locomotive, with Edison Batteries & Charger, 24" Ga.
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- 2—Ingersoll-Rand Type PO-V2 Diesel Compressor Units 350 cu. ft. complete with Fuel Tanks and Air Receivers.
- 1—Ingersoll-Rand 210 cu. ft. Type 20 Portable Air Compressor Mounted—Pneumatic Tires.
- 1—Gardner-Denver Vertical Air Compressor Single Stage 220 cu. ft.
- 1—35 K.W., 440 V, 3 phase 60 cycle Ideal Generator Direct Connected to Case Gas Engine complete with Exciter and switch board.
- 1—Merrill Crow Precipitating Plant, complete (200 Tons solution per 24 hours).
- 1—200 Cu. Ft. Hot Head Compressor C.P.
- 1—Waugh Pneumatic Drill Steel Sharpener.
- 1—Set 12"x30" Kennedy Van Saun Rolls.
- 1—8" Hardinge Ball Mill Blocked to 6'x36".
- 1—4'x18' Dorr Duplex Classifier.
- 1—16' Dorr Thickener Mechanism Low Head.
- 1—3" Wilfley Sand Pump with 20 H.P. Motor.
- 1—3"x3" Worthington Centrifugal Pump with 10 H.P. Motor.
- 1—14" Belt Conveyor 55' Centers Complete with 3 H.P. Motor.
- 1—Wemco Model PBX Agitator Mechanism for 6x6 Tank, complete with 10 H.P. Vertical B.B. Motor.
- 1—40' dia. x 4' high 3" Red wood tank.
- 1—35 H.P. Continental gasoline engine power unit.
- 1—Lot Mine Buckets.
- 1—Lot Mine Cars.
- 6000 ft. 8¼" ID x 8½" OD Gas Line Pipe.
- 1—No. M128—9 Hirsch Bros. Single Drum Mine Hoist.
- 1—12 KW-220V—3 phase 60 cycle Generator direct connected to V-8 Ford Engine with switch panel.
- 1—2 stage pump driven by 10 H.P. 220 volt 3 phase 60 cycle Westinghouse Motor.
- 1—110 cu. ft. I.R. Air Compressor powered with C55 IHC gas engine.
- 1—Worthington Vertical Triplex pump 4½" x6".
- 1—54" Head frame crown sheave.
- 10—Jack Hammers. 10—Liners.
- 1—No. 4 Buffalo Forge blower powered with Z type Gas Engine 3½ H.P.
- 2—4 cell Pan-American Kraut Type DSE flotation machines.
- 1—30 KW Generator 440 volt 60 cycle 3 phase generator.
- 1—Misc. lot of assaying equipment.

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