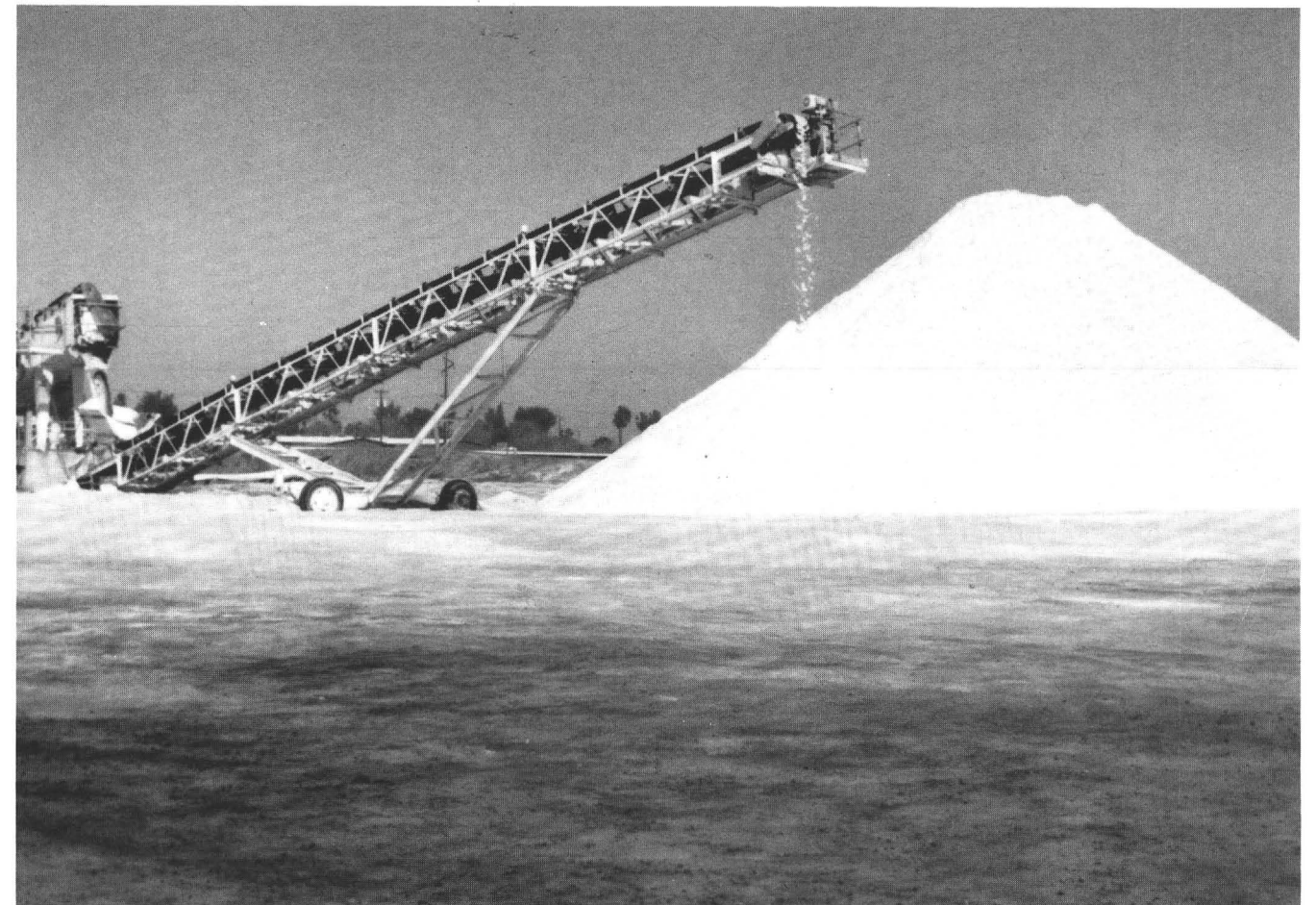


Directory of Active Mines In Arizona 1995



**Arizona Department of Mines and
Mineral Resources**

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES

H. Mason Coggin, Director

1502 West Washington
Phoenix, Arizona 85007
(602) 255-3795
Toll Free in Arizona: 800-446-4259

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Active Mines in Arizona - 1995

by K.A. Phillips, N.J. Niemuth, and D.R. Bain

Department of Mines and Mineral Resources

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State of Arizona
Fife Symington, Governor

Phoenix, Arizona
December, 1994

THE ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES

The objective of the Department is to promote the development of Arizona's mineral resources. This is accomplished through technical research, field investigations, compilation of information into a mineral occurrence data base, and disseminating information through publications, personal contacts, and seminars.

The Department's mining engineers and geologists assist mining and exploration companies, prospectors and others interested in Arizona's minerals with mineral processing, mineral land acquisition, exploration, mine development, financing, government regulations, and marketing.

The Department is a service agency and does not regulate, tax, or require any type of registration. The agency provides assistance that is tailored to meet the diverse needs of the public. The following is a partial list of services that the Department offers:

- Maintain a site specific data base of unpublished reports and maps that includes 4,000 mine files and indexes of 10,000 computerized Arizona mineral occurrences.
- Maintain an information bank and library of mineral and mining information including a mine map library (hard copy and microfilm), government publications, periodicals, and unpublished master and doctorate theses.
- Gather and disseminate information on commodities and markets.
- Suggest target areas for exploration activity.
- Suggest properties for acquisition and development.
- Assist individuals and companies in their dealings with regulatory agencies to facilitate their mining and exploration activity.
- Produce publications in the form of mineral reports, annual directories, technical reports, annual mineral industry surveys and information circulars. These publications include: *Laws and Regulations Governing Mineral Rights in Arizona*, *Directory of Active Mines in Arizona*, *Manual for Determination of Status and Ownership of Arizona Mineral and Water Rights*, and others. A listing of the Department publications is available upon request.
- Maintain the Arizona Mining and Mineral Museum.



Do you need this information in an alternative format? Please call the Department office at 255-3791.

Commodity Index

CEMENT/LIME

Clarkdale Quarry
Douglas Quarry
Nelson Quarry
Rillito Quarry

CINDERS

Darling Cinder Pit
Wildcat Hill

CLAY

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Cheto No. 2
Burro Creek Clay Pit
Dewey Ranch Quarry
Lyles Mine
Pantano Clay Pits
Rim Quarry
Tolleson Mine
Weary Lode Mine

COAL

Black Mesa Mine
Kayenta Mine

COPPER

Bagdad Mine
Casa Grande Mine
Copper Queen Mine
Johnson Camp Mine
Magma Mine
Miami Mine, Cyprus
Miami Mine, Magma
Mineral Park Mine
Mission Mine
Morenci Mine
Oracle Ridge Mine
Pinto Valley Mine
Ray Mine
San Manuel Mine
Sanchez
Sierrita Mine
Silver Bell Mine
Van Dyke Mine

DIATOMITE

White Cliff Mine

GEMSTONES

Sleeping Beauty Mine

GOLD and SILVER

Devils Wash Placer
Gold Prince
Gold Road
Magma Mine*
Mission Mine*
Oracle Ridge Mine*
Pinto Valley Mine*
Ray Mine*
Morenci Mine*
San Manuel Mine*
Sierrita Mine*

GRANITE/DECORATIVE STONE

Aztec Quarry
Kilauea Quarry
Red Mountain Quarry

GYPSUM

Camp Verde Gypsum Mine
Feldman Quarry
Salome Gypsum Mine
Snowflake Gypsum Mine
White Cross Mine
Winkelman Gypsum

LIMESTONE/MARBLE

Andrada Marble Quarry
Cyprus Lime Quarry
Queen Creek Marble Quarry
Santa Rita Quarry
St. Johns Limestone Quarry
Shipley Pit
White Rock Quarry

MOLYBDENUM

Bagdad Mine*
Morenci Mine*
Pinto Valley Mine*
San Manuel Mine*
Sierrita Mine*

PERLITE

Superior Perlite Mine

PIGMENT

Swansea Mine
Iron Chancellor Mine

PUMICE

Crown Claims
More Sand, Moon Sand
White Vulcan

SALT

Morton Salt Mine

SAND & GRAVEL

See listing of sand and gravel

SAND, INDUSTRIAL

Ajo Plant & Slag Stockpile
Houck Silica Sand

SILICA SMELTER FLUX

Copper Hill
Gold Hill Mine
Gold Prince

SILVER

Bagdad Mine*
Mission Mine*
Morenci*
Pinto Valley Mine*
Ray Mine*

SLATE

New River Slate Quarry

STONE, DIMENSION

Black Cat Quarry
Blue Bell Schist Quarry
Dunbar Quarries
Flagstone Quarries
Little Rock Quarry
Lizard Canyon Quarry
M C Canyon Quarries
M C Quarry
Mayer Onyx Quarry
New River Slate Quarry
Rainbow Schist Quarry
Rattlesnake Quarry
Red Rock Quarry
Rock House Quarry
Sidewinder Quarry
Western States Stone Quarries
Yellow Wasp Quarry

ZEOLITES

Bowie Chazazite Mine
Grace Chabazite Mine
Union Pass Mordenite

URANIUM

Arizona One
Canyon

* Produced as a by-product

Supplemental Information

Arizona State Agencies

Arizona Geological Survey
845 North Park Avenue, Tucson, AZ 85719
Phone (520*) 882-4795

Arizona Mines and Mineral Resources
1502 West Washington, Phoenix, AZ 85007
Phone (602) 255-3791

Land Department - Minerals Section
1616 West Adams, Phoenix, AZ 85007 Phone
(602) 542-4628

Mine Inspector
State Capital, West Wing, Room 403, Phoenix,
AZ 85007 Phone (602) 542-5971

Federal Agencies

Bureau of Land Management
Arizona State Office, 3707 North 7th St. #300,
Phoenix, AZ 85014 Phone (602) 650-0200

Bureau of Mines
Arizona State Activity Officer, P.O. Box
25086, Building 20, Denver Federal Center,
Denver CO 80225-0086 Phone (303) 236-0451

Forest Service
Arizona Zone Office - Minerals, 2324 East Mc-
Dowell Rd., Phoenix, AZ 85006 Phone (602)
225-5262

**Mine Safety and Health Administration
(MSHA)**
305 East Main, Mesa, AZ 85201 Phone (602)
379-4658

U.S. Geological Survey
Mineral Information Office, 340 North 6th
Avenue, Tucson, AZ 85705 Phone (520*) 670-
5544

Industry Associations

Arizona Mining Association
2702 North 3rd Avenue, #2015, Phoenix, AZ
85004 Phone (602) 266-4416

AMIGOS
2907 N. 2nd Street, P.O. Box 25187, Phoenix,
AZ 85002 Phone (602) 279-3199

Arizona Rock Products Association
1825 West Adams, AGS Building, Phoenix,
AZ 85007 Phone (602) 271-0346

**Society For Mining, Metallurgy, and
Exploration, Inc. - National Headquarters**
P. O. Box 625002, Littleton, CO 80162-5002
Phone (303) 973-9550

Additional copies of the Directory of Active
Mines in Arizona 1995 may be obtained for
\$4.00 (\$5.50 by mail). Circulars with complete
listings of mining related Federal, Arizona, and
County agencies as well as mine permitting in-
formation are available. For more information
or a publication list contact Arizona Mines and
Mineral Resources.

Arizona Department of Mines & Mineral Resources
1502 West Washington, Phoenix, Arizona 85007
(602) 255-3795 Toll-free in-state 1-800-446-4259

Directory of Active Mines in Arizona

1995

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Forward

This directory was compiled in November, 1994 from field visits and information received by the Department's technical staff. For the purpose of this directory, an active mine is defined as a mine in continuous operation, either in production or under full-time development for production. Custom milling operations that are active or available on a full-time basis are also included in the directory.

It is acknowledged that there are additional mines not listed that are in an exploration, evaluation, or part-time development phase. There are others where production is on an intermittent basis that are not listed. The report is dependent on the cooperation of government agencies, private industry, and individuals who voluntarily provide information on their projects and activities.

The directory is arranged alphabetically by company name. Each listing includes corporate addresses, mine name and location, commodities, operation description, and key personnel.

*** Currently the area code for Arizona is 602. Beginning March 19, 1995 the area code 520 will be used for the state with the exception of the Phoenix metropolitan area which will retain the 602 code.**

* Area code 520 effective March 19, 1995

ARIZONA'S MINERAL INDUSTRY

As it has since 1988, Arizona continues to rank first in nonfuel mineral production in the nation. The value of mineral output in 1993 was \$3.01 billion (see table, p. A2). Arizona also remains the leader in U.S. copper production, supplying 65% of the U.S. total. Arizona's 1993 copper production was 2.5 billion pounds valued at \$2,309,340,000. Arizona leads or is among the leaders in the production of gemstones, molybdenum, silver, pyrite, and perlite. Excluding sand and gravel operations, there are 105 active mines in Arizona producing the above commodities plus additional metals and 18 varieties of industrial minerals. More than 14,000 people are directly employed by the mining industry.

COPPER

Rising copper prices, beginning in the spring of 1994 and continuing through the year, coupled with the expectation of a growth in demand by third world countries has had a stimulating effect on the copper industry. The price for cathode copper, averaging 88 cents in 1993, rose to \$1.14 by the third quarter of 1994. The rise in copper prices is attributed to the general strength of the U.S. economy and the apparent signs of economic recovery in Europe. The absence of copper production from new deposits in 1994 was also a factor.

Arimetco Incorporated

Arimetco produces cathode copper from the Johnson Camp mine, while development continues at their Van Dyke and Zonia copper properties.

Johnson Camp, located 65 miles east of Tucson, produced 7.4 million pounds of copper in 1993, down from 8.2 million pounds in 1992. The unusually heavy rains during the first four months of 1993 diluted the solution grades coming off the heaps and entering the solvent extraction-electrowinning (SX-EW) plant. Reserves in the Burro Pit at Johnson Camp are estimated at 15 million tons, with Copper Chief reserves estimated at 9.6 million tons.

The Emerald Isle open pit mine near Kingman produced 576,000 pounds of copper in 1993 before operations were suspended in September, 1993. The mine currently is on care and maintenance. Arimetco reports that the rains in early 1993 forced suspension of shaft rehabilitation at the Van Dyke shaft at Miami. Future mining plans are to inject acid into previously mined underground areas and treat recovered solutions in an SX-EW plant. The company anticipates that the Van Dyke, subject to completion of environmental permitting and a feasibility study, will justify construction of a 50,000 per day SX-EW plant.

Premine-plan drilling was completed at Zonia near Kirkland Junction. Reserves totaling 47 million tons have been identified. Engineering efforts are underway for an open-pit mine and construction of an SX-EW plant. It is anticipated that final permits will be issued in 1995 and production may commence by late 1995.

Asarco Inc.

Asarco's Arizona operations consist of the Hayden copper smelter, two major open-pit mines, Mission and Ray, and a dump leaching/cementation operation at the Silver Bell mine. The mines' production was 333 million pounds of copper in 1993. The completed modernization of their facilities has boosted the output at Mission and Ray to equal the capacity of Asarco's smelters at Ray and El Paso. Asarco, along with joint venture partner Freeport, continues the in-situ leach research at the Santa Cruz property in cooperation with the U.S. Bureau of Mines. They received an Aquifer Protection Permit that will allow them to inject dilute sulfuric acid into the copper bearing formation. Asarco also holds major reserves at the Chilito north of Hayden, at Helvetia, east of the Mission Complex, and at Sacaton East.

The Hayden Smelter consists of an INCO flash furnace rated at 720,000 tons of charge per year for an estimated production of 175,000 tons of blister copper. An acid plant rated at 1,600 tons of sulfuric acid per day controls sulfur dioxide emissions.

The company's Mission Complex, 18 miles south of Tucson, is a consolidation of the Mission, Eisenhower, San Xavier South, and Pima open-pit mines. The smaller but separate San Xavier North pit is also included. Sulfide ore is treated at two mills, Mission and South. They have the capacity to process 63,000 tons of ore daily resulting in an annual capacity of 124,000 tons of copper in concentrates. Mission produced 236 million pounds of copper in 1993. In September, 1994 Asarco announced it will develop an underground mine at the Mission Complex. The underground operation will add about 28 million pounds of copper per year beginning in early 1996.

The Ray Mine consists of an open-pit mine, two mills - a concentrator at Hayden and a newly commissioned 30,000 ton per day concentrator at Ray, dump and heap leach operations, and a 40,000 ton per year SX-EW plant at Ray. Output from the new mill made Ray the second largest producer in the state in 1993 with 159,000 tons of copper. The new mill allowed lowering the cut-off grade to 0.3% copper which resulted in a doubling of the reserves to 1.1

UNITED METRO MATERIALS, INC

701 North 44th Street, Phoenix, AZ 85008, P.O. Box 52140, Phoenix, AZ 85072 - Phone (602) 220-5000 - Employees: 825 - Sand, gravel, ready mix concrete, and asphalt material.
President John Fowler
Vice President Sales Bill Heeter
Chief Engineer Bill Peck

Plant Safety Dir./Environmental. Coord. Tom Dunwell
Safety Administrator Curt Simmons
Fleet Safety Tim Dillahunt
Plant 1 - Central Avenue Plant
2800 S. Central Ave., Phoenix, AZ 85066 - Phone (602) 243-7080 or (602) 220-5000. Sand, gravel, rock products, ready mix, ABC, and asphaltic concrete.

Plant Superintendent Randy Patheal
Plant 2 - Mesa Plant
2830 North Beeline, Mesa, AZ 85256 - Phone (602) 990-0844 - Sand, gravel, rock products, ready mix, ABC, and asphaltic concrete.

Plant Superintendent Jim Shields
Plant 6 - El Mirage Plant
8507 N. El Mirage Road, El Mirage, AZ 85335 - Phone (602) 935-2653 - Sand, gravel, rock products, ready mix, ABC, and asphaltic concrete - On standby.

Plant 11- 19th Avenue Plant
3640 S. 19th Avenue, Phoenix, AZ 85009 - Phone (602) 262-1391 - Sand, gravel, rock products, ready mix, ABC, and asphaltic concrete.

Plant Superintendent Lonnie Holmes
Plant 12 - Glendale Plant
11920 W. Glendale Road, Glendale, AZ 85307 - Phone (602) 935-3562 - Sand, gravel, rock products, ready mix, ABC, and asphaltic concrete.

Plant Superintendent Norris Fish
Plant 33 - Flagstaff Plant
5200 E. Railroad Avenue, Flagstaff, AZ 86004 - Phone (520*) 526-5250 - Plant site - Material shipped in from various company pits.

Plant Superintendent Kent Krumm
Plant 35 - Hill Pit
Highway 89, 12 miles north of Flagstaff - Sand and gravel pit - Portable crushing and screening plant - Operated on a seasonal basis.

Plant 36 - McCormick Pit
Highway 89 and Sunset Crater - Sand and gravel pit - Portable crushing and screening plant - Operated on a seasonal basis.

Plant 41 - Maricopa Plant
Maricopa Road and the Gila River, Maricopa - Phone (602) 220-5540 - Sand, gravel, rock products, ready mix, ABC, and asphaltic concrete.

Plant Superintendent David Arbo
Plant 47 - Coolidge Plant
Highway 287 and Attaway Road, Coolidge, AZ - (520*) 723-5851 - Sand, gravel, rock products, ready mix, ABC, and asphaltic concrete.

Plant Superintendent Don Wofford
Plant 48 - Sacaton Plant
Highway 93, 1 mile north of Casa Blanca Road, Sacaton, AZ - (602) 262-1453 - Sand, gravel, rock products, ready mix, ABC, and asphaltic concrete.

Plant Superintendent Llyn Fulmer
Plant 49 - Casa Grande Plant
2305 S. Rooftile Rd., Casa Grande, AZ 85222 - Phone (520*) 836-8705 - Sand, gravel, rock products, ready mix concrete, ABC, and asphaltic concrete.
Plant Manager Will Watkins

VALLEY CONCRETE & MATERIALS

820 E. Hwy. 89-A, P.O. Box 634, Cottonwood, AZ 86326 - Phone (520*) 634-4250 - Employees: 35 - Sand, gravel, rock products, ready mix concrete, ABC, and asphaltic concrete.
Plant Manager David Heath

VALLEY ROCK & SAND CO.

10700 E. Irvington Road, P.O. Box 18469, Tucson, AZ 85731 - Phone (520*) 296-1733 - Employees: 4 - Sand, gravel, rock products.
President Martin McCann

W.A. MORRIS SAND, GRAVEL & CONCRETE INC.
US Highway 191 South, Safford, AZ 85546 - Phone (520*) 428-1371 - Employees: 15 - Sand, gravel, rock products, ABC, and ready mix concrete.
Owner Jack Gilbert

WESTERN SAND & ROCK

4175 S. Litchfield Rd., P.O. Box 65, Avondale, AZ 85323 - Phone (602) 932-1391 - Employees: 10 - Sand, gravel, rock products, and ready mix concrete.
President Mike Quackenbush
Secretary and Operations Jennifer Quackenbush

W.M.K. TRANSIT MIX CO.

1680 Highway 95, P.O. Box 31, Bullhead City, AZ 86430 - Phone (520*) 763-3887 - Employees: 37 - Sand, gravel, rock products, ready mix concrete, ABC, and asphaltic concrete.
Manager Bob Swartzman

WICKENBURG CONCRETE & MATERIALS

U.S. Hwy. 60, M.P. 117.5, P.O. Box 516, Wickenburg, AZ 85358 - Phone (520*) 684-3402 - Employees: 17 - Sand, gravel, rock products, ready mix, ABC, and asphaltic concrete.
President Edwin Dillard
Vice President George Dillard

WILLCOX ROCK & SAND

1401 E. Maley, P.O. Box 156, Willcox, AZ 85643 - Phone (520*) 384-2181 - Employees: 10 - Sand, gravel, rock products, ABC, and ready mix concrete.
Owners: Keith, Robert, and William Gallagher

YAVAPAI MATERIALS, INC.

5899 Wilkinson, P.O. Box 814, Prescott, AZ 86301 - Phone (520*) 445-7305 - Employees: 17 - Sand and gravel.
President/Owner John Pemberton

PIONEER SAND COMPANY

745 N. Gilbert #124-360, Gilbert, AZ 85234 - Phone (602) 926-8200 - Employees: 30 - Sand and gravel quarry and plant located at 5901 W. Broadway Rd., Phoenix, AZ 85043 - Phone (602) 233-2971 - Sand quarry located in Casa Grande - Sand and gravel.

Owner Gary Schurn
Superintendent Dave Sawyers

REIDHEAD SAND & ROCK, INC.

P.O. Box 7, Paper Mill Rd., Taylor, AZ 85939 - Phone (520*) 536-4519 - Employees: 35 - Sand, gravel and ready mix.

Manager Jack Zellner

RUE HALE PIPELINE SERVICE

611 S. Voight St., P.O. Box 221, Springerville, AZ 85938 - Phone (520*) 333-4483 - Employees: 2 - Sand and gravel.

Owner Rue Hale
Sales Manager Lori Hale

SALT RIVER SAND & ROCK

Dobson Road and McKellips Road, P.O. Box 728, Mesa, AZ 85211 - Phone (602) 990-1987 - Employees: 200 - Sand and gravel.

Owner Maricopa-Pima Salt River Indian Tribes
Manager Wayne Hills
Sales Manager Denny Willcox

SAND SPECIALTIES, INC.

5570 N. Bush Highway, Mesa, AZ 85205 - Phone (602) 832-2120 - Employees: 4 - Aggregate products.

Manager Ernest Perkins

SAN XAVIER ROCK & MATERIALS

3895 N. Business Center Dr., Tucson, AZ 85745, P.O. Box 551, Cortaro, AZ 85652 - Phone (520*) 293-6833 - Employees: 180 - Ready mix, sand, and gravel.

Vice President and Division Manager Al Wilcox
Sales Manager Benny Bingham
Nogales Plant

91 Old Ruby Road, Nogales, AZ 85621 - Phone (520*) 281-9669 - Sand and gravel products, ABC, and ready mix concrete.

Plant Superintendent Dave Sunderman
Tucson Plants

6200 Cortaro Farms Road, Tucson; 10011 Valencia Road, Tucson; Southwest of Tucson International Airport

Green Valley Plant

24560 S. Old Nogales Highway, Green Valley

Pinal County Plant

North of Catalina

SCARBOROUGH SAND & GRAVEL

920 Stratton Dr., Safford, AZ 85546 - Phone (520*) 428-3138 - Employees: 5 - Sand, gravel, and rock products.

Owner/Manager Winfred Scarborough

SMITH AND BELL CONSTRUCTION

1711 N. 8th Avenue, Safford, AZ 85546 - Phone (520*) 428-4747 - Employees: 10 - Sand, gravel, ABC, and rock products.

Owner Rick Findley

STAR VALLEY GRANITE & MATERIALS

Star Valley, HCR Box 43B, Payson, AZ 85541 - Phone (520*) 474-9396 - Employees: 2 - Decomposed granite.

SUN STATE ROCK & MATERIAL CORP.

P.O. Box 1340, Sun City, AZ 85372 - Phone (602) 566-3000 - Employees: 40 - Sand, gravel, ABC, and rock products.

Owner Dolores Walker

SUNWARD MATERIALS

2625 S. 19th Ave., Phoenix, AZ 85009 - Phone (602) 253-2505 - Employees: 270 - Sand, gravel, rock products, and ready mix concrete.

Vice President Operations Chris Reinesch

SUPERIOR COMPANIES

Hayfield Draw, Camp Verde, AZ 85322 - Phone (520*) 567-2244 - Employees: 50 - Sand, gravel, and rock.

General Manager Ed Davidson

SUPERSTITION CRUSHING

2323 E. Hale, Mesa, AZ 85213 - Phone (602) 962-5326

Owner John Weik
Owner Myron Jones

Yuma Pit

Southwest of intersection of Avenue 3E and County 19 east of Yuma, 2755 4th Avenue #938, Yuma, AZ 85364 - Phone (520*) 341-9866 - Employees: 25 - Sand, gravel, rock products, and ABC. Aggregate also supplied to company's ready mix concrete and asphaltic concrete plants at another Yuma location.

THE TANNER COMPANIES

2088 E. 20th Street, P.O. Box 1449, Yuma, AZ 85366 - Phone (520*) 343-4100 - Employees 30

President Gerald Janney

Plant 180 - Yuma

13 miles east of Yuma on S.R. 95 @ M.P. 37.5 - Phone (520*) 343-4100 - Sand, gravel, and asphaltic concrete.

Plant 182 - Yuma

10th Street, Yuma, AZ - Phone (520*) 343-4180 - ABC

Plant 185 - Parker

4.5 miles north of Parker on S.R.95 - Phone (520*) 669-9251 - Aggregate, concrete, and asphaltic concrete.

Plant Foreman Virgle Hollis

TUCSON ROCK AND SAND

6601 N. Casa Grande Hwy., Tucson, AZ 85743, P.O. Box 36030, Tucson, AZ 85740-6030 - Phone (520*) 744-3222, Fax (520*) 744-4394 - Employees 150 - Two operations in the Tucson area - Sand, gravel, rock products, ready mix, ABC, and asphaltic concrete.

President Richard Hrubes
Sales Manager Ron Green

Operations Manager Mike Smith

TREASURE CHEST MINING

1701 N. Bridal Wreath, Tempe, AZ 85281 - Phone (602) 983-1606 - Employees: 4 - Crushed and screened granite.

billion tons. This puts the Ray mine in an elite group of three deposits in the U.S. with reserves in excess of 1 billion tons.

Asarco's Silver Bell mine produces copper by dump leach precipitation. The open-pit mine and mill remain on stand-by status. The company has received an Aquifer Protection Permit for a new SX-EW plant that when completed is expected to produce 18,000 tons of refined cathode copper annually at substantially lower cost. Oxide ore is expected to come from a new area of the property known as Silver Bell North.

Azco Mining Inc.

Azco Mining announced in August, 1994 that it received all environmental permits needed to begin its Sanchez open pit copper mine near Safford. Financing was completed in November. It is estimated that construction will take one year, with production to be reached in early 1996. An SX-EW plant will be built and is expected to process 1.1 billion pounds of copper during Sanchez's anticipated 20-year life.

Cambior U.S.A.

Carlota Copper Company, a subsidiary of Cambior U.S.A., continues environmental permitting for its Carlota project located near Globe. The property consists of four oxide ore bodies, Carlota, Cactus and North and South Eder. Minal reserves total 107 million tons. Production is planned at a rate of 30,000 tons of copper per year for the first ten years via open pit mining, heap leaching and SX-EW.

Cyprus Climax Metals Company

In November of 1993 Cyprus Minerals Company and AMAX Inc. merged to create Cyprus Amax Minerals Inc. and formed a new subsidiary known as Cyprus Climax Metals Company.

Cyprus was Arizona's second largest producer of copper in 1993 and continues to be the largest producer of molybdenum. Copper totals for 1993 were 632 million pounds of copper with an estimate of 725 million pounds for 1994. Cyprus Climax Minerals Company maintains corporate headquarters in Tempe, Arizona and operates five copper producing operations in the State: Bagdad, Casa Grande, Miami, Mineral Park, and Sierrita.

The Sierrita property consists of three open-pit copper-molybdenum mines, a 110,000-ton-per-day concentrator, two molybdenum roasting plants, a ferromolybdenum plant, a rhenium plant, a dump leaching operation, and an SX-EW plant. The mill capacity was increased by 10 percent in 1994 and a further increase is being considered. More than three quarters of Cyprus' molybdenum concentrate from Thompson Creek (Idaho), Bagdad, and Sierrita

MINERAL PRODUCTION IN ARIZONA - 1993

COMMODITY	QUANTITY	VALUE
Clay (tons)	130,000	\$529,000
Copper (tons)	1,254,722	2,309,340,000
Gemstones		4,439,000
Gold (troy ounces)	110,920	39,377,000
Sand & gravel(tons)	36,900,000	136,500,000
Silver (troy ounces)	5,144,000	21,605,000
Stone-crushed(tons)	5,900,000	28,600,000
Pigments (tons)	100	62,000
Coal (tons)	11,673,000	274,000,000
Other ²		201,051,000

TOTAL \$3,015,503,000

1/ Nonfuel figures from U.S. Bureau of Mines.

2/ Cement, clays (bentonite), gypsum, lime, molybdenum, perlite, pumice, pyrites, salt, sand & gravel (industrial), dimension stone, lead.

rita is processed at Sierrita through roasters to produce molybdenum oxide and ferromolybdenum.

The Bagdad operation consists of an open-pit copper-molybdenum mine, a 85,000 ton per day concentrator, a dump leach operation, and a 30 million pounds per year SX-EW plant.

The Casa Grande operation consists of an in-situ leaching operation and SX-EW plant. The Tohono O'Odham Nation has agreed to permit Cyprus Climax to develop a 600 million ton resource at Casa Grande. Metallurgical testing and permitting are underway on the open pitable deposit.

The Miami Mine consists of an open pit copper mine, formerly known as Inspiration, an SX-EW plant, a smelter recently expanded to a capacity of 650,000 tons per year, an acid plant, an electrolytic refinery, and a 135,000 ton per year rod plant. The 24,000 ton per day concentrator remains on standby status.

Cyprus operates a dump and in-pit leaching operation and precipitation plant at Mineral Park. The Mineral Park open-pit copper-molybdenum mine and its 15,000 ton per day concentrator remains on stand-by status.

Magma Copper Company

San Manuel, Pinto Valley, and Superior are Magma Copper company's three mining divisions in Arizona. Magma Copper Company's corporate headquarters are located in Phoenix.

cated at Tucson. Magma holds additional, undeveloped reserves at the Poston Butte and Copper Creek deposits. Magma acquired the Poston Butte deposit at Florence from Conoco in 1992. It began a 17-month feasibility study to evaluate the deposit as an in-situ leach operation in February, 1993.

The underground mine at San Manuel is the largest underground operation in the United States and the largest underground copper mine in the world. The San Manuel Division consists of a block-caving underground copper mine, a 62,000 ton per day concentrator, an open-pit oxide copper mine and heap leach, in-situ leach, SX-EW plant, a 1,300,000 ton per year smelter with a 3,000 ton per day acid plant and a 345,000 ton per year electrolytic refinery, and a 180,000 ton per year rod plant. During 1993 Magma Copper decided to proceed with a \$135 million development of the downfaulted Kalamazoo ore body. Its estimated ore reserves of 2.2 billion pounds contained copper will add twelve years to the San Manuel underground mine. Production is planned to be phased in with the depletion of the San Manuel orebody over the period from 1997 through 1999.

Magma's San Manuel smelter accounts for about 25 percent of U.S. copper smelting capacity. Even though the Outokumpu flash smelting furnace was the largest single furnace smelter in the industry, a 20 percent expansion of its capacity was completed in March, 1994.

The Pinto Valley division includes the Pinto Valley mine and the Miami in-situ and Miami No. 2 tailings leach operations. The Pinto Valley mine consists of an open-pit mine, a 63,000-ton-per-day concentrator, dump leach and 8000 ton per year SX-EW plant. Miami's leach operations recover copper from in-situ leaching of the old Miami mine block cave area and by hydraulic mining and leaching of the old Miami tailings. The resulting pregnant leach solutions are processed through Miami's 10,000 ton per year SX-EW plant. Production at Pinto Valley increased 7.3 percent in 1993 due to an increase of in-situ production from Miami.

The Superior division consists of the company's namesake, Magma underground mine. This mine overcomes the difficult mining challenges of being hot, wet, and deep. That it remains in production is credited to its high grade ore, averaging 5.57% copper in 1993, ten times the average content of Arizona copper ore. Magma produced 33,612,000 pounds of copper in 1993.

Oracle Ridge Mining Partners

The Oracle Ridge Mining Partnership consists of Santa Catalina Mining Corp., (formerly South Atlantic Ventures Ltd.) who hold a 70% interest and operate the mine, and Continental Materials holding the remaining 30%. The underground Oracle Ridge mine produced concentrates containing 5.2 million pounds of copper in 1993. The company is planning to expand production to 1 million pounds per month.

Phelps Dodge Corporation

Phelps Dodge Corporation, headquartered in Phoenix, is the nation's largest copper producer. Its mining division, Phelps Dodge Mining Company, produces about one-third of the U.S.'s new copper at its mines in southeastern Arizona and southwestern New Mexico. In Arizona Phelps Dodge holds the Copper Queen Mine in Bisbee and the Morenci in Greenlee County. Morenci is the largest copper producer in North America and the second largest copper mine in the world. In 1993, Morenci produced 404,100 tons of copper! Phelps Dodge owns an 85 percent undivided interest in the Morenci Mine; the remaining 15 percent is owned by Sumitomo Metal Mining Company, Ltd. Morenci employees more than 2,000 people.

The Morenci operation consists of the Morenci, Metcalf, and Northwest Extension open-pit copper mines, the 60,000 ton per day Morenci concentrator with a molybdenum circuit, the 40,000 ton per day Metcalf concentrator, three dump leaches with SX plants and at a capacity of 170,000 tons annually, the worlds largest EW plant. Work began in the summer of 1994 on the \$200 million expansion to the SX-EW facility. It is estimated that an additional 1.1 billion pounds of copper will be treated. The project will develop the Southside deposit, on the south side of the Morenci pit, with reserves estimated at 150 million tons. The feasibility of adding a fourth open pit, Coronado, to the mining operation is under way. It hosts 480 million tons of sulfide and oxide ore.

The company's Copper Queen mine consists of a dump leaching and precipitation operation at the depleted Lavender pit. No decision has been made as to when to bring the adjacent Cochise deposit to production. Evaluation of the Lone Star and Dos Pobres deposits near Safford continues. Recent drilling at these deposits has increased identified resources to nearly 2 billion tons of open pitable material that could be recovered by heap leach SX-EW operations. The New Cornelia mine at Ajo remains inactive.

COAL

Coal is a distant second to copper in economic importance of mineral commodities produced in the State. In 1993 Arizona's coal production was 11,673,000 short tons, having an estimated value of \$274 million. The high-quality coal is strip mined from the Kayenta and Black Mesa mines in central Navajo County. The coal is subbituminous with an average quality of 11,000 Btu, 0.5 percent sulfur, and 10 percent ash. All production is from land leased from the Navajo and Hopi Tribes by Peabody Western Coal Company. Indian royalties from coal production run about \$30 million annually. Peabody is the nation's largest coal producer and Kayenta is their largest operation.

Kayenta Mine's production capacity is 8 million tons annually. The coal from the mine is carried by a conveyor system 17 miles to storage silos. From there it is transported

HATCH CONSTRUCTION & PAVING

Hwy. 77, Taylor, AZ 85939 - Phone (520*) 536-7213 - Employees: 75 - Sand, gravel, road materials and concrete.
President Jerrold L. Hatch
Vice President Lynn R. Hatch
Vice President Lenn B. Hatch
Secretary Danny F. Hatch

HUACHUCA CONCRETE, INC.

P. O. Box 2868, Sierra Vista, AZ 85636 - Phone (520*) 456-1600 - Employees: 9 - Sand, gravel, aggregate products, ABC, leach rock, and rip rap.
General Manager Mike Berry

J.D.'S SAND & GRAVEL INC.

559 Ruby Rd., P.O. Box 35, Nogales, AZ 85628 - Phone (520*) 281-9449 - Employees: 4 - ABC, fill, and aggregate.
President Michael Williams

JIM BUSH SAND & GRAVEL

1015 N. Cameron, Ajo, AZ 85321 - Phone (520*) 387-6250 - Employees: 4 - Sand, gravel, and landscaping material.
President Patti Bush
Vice President David Bush

KINGMAN REDIMIX

9985 Shipping Lane, Kingman, AZ 86401 - Phone (520*) 757-7446 - Employees: 11 - Sand, gravel, and ready mix.
President Pete Campbell

KOCJAN ASSOCIATES, INC.

Industrial Park, P.O. Box 3748, Page, AZ 86040 - Phone (520*) 645-3602 - Employees: 5 - Sand, gravel ABC, ready mix and asphaltic concrete.
President John Kocjan
Vice President Gerald Kocjan

MADDUX & SONS, INC.

1927 Pan American, P.O. Box 1077, Douglas, AZ 85608 - Phone (520*) 364-7564 - Employees: 45 - Sand, gravel, ready mix, and rock products.
Owners Rece Maddux
President Lenard Maddux
Office Manager Toni Vance

MCCORMICK CONSTRUCTION

1941 Richardo Ave., P.O. Box 545, Bullhead City, AZ 86430 - Phone (520*) 763-2272 - Employees: 17 - Sand, gravel, rock products and asphalt.

MESA MATERIALS, INC.

3410 N. Higley Road, Mesa 85205, P.O. Box 20040, Mesa, AZ 85277 - Phone (602) 830-1521 - Employees: 50 - Operates multiple quarries - Sand, gravel, and asphaltic concrete.
Owner Edward C. Levy Co.
Vice President Wayne Stamper
Office Manager Bruce Erickson
Purchasing Belinda Beck
Operations Manager Dave Scheffler
Receptionist Tess Sanderlin

MESA SAND & ROCK INC.

2246 N. Country Club Dr., Mesa, AZ 85201 - Phone (602) 964-1773 - Employees: 35 - Sand, gravel, rock products, and ready-mix.
President Robert Shill
Owners Robert, Richard and David Shill
Owners Louise Branch and Susan Matheson

MOHAVE CONCRETE & MATERIALS INC.

Hwy. 95 N., Lake Havasu City, AZ 86404 - Phone (520*) 764-2226 - Employees: 28 - Sand, gravel, rock products, and ready mix.
Owner Qinto Polidori
Treasurer Veronica Polidori
Mohave Concrete S&G No. 1
Superintendent Pete Tiburzi
Mohave Concrete S&G No. 2
Boundary Cone Road, Mohave Valley, AZ - Phone (520*) 330-3750.
Superintendent Willis Hedley
Mohave Concrete S&G No. 3
2699 West Hwy. 66, Kingman, AZ - Phone (520*) 753-5554.
Superintendent vacant

PADILLA SAND & GRAVEL HCR

Ramonte Rio Rico, P.O. Box 87, Nogales, AZ 85621 - Phone (520*) 287-8831 - Employees: 5 - Sand, gravel, and concrete.
Owner Manuel Padilla

PAULDEN SAND & ROCK REDIMIX

Division of Dunbar Stone Co., Inc.
P.O. Box 403, Paulden, AZ 86334 - Phone (520*) 636-2500 - Employees - 11 - Sand, gravel, and ready mix.
Vice President Warren Dunbar

PAYSON CONCRETE & MATERIALS, INC.

1900 E. Hwy. 260, Payson, AZ 85541 - Phone (520*) 474-2231 - Employees: 40 - Aggregate, sand, gravel, and rock products.
Plant Managers George Randall, John Chillson

PEARCE, JOY T. CONSTRUCTION, INC.

Hwy. 260, Route 1, Box 2782, Show Low, AZ 85901 - Phone (520*) 537-7454 - Employees: 12 - Rock, sand, cinders, and concrete.
Owner/President Mr. Joy T. Pearce
Secretary Beth Pearce

PHOENIX REDIMIX COMPANY

3635 S. 43rd Ave., Phoenix, AZ 85009 - Phone (602) 272-2637 - Employees: 200 - Operates 3 quarries - Sand, gravel, and ready mix concrete.
President Thomas M. Valente
Vice President Timothy Valente
Marketing Director Allan Ladd
Plant Manager Bob Strom
Controller Toby Ballintine

Apex Plant and Tucson Administrative Office
11500 CalMat Drive, Tucson, AZ 85653 - Phone (520*) 629-0460 - Sand, gravel, rock products, ABC, and ready mix concrete.

District Manager Bill Mackey
Airport Plant

8855 S. Hughes Access Road, Tucson, AZ 85706 - Phone (520*) 574-9002 - Ready mix concrete, and asphaltic concrete.

Tangerine Plant
800 W. Naranja, Tucson, AZ 85704 - (520*) 297-0543 - Ready mix concrete and asphaltic concrete.

Rillito Quarry
11351 Casa Grande Hwy., Tucson, AZ 85743 - Phone (520*) 884-7768 - Sand, gravel, rock products, and ABC.

CAMPBELL REDI-MIX
1510 Copper Lane, Lake Havasu, AZ 86403 - Phone (520*) 855-6535 - Employees: 3 - Sand, gravel, and rock products.
Owner Delbert Campbell

CENTRAL ARIZONA MATERIALS
9699 E. Hwy. 287, Coolidge, AZ 85228 - Phone (520*) 649-0244 - Employees: 4 - Landscaping and construction materials.
Manager/Owner Randy Parsons

CHURCHMAN SAND & GRAVEL
P. O. Box 42874, Tucson, AZ 85733 - Phone (520*) 325-1611 - Employees: 5 - Sand and gravel.
President Dick Smith
Vice President Doug Smith

CKC MATERIALS DIVISION
1234 E. Airport Road, Safford, AZ 85546 - Phone (520*) 428-3423 - Employees: 25 - Aggregate base, mineral base, and concrete.
President David Cluff
General Manager Carl Bryce

DESERT CONCRETE CO.
East Garden Ave., P.O. Box 430, Sierra Vista, AZ 85636 - Phone (520*) 378-2321 - Employees: 2 - Sand and gravel.
Manager Jeannine Austin

DESERT CONSTRUCTION INC.
4490 E. Hwy. 66, Kingman, AZ 86401 - Phone (520*) 757-2213 - Employees: 45 - Paving materials, ready mix and rock products.
President Tom Short
Secretary Jim Short
President Tamara Dillion

DOWNEY, L. A. & SONS INC.
11600 E. Poorman Rd., Tucson, AZ 85747 - Phone (520*) 886-2315 - Employees: 7 - Sand and gravel.
President Dennis C. Downey
Vice President Darrell Downey
Secretary/Treasurer David Downey

EADS CONSTRUCTION & REDIMIX INC.
46 Cochise Road, Bisbee, AZ 85603 - Phone (520*) 432-4121 - Employees: 7 - Sand and gravel.
President Charles Eads
Vice President Charles R. Eads
Secretary Louise Eads

EARTH PRODUCTS
7001 2nd St., Prescott Valley, AZ 86314 - Phone (520*) 772-6446 - Employees: 26 - Sand and gravel, rock, leach rock, and decomposed granite.
President William H. Hyslip
Superintendent William G. Hyslip

FT. MCDOWELL SAND & GRAVEL CO.
State Route 87, P.O. Box 17150, Fountain Hills, AZ 85268 - Phone (602) 837-2358 - Employees: 70 - Sand and gravel.
President John Kirk

FRANCIS DAY & SONS
P.O. Box 157, St. Johns, AZ 85936 - Phone (520*) 337-2121 - Employees: 7 - Sand, gravel, and concrete producer.

FRED CLARK TRUCKING CO. INC.
104 Main, Mammoth, P.O. Box 116, AZ 85618 - Phone (520*) 487-2232 - Employees: 18 - Sand, gravel and ready mix.
Owner Charles Clark

GENERAL ROCK & SAND
Industrial Road, P.O. Box 3049, Page, AZ 86040 - Phone (520*) 645-3289 - Employees: 30 - Sand, gravel, and concrete.
President Merril Jessop
Superintendent Jeremia Barlow

GLORY ENTERPRISE, LLC
P.O. Box 3627, Flagstaff, AZ 86003 - Phone (520*) 526-5571 - Employees: 4 - Volcanic cinders, ABC, and fill dirt.
Owner Bonnie Crick

GRANITE CONSTRUCTION CO.
4115 E. Illinois, P.O. Box 27557, Tucson, AZ 85726 - Phone (520*) 748-8000 - Employees: 298. Sand, gravel, road materials, soil cement and asphalt.
Branch Manager Ted Haworth
Office Manager Maura Noland

GUZMAN CONSTRUCTION
P.O. Box 3100, Globe, AZ 85502 - Phone (520*) 425-5775 - Employees: 70 - Sand, gravel, rock, and road materials.
President Mike Guzman Jr.
Vice President Wess Bryant
Superintendent Joe Rackley

HAMILTON SAND & GRAVEL
Hamilton Rd., RR 1 Box 1350, Willcox, AZ 85643 - Phone (520*) 384-2582 - Sand, gravel, and rock.
Owner David May

by the electric-powered trains of the Black Mesa & Lake Powell Railroad to the Salt River Project Navajo Generating Plant 78 miles away. Kayenta has recently begun using a continuous miner to remove coal from seams underground.

Black Mesa Mine's annual capacity is 4.5 million tons. Here, the coal is powdered and mixed with water prior to transport by the world's longest coal-slurry pipeline. The 273-mile journey to the Mohave Generating Station at Laughlin, Nevada takes three days. The Peabody operations at Black Mesa are model reclamation programs. Mining and reclamation proceed at the same rate of approximately 500 acres annually. As an area is mined, the topsoil is removed and stored. After mining is completed, the topsoil is returned and the surface is contoured. The resultant reclaimed land, used for grazing, is more productive than the original land.

Both mines are now using 300-ton capacity tractor trailer bottom-dump trucks to transport coal from the mine to the conveyors and pipeline feed plants.

GOLD

The Gold Prince mine, operated by Western States Minerals was the only gold mine in full-time production in 1994. It continues to produce gold-bearing silica flux for Phelps Dodge's Hidalgo Smelter in Playas, New Mexico.

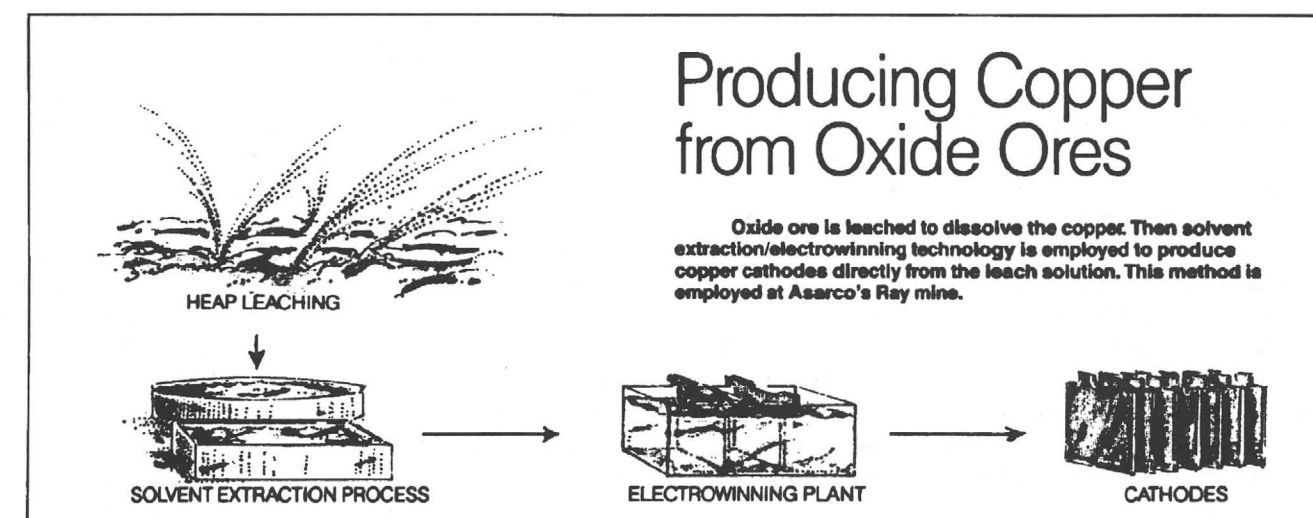
Addwest Minerals Inc. received the necessary permits to reopen the Gold Road mine in the historic Oatman district. A decline has been driven and construction of a 500 ton per day carbon-in-pulp mill should be completed during December of 1994.

Gold continues to be produced as a by-product of the copper industry in Arizona. Last year the major copper mines produced approximately 60,000 ounces of gold from the following mines: San Manuel, Magma, Morenci, Ray, Mission, Sierrita, Pinto Valley, and Oracle Ridge.

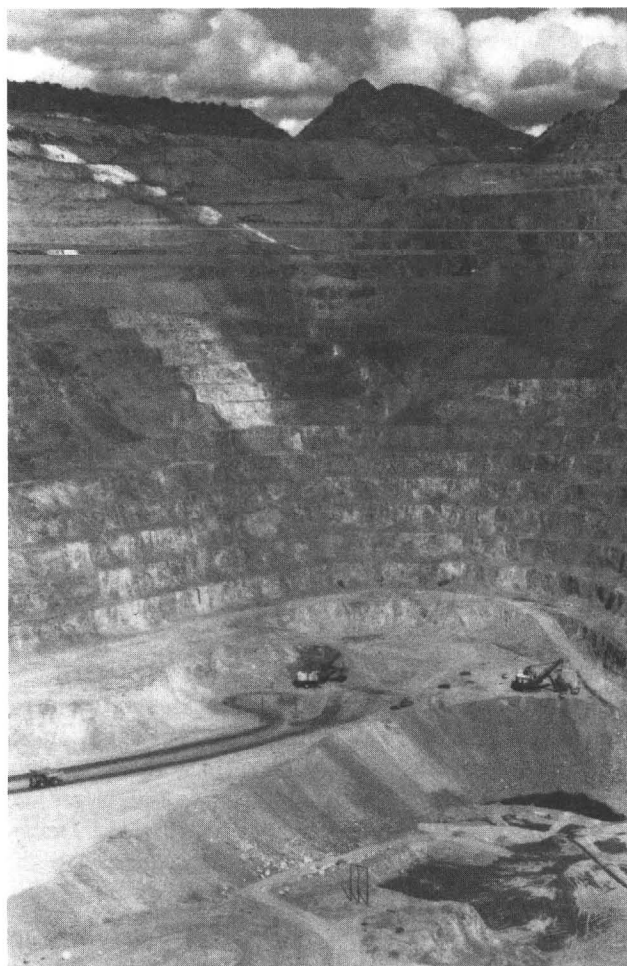
INDUSTRIAL MINERALS

Although copper accounts for three-fourths of the State's mineral production by value, mining in Arizona continues to be a diversified activity. Industrial minerals mined in the state last year include calcium carbonate as limestone and marble for mineral filler and as raw material for lime and cement plants, bentonite for desiccants and for bleaching and clarifying of edible oils, sand and gravel for construction aggregate, diatomite for metallurgical process insulation, tile and brick clay, salt, cinders, pumice for laundry uses and light-weight aggregate, zeolites for molecular sieves, stone, perlite for filters, gypsum for wall board and agriculture, silica flux, pyrite and micaceous hematite for pigment, quarried flagstone, and hydrafrac sand. Construction aggregates in the form of sand and gravel lead this industrial mineral group, both in volume and value of production. Salt River Sand & Rock operated the fourth largest sand and gravel plant in the nation in 1992.

Arizona's dimension stone industry is both larger and more significant than commonly perceived. The Drake-Ashfork area of Yavapai and Coconino Counties is the flagstone capital of America. Sandstone is cut, sawn, shaped, split, ground, and surfaced into a variety of products. Floor and wall tiles, building fascia, bench seats,



Courtesy of Asarco Inc.



View looking north, Bagdad pit.

sunning tables, pool decking, and furniture coasters are among its many uses.

Many market niches exist for the specialized industrial mineral producer. The tremendous range in employee and capital requirements for the industrial minerals commodities vary widely enough to accommodate a family-run operation as well as large corporate producers. The increase in the number of small decorative and dimension stone producers is an indication of this condition.

The Arizona Department of Mines and Mineral Resources' project to survey and quantify consumption of industrial minerals in Arizona's market area continues. The object of this project is to encourage exploration, development, and production of industrial mineral deposits in Arizona that can supply southwestern United States and northern Mexico markets.

GEMSTONES

Arizona is the leading state in the value of mined gemstones in the United States. Approximately \$4.4 million worth of commercial gemstone production is reported for Arizona annually. Turquoise, peridot, and petrified wood account for most of the value, with amethyst, chrysocolla, ~~malachite, and fire agate making up the remainder.~~

Turquoise, a hydrous phosphate of aluminum and copper, is the leading gemstone produced in Arizona. Prized for its color, turquoise is the traditional gemstone used in Southwestern American Indian jewelry. It is mined as a by-product at a number of Arizona porphyry copper deposits. The best quality material is sold by the piece, and the remainder sold or processed for sale by weight.

Peridot is the gem variety of the mineral olivine. The translucent green material comes from the Peridot Mesa area of the San Carlos Apache Indian Reservation east of Globe. Arizona material is suitable for faceting and is of the finest quality in the world. Occurring in Quaternary basalt, the olivine is mined by shallow drilling and blasting of productive zones followed by hand breaking, screening, and sorting.

Petrified wood, although occurring in nearly every state, is best known as an Arizona gem material. Petrified wood is a fossil in which a mineral material, usually silica, has replaced the original cellular structure of the wood. Petrified wood occurs in all Arizona counties, but that occurring in Navajo and Apache counties in the Triassic Chinle Formation supplies nearly all of the gem market. Commercial production comes only from private lands.

RECREATIONAL PROSPECTING

A rapidly growing segment of the Arizona mineral industry is that of recreational mining. This group includes gold-panners, lapidaries, and mineral and fossil collectors. Economic data for recreational mining is difficult to quantify, but the impact on the Arizona tourism industry is significant. The gem show in Quartzsite, for example, is the largest in the world, drawing in excess of 100,000 visitors. The prestigious Tucson Gem And Mineral Show attracts visitors and dealers from around the world. More than 20 additional gem shows are held in the state annually and 61 organized earth science clubs are currently active.

Gem material collected by the rockhound hobbyist is not included in the reported gemstone production, but it is likely that rockhound production is higher than the reported mine production. Some portion of rockhound-collected material goes directly into collections, however much of it is sold privately or at gem shows.

SAND AND GRAVEL OPERATIONS

A & A MATERIALS

10333 E. McDowell Road, Scottsdale, AZ 85257 - Phone (602) 990-0557 - Employees: 25 - Landscape materials, granite, river rock, sand, and gravel.

President/Owner/Manager Arthur H. Adams
Co Vice President Raymond A. Adams
Co Vice President DeWayne Adams
Treasurer Vivian Adams

ABC SAND & ROCK

5401 N. 119th Avenue, Glendale, AZ 85307 - Phone (602) 935-1677 - Employees: 4 - Sand and gravel.

Owner David Waltemath

ACE SAND & GRAVEL

1011 W. Silverlake Rd., Tucson, AZ 85713 - Phone (520*) 622-1869 - Employees: 3 - Sand and gravel.

Owner Delia Gastelum

ACME SAND & GRAVEL

7707 E. 22nd Street, Tucson, AZ 85710 - Phone (520*) 296-6231 - Employees: 3 - Sand and gravel, fill, and top soil.

Owner Joe Kempton

AJAX SAND & GRAVEL

5026 S. 51st Avenue, Laveen, AZ 85339 - Phone (602) 237-3232 - Employees: 2 - Landscaping rock.

ALLISON ROCK & SAND CONSTRUCTION (dba L. Sheldon & Co.)

P.O. Box 5065, Huachuca City, AZ 85616 - Phone (520*) 456-1521 - Employees: 6 - ABC, sand, leach rock, and topsoil.

President Loren Sheldon

ARIZONA CRUSHING CO.

650 W. McKellips Road, Mesa, AZ 85201 - Phone (602) 835-0207 - Employees: 50-100 - Blended sand and gravel products.

President Terese Sanders
Vice President Joe Moody

ARIZONA SAND & GRAVEL

1401 Atlantic Ave., Yuma, AZ 85364 - Phone (520*) 344-5577 - Employees: 3 - Sand and gravel.

President Ernie Kaznak

AZTEC MATERIALS

3250 E. Lehi Road, P.O. Box 928, Mesa, AZ 85211 - Corporate phone (602) 892-0501 - Quarry phone (602) 830-3464 - Employees: 16 - Sand and gravel.

President Ronald R. Perkins
Vice President Wanda Perkins

B & R MATERIALS

4200 S. Harrison Road, P.O. Box 18138, Tucson, AZ 85731 - Phone (520*) 298-2371 - Employees: 23 - Sand and gravel.

President Roland C. Brown
Vice President Kim Schroeder

BRIMHALL SAND & ROCK

BUILDING MATERIAL

P.O. Box 750, Snowflake, AZ 85937 - Phone (520*) 536-4226 - Employees: 62 - Sand and gravel products.

President Darrell Brimhall
Vice President Larry Brimhall
General Manager M. Kirk Brimhall

CALMAT COMPANIES

CALMAT COMPANY OF ARIZONA

Corporate Office - 3200 San Fernando Road, Los Angeles, CA 90065 - Phone (213) 258-2777.

Concrete and Aggregate Division, Arizona and New Mexico - 1801 E. University Drive, Phoenix, AZ - Phone (602) 254-8464 - Employees: 325 - Sand, gravel, rock products, ready mix, ABC, and asphaltic concrete.

Vice President/General Manager Charles Wallace
Regional Operations Manager Frank Herrick
Phoenix District Operations Manager Dave Moran
Properties Division - Phone (602) 254-8465

Manager, Planning and
Regulatory Affairs Lee Edmonson
Center Street Plant

2405 N. Center Street, Mesa, AZ 85201 - Sand, gravel, rock products, ABC, and ready mix.

Deer Valley Plant
2205 W. Adobe, Phoenix AZ 85039 - Phone (602) 842-4403 - Ready mix concrete.

Litchfield Plant
11923 W. Indian School Road, Avondale, AZ 85039 - Phone (602) 935-2323 - Sand, gravel, rock products, ABC, and ready mix.

Manager Joe Flores
Mesa Plant

1900 N. Longmore, Scottsdale, AZ 85201 (on the Salt River Pima Maricopa Indian Community Reservation) - Ready mix and asphaltic concrete.

Manager Eddie Center
Phoenix Plant

1801 E. University Drive, Phoenix, AZ 85034 - Sand, gravel, rock products, ABC, ready mix concrete, and asphaltic concrete.

Manager Richard McDonald
Sun City Plant

14521 N. 115th Avenue, El Mirage, AZ 85034 - Sand, gravel, rock products, ABC, ready mix concrete, and asphaltic concrete.

Manager Jack Long
West Phoenix Plant

4830 S. 43rd Avenue, Phoenix, AZ 85041 - Sand, gravel, rock products, and ABC.

Mine Superintendent Tracy Cannon
Office Manager Matina Harward
Snowflake Gypsum Mine T41N R13W Sec. 25
Open pit gypsum mines - Primary and secondary crushing, and screening plant - 100 ton-per-day fine grinding plant and loading terminal at Glendale, Nevada - Producing gypsum for cement industry, agriculture, fertilizer industry, functional fillers, and water treatment.

WESTERN ORGANICS INC.

P.O.Box 6876, Phoenix, AZ 85005 - Phone (602) 269-5756, Fax (602) 269-7621 - Plant located at 21st Avenue and Lower Buckeye Road in Phoenix - Employees: 100.
President James Porter
Vice President/Operations Manager D. C. Porter
Sales Manager Dennis Reynolds
Office Manager Adrian Cluff
Salome Gypsum Mine T5N R11W Sec. 30
Open-pit gypsum mine operated by contractors - Gypsum for agricultural and horticultural uses, bagged and bulk - Used directly and in blends.

WESTERN STATES MINERALS CORP.

HCR 2, Box 3424, Hurtaldo Ranch Road, Willcox, AZ 85643 - Phone (520*) 384-2564, Fax (520*) 384-3766
CWM Inc. mine contractor - Phone (520*) 384-3766 Fax (520*) 384-3764 - Employees: 16.
Project Manager Charlie Bauer
Mine Superintendent Jack Clark
Mine Superintendent Ron Williams
Gold Prince Mine T14S R27E Sec. 22
Underground gold silica flux mine - Located 16 miles east of Willcox - ships directly to copper smelter- Capacity 100 TPD.

WESTERN STATES STONE COMPANY

2830 Grand Ave., Phoenix, AZ 85017 - Phone (602) 253-2018.
President C. E. Webster
Ashfork Plant T21N R2W Sec. 3
Quarries
P.O. Box 316 - Ash Fork, AZ 86220 - Phone (520*) 637-2542 - Employees: 40 - Quarries located in Coconino, La Paz, Maricopa, Mohave, and Yavapai counties - Stone processing facility in Ashfork - Commercial and decorative building stone.
Superintendent-Sales Shirley Robertson
Superintendent- Mining Howard Gray

YELLOW HAIR TRADING AND MINING

P.O. Box 111, Globe, AZ 85502 - Phone (520*) 425-7625 or 425-0446, Fax (520*) 425-0738 - Employees: 45.
President & Co-owner W. H. Preston
Vice President & Co-owner Monty Nichols
Secretary-Treasurer & Co-owner Cheryl Preston
Sales Ed Wheeler
Sleeping Beauty Mine T1N R14E Sec. 12
Produces turquoise under contract with Magma Copper Company - Sorts, grades, and processes turquoise for worldwide distribution.

COMPANY LISTING

The following list is arranged alphabetically by company. To locate a specific mine use the index on page A25.

ADDWEST MINERALS INC.

P.O. Box 869, Oatman, AZ 86433 - Local phone being installed - Corporate (303) 424-5134 - Employees: 120.
President Charlie Williams
Mine Superintendent Jack Burgess
Mill Superintendent Larry Jennings
Gold Road T19N R20W Sec. 11
Located at Oatman - Underground gold mine - 500 TPD CIP mill.

AMERICAN SANDSTONE

Blaser Corporation

2600 N. Highway 89, P.O. Box 1154, Chino Valley, AZ 86323 - Phone (520*) 636-4454, Fax (520*) 636-2780 - Employees: 50 - Quarries and processes Arizona flagstone into flagging, dimension stone and tiles.
President Donald Blaser
Vice President W. Larry Blaser
Sec./Treas. & Mgr. Operations - Orders Dayle Blaser
Transportation Coordination Marcia Stewart
Blaser Stoneyard T16N R2W Sec. 22
Black Cat Quarries T22N R1W Sec. 17
Yellow Wasp No. 2 T22N R1W Sec. 9
Little Rock Quarry T22N R2W Sec. 24
Lizard Canyon Quarry T20N R1E Sec. 32
Red Rock Quarry T22N R1W Sec. 20

ANASAZI COMPANY

7486 E. Adobe Drive, Scottsdale, AZ 85255 - Phone (602) 585-9882 - Employees: 25 - Operates flagstone quarries in Coconino County and slate quarry in Maricopa County. Fabrication yard in Scottsdale - Marketed in the United States and Asia.
Co-owner & Fabrication Manager Grady Dawe
Co-owner & Mining Supervisor Neil Cowie
Anasazi Stoneyard T4N R4E Sec. 14
New River Slate Quarry T7N, R3E Sec. 5
Rattlesnake Quarries T20N R1E Sec. 19
Sidewinder Quarries T23N R2W Sec. 36

APACHE STONE DIVISION

Halquist Stone Co. Inc.

22040 N. 21st Ave., Phoenix, AZ 85027 - Phone (602) 267-8658, Fax (602) 780- 0544 - Employees: 9 (including contractors) - Quarries located near Mayer - Onyx marble quarry - Schist quarries - Landscape boulders, building and dimension stone.

President Perry Halquist
Manager Wayne Evans
Mayer Onyx Quarry T12N R1E Sec. 22
Blue Bell Schist Quarry T11.5N R1E Sec. 24
Rainbow Schist Quarry T12N R1E Sec. 23

ARIMETCO INTERNATIONAL INC.

335 N. Wilmot Rd., Suite 410, Tucson, AZ 85711 - Phone (520*) 748- 2680.
Arimetco Inc.
950 N. Finance Center Dr. #180, Tucson, AZ 85710 - Phone (520*) 721-1505 Fax (520*) 290-4576.
Chairman, CEO H. Roy Shipes
Vice President, Chief Financial Officer Harold Davis
Vice President-Corporate Affairs &
Corporate Secretary John McKinney
Controller Martin Martinez
Chief Geologist Harrison Matson
General Manager Eng. & Construction Henry Shipes
Johnson Camp T15S R22E Sec. 26
Johnson Mine Road, Dagoon, AZ 85609- Phone (520*) 586-2241. Employees: 35 - Located north of exit 322 off I-10 - Open pit copper mine - Heap leach - Solvent extraction-electrowinning plant - Capacity 30,000 lb. copper per day.
General Manager Dennis Mortenson
Mine Superintendent Eddie Smith
Emerald Isle T23N R18W Sec. 22
Old Chloride Road, Chloride, AZ 86431 - Phone (520*) 565-4554 - Open pit copper mine - Heap leach - 8,000 pounds per day Solvent extraction- electrowinning plant - On care and maintenance.
Van Dyke T1N R15E Sec. 30
P.O. Box 747, Miami, AZ 85539 - Phone (520*) 473-2421. In-situ leach-solvent extraction electrowinning - under development.
Zonia T11N R4W Sec. 12
P.O. Box 649, Yarnell, AZ 85362 - Phone (520*) 427-3564 - Employees: 4 - Open pit copper mine - Heap leach - Solvent extraction-electrowinning plant- Permitting and engineering stage.
Mine Superintendent A. Joe Smith
White Cliff Diatomite T9S R17E Sec 24
P.O. Box 1049, San Manuel, AZ 85618 - Phone (520*) 385-2515 - Open-pit diatomaceous earth mine and processing plant.
Mine Manager Nic Arrieta

ARIZONA OXIDES, INC.

1741 E. Morten, Phoenix, Arizona 85020 - Phone (602) 944-9494 - Fax (602) 944-8930 - Employees: 13.
President David C. Lincoln
Vice President & General Manager Vincent Scott
Marketing Director John Van Thaden
Processing Plant

2221 W. Melinda Lane, Phoenix, AZ 85227 - Phone (602) 581-5144 - Grinding and sizing plant for reducing crude nematic to natural red iron oxide pigment - Marketed internationally - Used for pigments in paints, plastics, concrete products and as a mold release in castings.

Iron Chancellor Mine T20N R6W Sec. 22

Open pit and underground mine producing hematite for production of natural red iron oxide pigments - Mining by contractors.

ARIZONA PORTLAND CEMENT COMPANY State Sales Office

2400 N. Central, Suite 308, Phoenix, AZ 85004 - Phone (602) 271-0069.

Executive Vice President and

General Manager Vaughn S. Corley
Vice President, Sales Craig Starkey

Rillito Plant & Quarry T12S R11E Sec. 26

P.O. Box 338, Rillito, AZ 85654 - Phone (520*) (Tucson) 682-2221 - Employees: 144 - Twin Peaks limestone quarry 5 miles west of plant - Cement plant - Capacity 1,100,000 TPY.

Plant Manager Tom Brosnan
Quality Control Superintendent Steve Regis
Quality Control Supervisor Bill Phillips
Plant Engineer John Frye
Plant Electrician Russell Hawks
Personnel Manager Fran Young
Quarry Supervisor Chuck Hansen
Purchasing Agent Tom Follett

ARIZONA SILICA SAND COMPANY

P.O. Box 108, Houck, AZ 86506 - Phone (520*) 688-2602 - Employees: 18 - Plant south of Houck - Hydrafrac sand for oil well treatment - Abrasives and mold sand - Markets in Arizona, California, and New Mexico - Bagged and bulk products available.

President Robert D. Fisher
General Manager James Burkewitz
Foreman Ralph Nelson
Evening Foreman Dave Harris
Houck Silica Sand T22N R29E Sec. 29

Open pit hydrafrac sand mine.

ARIZONA STONE PRODUCTS

9643 N. Casa Grande Highway, Tucson, AZ 85743 - Phone (520*) 798-3909 - Employees: 5.

Owner/General Manager Roger Hudman
M C Canyon Quarries T19N R1E Sec. 23

Sandstone quarries located 8 miles northeast of Drake - Quarried for flagstone - River run (stream worn) and surface (naturally weathered) sandstone for landscaping.

ASARCO INCORPORATED

Tucson Office

1150 N. 7th Avenue, Tucson, AZ 85705, P.O. Box 5747, Tucson, AZ 85705 - Phone (520*) 798-7500 Fax (520*) 798-7781.

Asarco Copper Operations

Executive Vice President F. R. McAllister
Manager Development,

Projects & Services D.C. Dixon, Jr.
Financial Coordinator O. Ho
Environmental Engineering Manager D.M. Yantorno
Chief Geologist S. A. Anzalone
Santa Cruz and

Special Projects Manager D. F. Skidmore
Site Manager - Santa Cruz Project H.G. Kreis

Acid Sales Department

National Sales Manager G. P. Gillen

Governmental Affairs

Manager, State Legislative Affairs R. E. Quick

Tucson Information Services

Manager T. Fedoruk
Mission Mine T16S R12E Sec. 36

Box 111, Sahuarita, AZ 85629 - West Pima Mine Road - Phone (520*) 648-2500 Fax (520*) 648-0802 - Employees: 820 - Open pit copper mine - Two concentrators: Mission and South with a total rated capacity of 63,000 TPD.

General Manager John D. Low
Operations Manager J. B. Lichtenhan
Mine Manager S. L. Lakosky
Chief Engineer B. M. Williams
Senior Geologist R. B. Cummings
Chief Metallurgist J. P. Reynolds
Maintenance Manager H. E. Hughes
Mill Manager, Mission C. A. Carroll
Mill Manager, South S. D. Lawrence
Financial Manager D. J. Hoffman
Industrial Relations Manager J. F. Coxon
General Electrical Supervisor J. B. Barton
Safety Administrator R. E. Jordan
Environmental Engineer A. T. Cooper
Ray Mine T3S R13E Sec. 10

Hayden Concentrator & Smelter T5S R15E Sec. 11

Ray Complex, P.O. Box 8, Hayden, AZ 85235 - Phone (520*) 356-7811 Fax (520*) 356-3802 - Employees: 1576 - Open pit copper mine - Dump leach - Heap leach - Solvent extraction-electrowinning plant - Two concentrators: Ray rated at 30,000 TPD and Hayden rated at 30,000 TPD - Smelter capacity 720,000 TPY and 1,600 TPD acid plant.

Johns on County Road 40 at mile marker 316 - Provides limestone for coal-fired power plant flue gas desulfurization (scrubbing) at Salt River Project's Coronado Generating Station and Arizona Public Service's Cholla Power Plant - Also landscape rock and road base.

Superintendent Efram Chavez
Winkelman Gypsum T6S R16E Sec. 27

P.O. Box 327, Winkelman, AZ 85292 - Phone (520*) 357-7002 - Gypsum Quarry - Gypsum for Arizona Portland Cement Plant at Rillito and agricultural uses.

Superintendent John Nevitt

SUPERLITE BLOCK COMPANY

P.O. Box 23163, 4150 W. Turney, Phoenix, AZ 85063 - Phone (602) 269-3561.

President Norman Stout
Darling Cinder Pit T21N R9E Sec. 2

P.O. Box 30956, Flagstaff, AZ 86003-0956 - Phone (520*) 526-5499 - Employees: 5 - Open pit cinder mine east of Flagstaff - Volcanic cinders used to make building block at the company's Phoenix and Mesa plants.

Mine Superintendent Terry Mitchell

SWANSEA MINERALS INC.

Office: 6360 E. Rose Circle Dr. Scottsdale, AZ 85251 - Phone (602) 994-9964 - Fax (602) 941-2473 - Plant located at 1210 E. Gilbert Rd., Building H2, Tempe, AZ - Employees: 4 - Beneficiation plant.

President/General Manager John Challinor

Co-owner Pete Challinor
Swansea Mine T10N R15W Sec. 32

Produces micaceous-iron-oxide, anti-corrosive barrier pigments.

3 WIN QUARRIES

P.O. Box 3794, Riverside, California 92519 - Phone (909) 877-1611 - Employees: 16.

Owner/General Manager Richard Gutierrez
M C Canyon Quarries T19N R1E Sec. 23

Sandstone quarries located 8 miles northeast of Drake - Stone processing plant located at Drake - Sandstone quarried for flagstone.

TUFFLITE INC.

2432 W. Peoria, Suite 1081, Phoenix, AZ 85029 - Phone (602) 931-3681 - Glendale yard located at 6856 W. Orangewood, Glendale - Employees: 20.

President C. T. Morgan
Vice President/Mine Manager (Flagstaff) Ed Morgan
Secretary/Treasurer Clay Morgan
Orders and Transportation Marleen Bustamante
Sales Manager Cord Angier
Crown Claims T23N R7E

More Sand, Moon Sand T23N R7E Sec. 24

White Vulcan T23N R8E Sec. 19

Mines located 12 miles north of Flagstaff - Pozzolanitic pumice quarries - 6,000 yards/month - Used in making lightweight redimix and block - Large size material used in the preparation of "stone washed blue jeans" and in horticultural preparations.

UOP

115 N. Fifth Street, Suite 401, Grand Junction, CO 81501 Phone (303) 245-7957.

Senior Mining Engineer Jim Kirchner
Bowie Chabazite T11S R28E & T11S R29E

Open pit zeolite mines operated by independent contract mining company - Chabazite used for specialty adsorbants - Shipped out of state for further processing.

Union Pass Mordenite T21N R20W Sec. 11

Open pit zeolite mines operated by independent contract mining company - Mordenite used for specialty adsorbants - Shipped out of state for further processing.

UNITED DESSICANTS

United Catalyst, Inc.

Corporate Headquarters - P.O. Box 32370, Louisville, KY 40232 - Phone (502) 634-7200 - Processing plant c/o United Dessicants, 101 Christine Drive, Belen, NM 87002 - Phone (505) 864-6691.

Cheto No. 1 T21N R29E Sec. 23

Employees: 10 - Located six miles southeast of Sanders in northeastern Arizona - Surface strip bentonite mine - Seasonal operation by mining contractors - Low swelling bentonite is shipped to Belen, New Mexico for the production of desiccants.

Vice President (Louisville) Bill Monin
General Manager (Belen) George Klett
Technical Director (Belen) Matthew Rix

WESTERN ARIZONA ROCK PRODUCTS

A Division of Hanson Natural Resources, Inc.

P.O. Box 178, Dateland, AZ 85333 - Phone (520*) 454-2253, Fax (520*) 454-2290 - Employees: 9.

Plant Manager Larry Lunsford
Assistant Plant Manager Gilbert Rodriguez
Office Manager Patti Wipple
Aztec Quarry T7S R12W Sec. 28

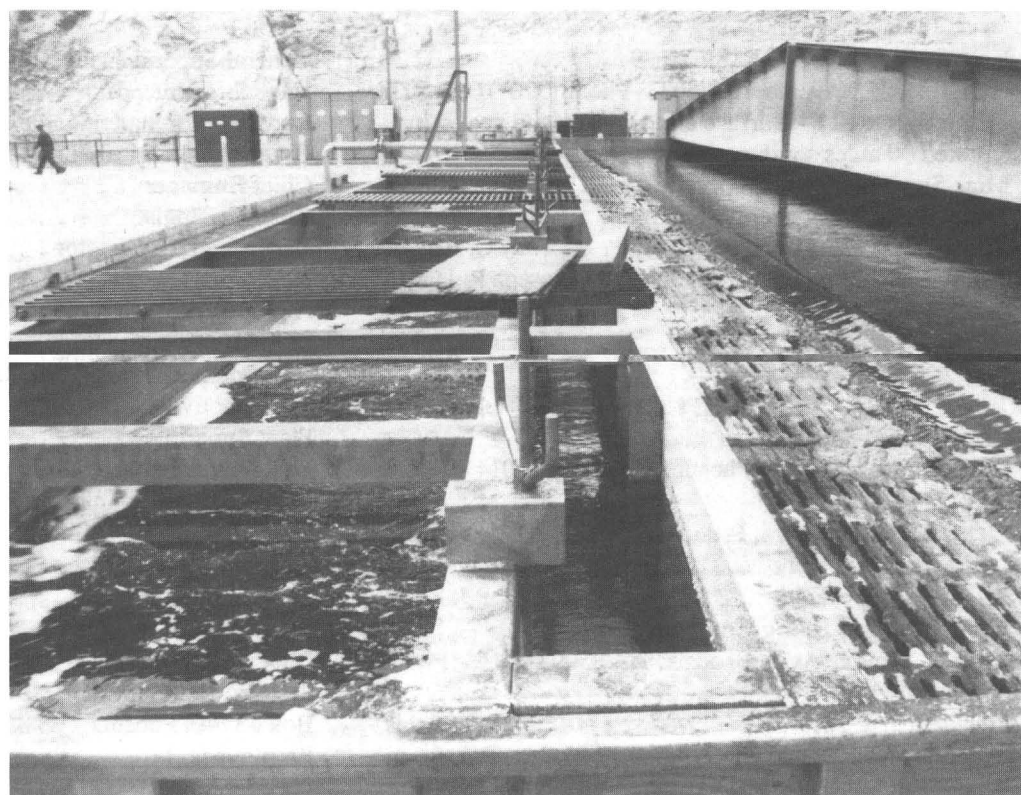
Granite quarry for railroad ballast - Crushing and screening plant - Located between Aztec and Dateland south of I-8 and the Southern Pacific Railroad - Sales outside of railroad system are for landscape uses.

WESTERN GYPSUM INC.

130 E. 200 North, P.O. Box 850, St. George, UT 84770 Phone (801) 628-3916, Fax (801) 628-4441 - Employees: 21.

President Don Cecala

Copper in solvent.
Metcalf solvent extrac-
tion unit at Morenci
Mine



RED MOUNTAIN MINING INC.

4250 North Bush Highway, Mesa, AZ 85215 - Phone (602) 832-3390 - Employees: 28.
Owner D. Lavoy Adams
Red Mountain Quarry T2N R7E Sec. 18
Quarry located 10 miles north east of Mesa - Crushed granite for desert landscaping.

SPECIALTY MINERALS INC.

P.O. Box 759, Sahuarita, AZ 85629 - Phone (520*) 625-6040, Fax (520*) 625-0388 - Employees: 20.
Site Manager Carlos Cardadeiro
Office Manager Jackie Young
Santa Rita Quarry T18S R15E Sec. 15
Located 15 miles southeast of Sahuarita at end of Santa Rita Road - White marble quarry - Crushed and/or ground for landscape, functional filler, and chemical uses - Raymond roller mills - Sizing and bagging plant - Markets throughout Arizona and the southwestern United States.

STEWART KESSON

P.O. Box 174, Globe, AZ - Phone (520*) 425-8452 - Employees: 6.
Owner Stewart Kesson
Copper Hill Mine T1N R15E Sec. 15
Silica flux for Cyprus Miami copper smelter - Northwest of Globe.

STUTENROTH MILLING & MANUFACTURING

7611 W. Comman Road, Casa Grande, AZ 85222 - Phone (520*) 836-5568 - Employees: 2.
Owner-Operator Archie Stutenroth
Stutenroth Mill T7S R7E Sec. 8
Custom gravity mill - 10 TPD capacity - All types of ore - Located eight miles southeast of Casa Grande.

SUPERIOR COMPANIES

100 W. Coolidge, Phoenix, AZ 85013 - Phone (602) 230-9300 - Fax (602) 230-0189 - Employees: 50.
President Archer V. Shelton
Vice President Mary Kessler
Vice President Don Fischer
Camp Verde Gypsum T13N R5E Sec. 11
P.O. Box 786, Camp Verde, AZ 86322 - Phone (520*) 567-3854 - Gypsum and clay quarry five and one half miles east of Camp Verde on State Highway 260 - Supplies gypsum to Phoenix Cement Company Plant at Clarkdale - Agricultural and horticultural uses - Clay for pond, ditch, and impervious pad sealing uses.
General Manager Ed Davidson
Maintenance Supervisor Randy Austin
Foreman Bruce McDonald
St. Johns Limestone T12N R29E Sec. 4
P.O. Box 2777, St. Johns, AZ 85936 - Phone (520*) 337-4529 - Limestone quarry five and one half miles east of St.

General Manager T.E. Scartaccini
Manager, Ray Operations B. K. Malone
Manager, Hayden Operations D. C. Himmesoete
Mine Manager R. E. Thompson
Smelter Manager Joe Wilhelm
SX-EW Manager L. A. Davis
Technical Services Manager N. A. Gambell
Ray Concentrator Manager S. A. McGhee
Hayden Concentrator Manager G. L. Lubers
Electrical Manager, Ray J. L. Weller
Electrical Manager, Hayden G. T. Coryell
Maintenance Manager, Ray Bill Pyle
Maintenance Manager, Hayden Hugh Alexander
Support Manager J. W. Murphy
Financial Manager J. T. O'Neil, Jr.
Human Resources Director W. E. Burrell
Materials Manager K. C. Newnam
Chief Engineer R.S. Rhoades
Safety Director Warren Traweek
Senior Geologist Edward John
Silver Bell T12S R8E Sec. 11
25000 W. Avra Valley Rd., Marana, AZ 85653 - Phone (520*) 682-2420 Fax (520*) 682-2347 - Employees: 20 - Open-pit copper mine - 11,000 TPD concentrator - On standby - Dump leach & precipitation plant operating - Solvent extraction-electrowinning plant and new Silver Bell North pit under development.
Mill Manager D. J. Duncan

AZCO MINING INC.

9780 East Sanchez Road, Safford, AZ 85546 Phone (520*) 428-6881 Fax (520*) 428-5865 - Employees: 220 during construction.
President & Chief Operating Officer David Beling
Chief Financial Officer Ed Rose
Controller Ryan Modesto
Chief Engineer Gary Simmerman
Process Manager Tom DeMull
Senior Environmental Engineer Paul Dusenbury
Director of Construction Gary Miller
Sanchez T6S R27E Sec. 25
Open-pit copper mine - Heap leach - Solvent extraction-electrowinning plant - Capacity 56 million pounds cathode copper per year - Under construction - Production anticipated 1st quarter 1996.

BLACK CANYON MILLING Arizona Zinc Plating Inc.

117 W. Forest Grove Ave., Phoenix, AZ 85041 - Phone (602) 276-9045.
Owner/Manager Bill Schleisman
Black Canyon Mill T8N R2E Sec. 15
Mill located one half mile south of Rock Springs, west of Interstate 17 - 3 ton per hour gravity mill consisting of

crushing, grinding, magnetic separation, and table and cone concentrators.

BUILDING PRODUCTS COMPANY

Phoenix Plant
4850 W. Buckeye Road, Phoenix, AZ 85043 - Phone (602) 272-5576 - Clay mining by contractor - Plant consumes clay to produce extruded sewer pipe and roofing tile.
Plant Manager and Mining Supervisor . . Vern Hamner
Rim Quarry T11N R19E Sec. 30
Clay mine located 10 miles southwest of Clay Springs.
New River Slate Quarry T7N R3E Sec. 5
Slate quarry located approximately 6 miles northeast of New River.
Dewey Ranch #2 T14N R1E Sec. 15
Clay mine located approximately 6 miles north of Dewey.

CATALINA MARBLE, INC.

P.O. Box 8643, Catalina AZ 85738 - Phone (520*) 797-8858.
Operator Darell Goode
White Rock Mine T10S R13E Secs. 31 & 32
White marble quarried and processed for veneer, decorative stone, plaster sand, and animal feed additive - Also used for subgrade in highway construction.

CHEMICAL LIME

Scottsdale Office
7272 E. Indian School Road, Suite 350, Scottsdale, AZ 85251 - Phone (602) 941-1291 - Fax (602) 941-2015.
President, Western Division Bob Derks
Vice President, Industrial Sales Bob Plains
District Sales Manager David Fleming
Senior Project Manager Rob Kohl
Manager, Technical Services Starr Curtis
Regional Manager Mike S. Eliassen
Distribution Manager John McMullan
Transportation Manager Chris Bruskas
Sr. Business Devel. Manager Poz-O-Cap . . John Reaney
Nelson Quarries & Plant T25N R10W Sec. 25
P.O. Box 370, Peach Springs, AZ 86434 - Phone (520*) 769-2271 Fax (520*) 769-2305 - Employees: 72 - Limestone quarry - Lime plant with two rotary kilns rated at 1800 TPD lime - Markets include lime for flue gas desulfurization and alkalinity control for copper ore beneficiation and gold leaching.
Plant Manager William Schoof
Maintenance Superintendent Mark Phillips
Quarry Superintendent Jim Blackwell
Plant Buyer Danny Roberts
Shipping/Transportation Coordinator . . . Joe Fuentes
Quality Control Technician Gerald Findley
Quality Control Technician Perry Curley

Douglas Quarry & Plant T24S R26E Sec. 7
Route 1, Box 110, Douglas, AZ 85607 - Phone (520*) 364-2429 - Fax (520*) 364-2706 - Employees: 60 - Quarry and plant located at Paul Spur - 3 lime kilns - Plant capacity rated at 1000 TPD lime - Markets include lime for alkalinity control for copper ore beneficiation, lime for stabilization, and crude crushed limestone for flue gas desulfurization.
Plant Manager Jerry Young
Maintenance Superintendent Richard Anderson
Quarry Superintendent Don Russell
Production Services Superintendent . . . Don Williams
Quality Control Technician Louis Roqueni

CLINTON - CAMPBELL CONTRACTING INC.
Phoenix Brick Yard
1814 S. 7th Ave., Phoenix, AZ 85007 - Phone (602) 258-7158 - Employees: 96.
President Frederic Campbell
Plant Superintendent Don Campbell
Tolleson Mine T1N R1E Sec. 3
Clay pit located on 84th Avenue north of Van Buren - Used in manufacture of structural clay products.
Pantano Clay Pits T16S R17E Secs. 21, 26, 27, 28, 35
Clay pits located 25 miles southeast of Tucson (2 miles northwest of the Interstate 10 Pantano Exit) - Clay used in the manufacture of structural clay products.

COCONINO CINDER AND MATERIALS
7000 E. Highway 66, Flagstaff, AZ 86004 - Phone (520*) 526-9509 - Employees: 4.
Owner/General Manager Bob Payne
Wildcat Hill Pit T21N R8E Sec. 9

Located 2 miles east of Flagstaff - Cinder and basalt quarry - Used for landscaping, aggregate, horticulture, specialty uses, and construction materials.

CYPRUS CLIMAX METALS COMPANY
(A subsidiary of Cyprus Amax Minerals Company)
1501 W. Fountainhead Parkway, Tempe, AZ 85285 - Phone (602) 929-4400.
President Jeffrey C. Clavenger
Sr. Vice President Edward C. Dowling, Jr.
Sr. Vice President/Technical & Development Jake Timmers
Vice President, Sales and Marketing Lou Morse
Vice President, Environmental Affairs . . . Jerry W. Danni
Vice President, Operations C. Gene Consalus
Cyprus Sierrita Corp.
Sierrita T18S R12E Secs. 7, 8, 9, 10, 16, 17
P.O. Box 527, Green Valley, AZ 85622 - Phone (520*) 648-8500 - Employees: 720 - Sierrita, Esperanza and Ocotillo copper-molybdenum mines - 110,000 TPD concentrator - 17,500 TPD concentrator - Ferromolybdenum plant - Rhenium plant - Dump leach - Solvent extraction-electrowinning plant - Located 30 miles south of Tucson.
Vice President & General Manager Donald Prahl
Manager, Mining Robert Wishart
Manager, Metallurgical Processing Steve Mueller
Manager, Human Resources Steve Rosene
Manager, Accounting/ Materials Manager Rickey Lamb
Plant Manager Loyal Johnson
Mine Operations & Maintenance Michael Fechan

Kayenta Mine T36W R18E Sec. 9
P.O. Box 606, Kayenta, AZ 86033 - Phone (520*) 677-5008 - Employees: 511 - Surface and underground coal mine - Located 30 miles southwest of Kayenta.
Mine Superintendent Joe Johnson
Assistant Superintendent 1st Shift . . . Robert D. Boone
Assistant Superintendent, 2nd Shift . . . Tony G. Bryant
Assistant Superintendent, 3rd Shift . . . Joseph R. Harris
Safety Supervisor Joe Holgate
Manager Training Maria Veyekis

PHELPS DODGE CORPORATION
Corporate Headquarters
2600 N. Central Ave., Phoenix, AZ 85004-3014 - Phone (602) 234-8100.
Chairman of the Board, President & CEO . D. C. Yearley
Senior Vice President J.S. Whisler
Senior Vice President P.J. Ryan
Phelps Dodge Mining Company
2600 N. Central Ave., Phoenix, AZ 85004-3014 - Phone (602) 234-8100.
President J. S. Whisler
Executive Vice President P. J. Ryan
Vice President & General Manager J. L. Madson
Vice President Engineering Services R. W. Rice
Controller J.M. McCarty
Director, Employee Relations S. L. Marcus
Director, Materials Management M.F. Upton
Traffic Manager J.P. Sheridan
Exploration and Development Group
2600 N. Central Ave., Phoenix, AZ 85004-3014 - Phone (602) 234-8100.
Vice President A. L. Lawrence
U.S. Exploration
Union Plaza, Suite 300, 200 Union Blvd, Lakewood, CO 80228-1831 - Phone (303) 989-8873
Western Exploration
P.O. Box 50427, Tucson, AZ 85703-1427 Phone (520*) 792-4981.
Manager, Western Exploration W.H. Wilkinson
Copper Queen T23S R24E Sec. 15
Highway 92, Bisbee, AZ 85603 - Phone (520*) 432-3621 - Employees: 54 - Mine dump leaching - Copper precipitation plant.
Area Supervisor J. H. Zamar
Morenci T4S R29E Secs. 3, 4, 5, 8, 9, 10, 15, 16, 17, 21, 22 & 23
4521 State Hwy. 191, Morenci, AZ 85540 - Phone (520*) 865-4521 - Employees: 2064 - Open pit copper mine - Two concentrators (one with molybdenum circuit), total capacity 100,000 TPD - Smelter capacity 650,000 TPY with 2,400 TPD acid plant (inactive) - 340 million pound per year solvent extraction-electrowinning plant.
Manager T.R. Snider

General Superintendent D.H. Thornton
Mine Superintendent A.R. Edwards
Concentrator Superintendent J.G. Davis
Hydrometallurgical Superintendent . . . A.J. Broderick, Jr.
Chief Engineer S.C. Holmes
Chief Geologist M. S. Enders
Raw Materials Director D.K. Farquhar
New Cornelia T12S R6W Secs. 23, 26, 27
Ajo, AZ 85321 - Phone (520*) 387-7451 - Employees: 22
Open pit copper mine - 20,000 TPD concentrator with molybdenum circuit - 190,000 TPD smelter with acid plant - All inactive.
Plant Superintendent J. Zamar
United Verde Mine T16N R2E Sec. 22
Inactive copper mine - Located at Jerome - Phone (520*) 634-2622.
Agent A.D. Peterson

PHOENIX CEMENT COMPANY
Phoenix Office
2501 W. Behrend Drive, Suite 23, Phoenix, AZ 85027, P.O. Box 43740, Phoenix, AZ 85080 - Phone (602) 264-0511 - Employees: 11.
President James E. Carmichael
V.P. Sales & Marketing Pete Kuehner
V.P. Manufacturing Pat Neilio
Bulk Cement Terminal
1941 W. Lower Buckeye Road, Phoenix, AZ 85009 - Phone (602) 258-7798.
Clarkdale Quarry & Plant T16N R2E Sec. 11
P.O. Box 428, Clarkdale, AZ 86324 - Phone (520*) 634-2261 - Employees: 147 - Quarry and plant two miles northwest of Clarkdale - 630,000 TPY - Cement used for building industry.
V.P. Operations/Plant Manager John B. Conway
Assistant Plant Manager/Maintenance . . Joe D'Avignon
Assistant Plant Manager/Engineering . . Tom Gibbons
Industrial Relations Manager Cliff Ayres
Controller Micheal La Lond
Purchasing/Stores Frank Contreras
Environmental Engineer Bernie Ott

PINAL HARVEST dba PINAL GYPSUM COMPANY
P.O. Box 99, Coolidge, AZ 85228 - Phone (520*) 723-3131, Fax (520*) 723-9711 - Employees: 10.
President and General Manager James Bechtel
Orders and Transportation Kirke Anderson
White Cross Mine T7S R17E Sec. 31
Quarry four miles north of Mammoth - Used for agricultural gypsum.



Santa Rita Limestone grinding plant

* Area code 520 effective March 19, 1995

* Area code 520 effective March 19, 1995

NATIONAL GYPSUM COMPANY

Gold Bond Building Products Division

1414 E. Harley St., Phoenix, AZ 85034 - Phone (602) 258-9321 - Employees: 58 - Wallboard plant - Wallboard joint cement plant.

Plant Manager Dan Carson
Office Manager Wendy Self
Production Manager Bill Brundage
Joint Cement Quality Control Nick Tuhus
Feldman Quarry T6S R16E Sec. 27

Star Route, Box 3990, Winkelman, AZ 85292 - Phone (520*) 357-7180 - Employees: 5 - Open pit gypsum mine located 12 miles south of Winkelman - Crude gypsum shipped to Phoenix plant for manufacture of plaster board.
Quarry Superintendent David Klein

ORACLE RIDGE MINING PARTNERS

P.O. Box 70, San Manuel, AZ 85631 - Phone (520*) 576-1412, Fax (520*) 576-1539 - Employees: 75.

General Manager Rene Tourigny
Superintendent of Technical Services Murray Strachan
Accounting Supervisor Joseph Sawyer
Purchasing/Warehouse Anna Hayden/Quanah Guerra
Mill Superintendent Rick Scoles
Chief Metallurgist Dennis Rice
Oracle Ridge Mine T11S R16E Sec. 16

Underground mine producing copper, gold, and silver - Located 25 miles northeast of Tucson - Column flotation mill - 1020 TPD - Ships concentrates to custom smelter.

OUTLAND RESOURCES INC.

2260 E. Andy Devine, Kingman, 86401 - Phone (520*) 753-1444 - Fax (520*) 753-1444 (call first) - Employees: 8 (plus contracted services).

President Patti Lewis
Vice President Charlie Starkebaum
Hackberry Pit T23N R13W Secs. 19 & 20

Seligman Quarry T23N R6W Sec. 32

Shipley Pit T25N R10W Sec. 28

Produces dolomite-limestone, sandstone, quartz, feldspar, onyx, and natural colored aggregates. Used for landscape, gemstones, chemical materials, fillers, and special aggregate.

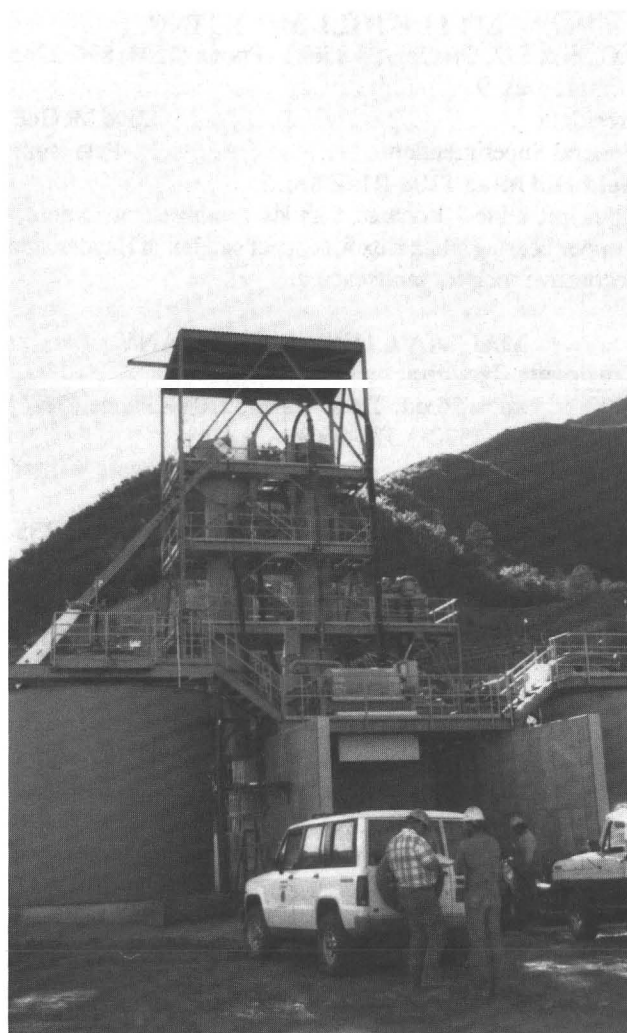
PEABODY WESTERN COAL COMPANY

Flagstaff Office

1300 S. Yale, Flagstaff, AZ 86001 - Phone (520*) 774-5253 - Employees: 66.

President W. Howard Carson
Vice President, Operations Gary L. Melvin
General Superintendent, Mines Dan Cartright
Senior Manager Labor and

Employee Relations Tony Baka
Director of Engineering Frank Farnsworth



Oracle Ridge, column flotation mill.

Director Materials Management Merle Hendricks
Controller Charles W. Tilly
Manager, Quality Control Charles J. Stenftenagel
Manager, Reclamation Wayne E. Hilgedick
Senior Manager Environmental Affairs Brian P. Dunfee
Black Mesa Mine T35N R18E Sec. 5

P.O. Box 605, Kayenta, AZ 86033 - Phone (520*) 677-5040 - Employees: 331 - Surface coal mine - Located approximately 30 miles southwest of Kayenta.

Mine Superintendent Lewis Allan Gough
Assistant Superintendent, 1st Shift Teddy Begay
Assistant Superintendent, 2nd Shift Randall L. Hendrix
Assistant Superintendent, 3rd Shift Rex Mansker
Safety Supervisor Keith Grass

Plant/Crusher

Maintenance Superintendent Jesus Figueroa
Mill/Crusher Operations Superintendent Steve Koski
SX-EW Superintendent Doug Sims
Superintendent Technical Services William Sweetser
Superintendent of Moly Processing Michael Shinn
Superintendent of Mine Engineering Ed Fidler
Cyprus Miami Mining Corp.

Miami T1N R14E Sec. 24, 25, 26, 35

P.O. Box 4444, Claypool, AZ 85532 - Phone (520*) 473-7150 - Employees: 1000 - Open pit oxide copper mine - Dump leach - Solvent extraction-electrowinning plant - 120,000 TPY smelter - Acid plant - Electrolytic refinery - 100,000 TPY continuous rod plant - 24,000 TPD concentrator is inactive.

Vice President & General Manager William Doeppen
Controller/Materials Management Ron France
Manager, Technical Services James Handley
Manager, Copper Products Ken Watkins
Manager, Copper Production Kent Watson
Manager, Safety Robert Altamirano
Manager, Human Resources Richard Hodges
Supt. Eng./Strategic Planning Cal Iles
Maintenance Manager

Copper Production Joesph Kridel
Superintendent SX/EW Mike Benjamin
Superintendent, Maintenance Copper

Products Division Richard Riddle
Superintendent, Rod Plant Mark Nowicki
Coordinator Quality Assurance Richard Dana
Manager, Environmental Affairs Robert Ressler
Superintendent, Smelter Howard Hilshorst
Superintendent, Smelter Electrical

Systems Robert Tunis
Superintendent, Refinery Samuel Yang

Cyprus Bagdad Copper Corp.

Bagdad T14N R9W Sec. 4

P.O. Box 245, Bagdad, AZ 86321 - Phone (520*) 633-2241 - Employees: 575 - Open pit copper-molybdenum mine - 85,000 TPD concentrator - Dump leach - Solvent extraction-electrowinning plant.

Vice President, General Manager Randy Scott
Manager, Mine Kent Watson
Plant Manager Guy Granger
Manager, Human Resource

& Community Services Janette Bush
Supervisor, Safety Joe Mortimer
Maintenance Manager Gary Hutchison
Controller, Materials Randy Hoffman

Cyprus Tohono Corporation

Casa Grande T10S R4E Sec. 25

P.O. Box 15009, Casa Grande, AZ 85230-5009 - Phone (520*) 623-1539 - Employees: 116 + 37 contract - In-situ

leach copper mine - Solvent extraction-electrowinning plant. Open pit heap leach under development.

Acting Vice President

and General Manager Al Tittes
Manager, Accounting and Materials W. Fulgham
Plant Manager Kermit Behnke
Mine Manager Bill Krats
Manager, Human Resources Richard Stilgenbauer
Environmental Engineer John Kline
Cyprus Mineral Park Corp.

Mineral Park T23N R17W Sec. 19

HC 37 Box 500, Kingman, AZ 86401 - Phone (520*) 565-2226 - Employees: 15 - Open pit on stand-by - Dump leach copper mine - Precipitation plant operating - Located 16 miles north of Kingman.

Superintendent George Burns
Plant Supervisor Joey Matthews

DRAKE STONE PRODUCTS

P.O. Box 11676, Prescott, AZ 86304 - Phone (520*) 445-3028, Message/Fax (520*) 778-5447 - Stone processing plant at Drake - Quarries and processes Arizona flagstone into flagging, dimension stone and tiles.

Owner/Operator Harley Gray Jr.
Co-owner Deborah Gray
Rock House Quarry T19N R1E Sec. 10
M C Quarry T19N R1E Sec. 35

DUNBAR STONE COMPANY

P.O. Box 246, Ash Fork, AZ 86320 - 901 Lewis - Phone (520*) 637-2591, (520*) 637-2592 Fax (520*) 637-2355 - Employees: 85 - Quarries in Coconino, Maricopa, Mohave, and Yavapai Counties - Flagstone, marble, and schist - Stone processing plant in Ashfork - Quarries and processes Arizona flagstone into flagging, dimension stone and tiles.

President Gerry E. Dunbar
Vice President W. B. Dunbar
Maintenance Superintendent Ron Dunbar
Office Manager & Transportation Leslie Tooley
Dunbar Stone Plant T21N R2W Sec. 3

Dunbar Stone Company operates over 60 quarries for the production of dimension stone in northern and western Arizona. Many quarries are operated intermittently on an as needed basis.

ENERGY FUELS NUCLEAR INC.

HC 64, Box 152 2555 North Hwy. 89A, Fredonia, AZ 86022 Phone (520*) 643-7321 - Employees: 9.

Manager Mining Operations Roger Smith
Arizona One T36N R5W Sec. 22

Located 45 miles southwest of Fredonia - Underground uranium mine - Developed - On standby.

* Area code 520 effective March 19, 1995

* Area code 520 effective March 19, 1995

Canyon T29N R3E Sec. 20
Located 45 miles north of Williams - Underground uranium mine - Development awaiting regulatory approval.

ENGELHARD CORPORATION Chemical Division

Box 155, Sanders, AZ 86512 - Phone (520*) 688-2468, Fax (520*) 688-2485 - Employees: 6 - Located 6 miles southeast of Sanders.
General Superintendent Perry Skersick
Cheto No. 2 T21N R29E Sec. 23
Surface strip bentonite mine - Primary use is in filters and catalysts, also used in agriculture and desiccants - Shipped to Mississippi for processing.

FLAGSTAFF CINDER SALES INC.

Old Highway 66 East, P.O. Box 2415, Flagstaff, AZ 86003 - Phone (520*) 526-0801 - Employees: 7.
President Mary Lou Olivier
General Manager Rob Olivier
Wildcat Hill Pit T21N R8E Sec. 9
Located 1.5 miles east of Flagstaff - Cinder quarry - Used for aggregate, landscaping, and construction materials.

GEORGIA MARBLE COMPANY OF ARIZONA

16101 S. Wentworth Road, Vail, AZ 85641 - Phone (520*) 762-9119, 1-800-952-2769, Fax (520*) 762-5592 - Employees: 13.
Division Manager Larry Mattison
Office Manager Susan Jansan
Sales Carl Cuthbertson
Andrada Marble Quarry T17S R16E Sec. 21
Open pit marble mine - Crushing and grinding plant - Used for calcium feed additive, decorative stone, plaster and roofing material - Fine ground material used as mineral filler.

GOLDEN GREEN PLACER MINING PARTNERSHIP

HCR Box 840-A, Sells, AZ 85634 - Phone/fax (520*) 361-2310 - Employees: 4.
Project Manager Jack Otani
Devils Wash T15S R2E Sec. 2
Located approximately 1.5 miles southwest of Quijotoa - Gold placer operation - Wet gravity concentration - Capacity 750 yards/day.

GSA RESOURCES INC.

7660 N. Business Park Drive, Tucson, AZ 85743 - Phone (520*) 744- 8845 - Employees: 8 (including contractors).
President Ted H. Eyde
Vice President Daniel T. Eyde
Lyles Mine T13N R6W Secs. 11, 12

Open pit clay mine located west of Kirkland - Hectorite clay - Used as viscosifier and thickener in pharmaceuticals and cosmetics.
Grace Chabazite Mine T12S R29E Secs. 1, 2, 12
Open pit mine located 13 miles north of Bowie - Chabazite - Used for cation exchange media, specialty adsorbants, deodorizers, and RAD waste treatment for adsorbing Cs¹³⁷ and Sr⁹⁰

Burro Creek Clay T14N R10W Sec. 7

Open pit clay mine located 8 miles southwest of Bagdad along Burro Creek - Saponite clay - Shipped out of state for manufacture into viscosifiers for detergents and drainage aid for treating pulp for fine white paper made from recycled paper fibers.

HARBORLITE CORPORATION

P.O. Box 960, Superior, AZ 85273 - Phone (520*) 689-5723 - Employees: 12 - Two separate plants located 2 miles west of Superior on Silver King Mine Road on each side of railroad track; north plant (formerly Nord Sil-Flo) is currently idle - Two open pit perlite mines, located 2 miles southwest of Superior - Used in filtering for pharmaceuticals, chemicals, sugar, and beverages - Also used as agricultural fertilizer carrier.
Plant Manager Louie Lucero
Assistant Manager Bob Farmer
Secretary - Orders & Transportation . . Jackie Alvarez
Superior Perlite T2S R12E Sec. 9

HARLEY GRAY STONE COMPANY

P.O. Box 323, Paulden, AZ 86334 - Phone (520*) 636-2436 - Employees: 15 - Quarries located 8 miles northeast of Drake - Quarries and processes Arizona flagstone into flagging, dimension stone, and tiles.
Owner Carl Gray
Flagstone Quarries

KILAUEA CRUSHERS INC.

P.O.Box 5385, Glendale, AZ 85312 - Phone (602) 843-1888 Employees: 12.
President Bill Nichols
Kilauea Quarry T6N R2W Sec. 5
Quarry located 12 miles east of Morristown - Crushed rhyolite for desert landscaping.

LEVIN STONE COMPANY, INC.

P.O. Box 95, Ashfork, AZ 86320 - Phone (520*) 637-2288 - Employees: 50 - Processing plant located on Double A Ranch Road 2 miles north of Ashfork - Quarries and processes sandstone from nine deposits - Purchases sandstone from independent quarries - Specializes in hand cut hearths, table tops, and dimensional cuts.
President Phil Levin
Manager Van Falls

LITTLE HILL MINES INC.

P.O. Box 332, Oracle, AZ 85623 - Phone (520*) 896-2245 - Employees: 9.
President Dave McGee
General Superintendent Pete Ruiz
Gold Hill Mine T10S R15E Sec. 5
Open pit mine - Located 6 miles southwest of Oracle - Copper bearing silica flux for copper smelter at Hayden and decorative rock for landscaping.

MAGMA COPPER COMPANY

Corporate Headquarters
7400 N. Oracle Road, Tucson, AZ 85704 - Phone (520*) 575-5600 Fax (520*) 575-5663
President and CEO J. Burgess Winter
San Manuel Mine T8S R16E Sec 34, 35
P.O. Box M, San Manuel, AZ 85631 - Phone (520*) 385-3100 - Employees: 1,920 - Underground copper-molybdenum mine - 62,000 TPD concentrator - Open pit oxide mine - In-situ leach - Heap Leach - Solvent extraction-electrowinning plant.
Vice President & General Manager Francisco E. Durazo
Manager Sulfide Mining Hendrick W. Seaney, Jr.
Superintendent Concentrator . . . Gerald R. Brunskill
Superintendent Open Pit Dale A. Pierce
Superintendent In-situ Chris W. Burt
Superintendent SX-EW Jackson G. Jenkins
Magma Metals Company

San Manuel Smelter T9S R17E Sec 32

P.O. Box M, San Manuel, AZ 85631 - Phone (520*) 385-3100 - Employees: 1217 - 1,300,000 TPY flash smelter - 1,150,000 TPY acid plant - 345,000 TPY electrolytic refinery - 180,000 TPY continuous cast rod plant.
President John F. Champagne
Vice President Operations J. D. McCain
Vice President Marketing & Sales . . . Brian Disbury
Vice President Technology Tom Jordan
Pinto Valley Mine T1N R14E Sec. 20
Miami T1N R15E Sec 19
P.O. Box 100, Miami, AZ 85539 - Phone (520*) 473-6200 - Employees: 620 - Open pit copper-molybdenum mine - 63,000 TPD concentrator - Dump leach - Solvent extraction-electrowinning plant - Miami in-situ leach - Miami No. 2 tailings reclaim leach - Miami solvent extraction-electrowinning plant.
Vice President/General Manager K. Lee Browne
Manager Mining Operations Charles D. O'Coyné
Manager of Miami Unit
Leaching/SX-EW John J. Pio
Manager of Concentrator
Operations Jack D. Conklin
Manager Human Resources David L. Palmer

Magma Mine T1S R12E Sec 35

P.O. Box 37, Superior, AZ 85273 - Phone (520*) 689-2444 - Employees: 363 - Underground copper mine - 3300 TPD concentrator.
General Manager Doug McGregor
Mine Superintendent Steve Lautenschlaeger
Mill Superintendent Clifford D. Nelson

McKUSICK MOSAIC

Route 1, Box 35-D, Globe, AZ 85501 - Phone (520*) 425-5051 or 425-8428 - Employees: 3.
Owners Robert & Charmion McKusick
Co-owner Kathleen Condit
Weary Lode Mine T1S R15E Sec. 22
Surface clay mine located 5 miles south of Globe - Used for tile and wind chimes, cosmetic additives, sealant, and slip glazing material.

MINERAL DEVELOPMENT, INC.

Superior Marble Division

21555 East Ocotillo, Queen Creek, AZ 85242 - Phone 987-1916 - Employees: 6 - Plant located at the intersection of Rittenhouse and Ocotillo in Queen Creek - Marble crushing and screening plant - Crushed, sized white marble for landscape uses, plaster, feed supplements, and specialty aggregate. Fine grinding plant under development.
Owner/General Manager Laurence Turley
Sales Rick Erman
Office Manager Ed Shelly
Queen Creek Marble Quarry T1S R13E Sec. 17

MINERALS RESEARCH AND RECOVERY, INC.

Tucson Office and Plant

4620 S. Coach, Tucson, 85714 - Phone (520*) 748-9362 - Employees: 54.
President Manjit Chopra
Plant Manager Michael Vick
Ajo Plant and Slag Stockpile T12S R6W Sec. 23
Highway 85, Ajo, 85321 - Phone (520*) 387-5310 - Processes copper smelter slag for roofing granules, abrasives, filtration media, nuclear shielding, and ship ballast.
Plant Manager Joe Fanning, Sr.

MORTON SALT DIVISION

Morton International

13000 W. Glendale Ave., Glendale, AZ 85307 - Phone (602) 247-3000 - Employees: 35.
Plant Manager Gary McFarlin
Morton Salt Mine T2N R1W Sec. 2
Solution mining via wells - Solar evaporation of brines - Produces salt for water softeners, domestic, agricultural, and industrial use - Underground solution cavities are used for propane and butane storage.