

# Directory of Active Mines in Arizona 2001- 2002



Arizona Department of Mines and  
Mineral Resources

## 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 database, 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- ◆ Maintain a site-specific database of unpublished reports and maps that includes 4,000 mine files and indexes of 10,000 computerized Arizona mineral occurrences.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mining information including a mine map library (hard copy and microfilm), government publications, periodicals, and unpublished master and doctorate theses.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 or at the Department's website.
- ◆ Operate the Arizona Mining and Mineral Museum.

# ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES

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**Cover: The scale of mining comes to downtown Phoenix.**

The Komatsu 930E haul truck, newly-painted on the back of the Department's building, dwarfs the two staff members in the foreground. The truck is depicted at its actual height of 24 feet. The 930E, used in Arizona copper mines, has 2,700 horsepower and a payload of 320 tons.

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Active Mines in Arizona – 2001-2002

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

Department of Mines and Mineral Resources
Directory 49



State of Arizona
Jane Dee Hull, Governor

Phoenix, Arizona
September, 2002



Directory of Active Mines in Arizona - 2001 - 2002

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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 progress and activities.

The directory is arranged alphabetically by company name. Each listing includes corporate address, mine name and location, commodities, operation description, and key personnel and websites when available. Those internet sites may be easily reached via our website’s mining industry link page – [www.admmr.state.az.us/indlinks.htm](http://www.admmr.state.az.us/indlinks.htm).



Do you need this information in an alternative format? Please call the Department office at 602-255-3795.

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Echo Green Quarry  
El Paso Pit  
Fitzgerald Quarry  
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Johnson Camp  
Jomax Quarry  
MDI Pit  
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See listing of sand and gravel producers

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Switchback Quarry  
Trick Tank Quarry  
US Quarry  
Yellow Horse Quarries

**ZEOLITES**  
Bowie Chabazite Mine  
Grace Chabazite Mine  
Union Pass Mordenite Mine

\* Produced as a byproduct

ARIZONA'S MINERAL INDUSTRY – 2000 and 2001

Arizona's 2000 mineral production value was \$2.8 billion and the estimate for 2001 is \$2.5 billion. Arizona accounted for more than 65 percent of the U.S. copper production, leading the Nation in the production of this commodity as it has for decades. 2000/2001 proved to be a mixed period for Arizona mining. A growing population and expanding infrastructure continued to increase demand for construction minerals. The value of these industrial minerals produced in 2000 is estimated to be \$679.0 million and \$693.3 million in 2001. The bad news occurred in Arizona's largest and most important mining segment, the copper industry, which was negatively impacted by concerns about energy supplies and was hit especially hard by lower copper prices. Copper represents about 70 percent of Arizona's total nonfuel mineral production value. In 2000 Arizona was the leading state in molybdenum production, second in gemstones, third in crude perlite, fourth in construction sand and gravel, silver and zeolites, fifth in pumice and pumicite, sixth in iron oxide pigments, seventh in bentonite, and eighth in crude gypsum and dimension stone. There are 78 mining companies operating 160 mines in the state, with an additional 60 sand and gravel producers operating 160 pits and plants. The mining industry directly employs approximately 9,000 people in Arizona.

COPPER

Arizona's copper industry contracted significantly as the industry struggled to survive near record-low copper prices (in constant dollars), growing commodity warehouse inventories resulting from the slow global economy and the US recession, the tight regional energy market, and the impacts to consumption from the events of September 11. The average copper price decreased \$.11 to \$.77 per pound in 2001, a decline of 8 percent from 2000. During the fall the copper price reached a 14-year low of \$.60 per pound. In November 2001, the price jumped about 10 cents as Phelps Dodge, Asarco and others announced new production cutbacks and even Chilean government-owned Codelco reported it was considering cutbacks for 2002. With other producers around the globe also reducing production there was some hope that huge inventories would not hang over the market for a long period. Arizona's production declined 8 percent in 2001 and has dropped nearly 30 percent since the year of peak production, 1997. Monthly employment figures over the 5-year period fell from a peak of 11,400 to 6,500 at year's end, a 43 percent drop. It is anticipated copper production will drop further. Effective in early 2002, of Arizona's seven major mines, one will close and three will operate at less than 50 percent of capacity. Despite the decline, Arizona still accounts for 65 percent of primary US copper production. Additionally, when prices do rebound Arizona mines, with their extensive resources and highly-skilled miners will be ready.

**Asarco Inc.**  
(subsidiary of Grupo Mexico, S.A. de C.V.)  
Grupo Mexico purchased Asarco Inc. in November 1999. Asarco's copper operations in Arizona include the open-pit mines of Ray and Silver Bell, an open-pit and underground operation at Mission, and the Hayden copper smelter. Ray is the second largest copper mine in Arizona. In 2001 Grupo Mexico moved its Asarco subsidiary's headquarters to Phoenix. About 100 former corporate New York and Tucson copper staff now work in

Phoenix while more than 100 employees remain in Tucson. This move places the headquarters of two of the world's largest copper producers in Phoenix.

**Ray**  
BLM approved, but has not yet completed, a land exchange with Asarco that will allow expansion of Ray's tailings, and allow future development of Copper Butte, Buckeye and Chilito deposit, the Ray mine and the Hayden Limestone deposits. Asarco will trade 7,300 acres in Pinal and Mohave counties for 10, 976 acres in Pinal and Gila counties. Lands the BLM will acquire are riparian habitat and areas within or adjacent to wilderness areas. The exchange has not been completed as BLM is trying to resolve a protest. Copper output at the Ray mine was 304 million pounds in 2000, and 352.5 million pounds in 2001. Ray also produced 684,000 oz of silver in 2001. Ray consists of an open-pit mine, dump and heap leach operations, a 102-million-pounds-per-year SX-EW plant at Ray, and two mills - a 28,000-ton-per-day concentrator at Hayden and a 32,000-ton-per-day concentrator at Ray.

**Mission**  
Mission's copper production in 2000 was 189 million pounds, down from 200 in 1999, and was 138.9 million pounds in 2001. Mission also is a significant silver producer, producing 1,562,000 ounces in 2001. The Mission complex consists of the underground

Table 1. Arizona commodity ranking in the US - 2000

Ranking in US	Commodity
1st	Copper
1st	Molybdenum
2nd	Gemstones
3rd	Perlite
4th	Sand and gravel, construction
4th	Silver
4th	Zeolites
5th	Pumice
6th	Iron oxide pigments



and open pit mines including Mission, Eisenhower, Pima, Mineral Hill, South San Xavier and the nearby San Xavier mine. The impressive Mission Pit is over 2.5 miles long, 1.5 miles wide, and 1,200 feet deep. Sulfide ore is treated at two mills, Mission and South, with a combined capacity to process 63,000 tons of ore daily, although currently processing 24,000 tpd.

In October 2000, Asarco announced that Mission’s open pit mine plan would change to increase stripping over higher-grade areas and reduce production of ore from 62,000 to 41,000 tpd while material moved will increase 25 percent. The changes will also extend mine life 14 to 22 years and increase ore grades and mill recovery, but copper in concentrate will decline by 48 million pounds per year. Helping keep the mill grade higher is the underground’s daily contribution of 3,000 tons of 1.4 percent or better grade copper. Underground reserves total 7.5 million tons. Asarco reported it continues to search for options to achieve profitable production. These include negotiations with unions and vendors as well as finding ways to reduce the impact of higher energy costs and mineral royalties.

In November of 2001 Asarco announced production curtailments of 23 percent, effective January 1, 2002, the second curtailment in 4 months. Since November 2000 production has been reduced 61 percent. The South Mill was put on care and maintenance at the end of 2001. In August 2001 Asarco laid off 110 of its 625 employees at Mission and then 50 more in July 2002.

Hayden

The Hayden smelter, an INCO flash furnace rated at 720,000-tons-of-charge per year produced 438,308,000 pounds of copper in 2001 (a record output) and 571,800 tons sulfuric acid. Anodes produced at the smelter are shipped to the Amarillo Copper Refinery.

Silver Bell

Silver Bell produced over 40 million pounds of SX-EW copper in 2000 and 41.9 million pounds in 2001. Silver Bell includes three open pits, North Silver Bell, El Tiro, and Oxide. North Silver Bell mines ore using the conventional blast, load, and haul method for leach ore. El Tiro and Oxide are mined with a technique called rubblization in which areas planned for rubble leaching are drilled, blasted, and sprayed with acid to begin leaching.

In June 2001 Asarco asked the BLM to consider a land swap that would resolve the problem of 400 acres of Asarco’s operations being included within the Ironwood National Monument.

BHP Copper

A merger of Billiton and BHP was announced in March of 2001. The merger created the world’s second largest mining and metals company, valued at \$29 billion. BHP shareholders will emerge with 58 percent of the enlarged group and will be run from Melbourne, BHP’s base.

Table 2. Arizona Mineral Production  
Short tons unless otherwise noted

Commodity	2000 <sup>1</sup> Quantity	2000 <sup>1</sup> Value	2001 <sup>5</sup> Quantity	2001 <sup>5</sup> Value
Copper	1,024,000	\$1,810,000,000	965,000	\$1,470,000,000
Gemstones	na	2,920,000	na	2,670,000
Gold (troy oz)	w	w	w	w
Molybdenum (lb)	w	w	w	w
Sand & gravel				
Construction	65,477,000	304,000,000	62,391,000	294,000,000
Industrial	w	w	w	w
Silver (troy oz)	4,244,000	21,200,000	w	w
Stone, crushed	8,852,000	48,200,000	7,716,000	43,300,000
Dimension Stone <sup>4</sup>	340,000	44,000,000	380,000	51,000,000
Gypsum <sup>4</sup>	1,100,000	16,000,000	1,200,000	18,000,000
Other <sup>2</sup>	na	315,100,000	na	345,900,000
Coal <sup>3</sup>	13,111,000	315,000,000	13,418,000	322,032,000
Total		\$2,876,420,000		\$2,546,902,000

1 USGS Preliminary figure  
2 Includes cement, clay, lime, gypsum, molybdenum, perlite, salt, dimension stone, zeolites, and iron oxides.  
3 ADMMR estimate for value  
4 ADMMR estimate for quantity and value  
5 Unpublished U.S. Geological Survey (USGS) data, subject to change; official USGS preliminary 2001 data will be published by USGS in the USGS *Mineral Industry Survey*, Arizona 2001 Annual Estimate.  
(w – withheld)

SUPPLEMENTAL INFORMATION

Arizona State Agencies

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416 West Congress, Tucson, AZ 85701  
Phone (520) 770-3500  
www.azgs.az.gov

Arizona Mines and Mineral Resources  
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Phone (602) 255-3791  
www.admmr.state.az.us

Land Department - Minerals Section  
1616 West Adams, Phoenix, AZ 85007  
Phone (602) 542-4628  
www.land.state.az.us

Mine Inspector  
State Capital, West Wing, Room 403, Phoenix, AZ 85007  
Phone (602) 542-5971  
www.asmi.state.az.us

Federal Agencies  
Bureau of Land Management  
Arizona State Office, 222 North Central, Phoenix, AZ 850004-2203  
Phone (602) 417-9200  
www.az.blm.gov

Forest Service  
Arizona Zone Office - Minerals, 2324 East McDowell Rd., Phoenix, AZ 85006  
Phone (602) 225-5262  
www.fs.fed.us

Mine Safety and Health Administration (MSHA)  
63 East Main #303, Mesa, AZ 85201  
Phone (602) 649-5452 Fax: (602) 649-5662  
www.msha.gov

U.S. Geological Survey  
Minerals Information, 520 North Park Ave. Suite 355, Tucson, AZ 85719  
Phone (520) 670-5544  
www.usgs.gov  
For commodity and area production data - <http://minerals.er.usgs.gov/minerals>

Industry Associations

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Phone (602) 279-3199, Fax (602) 230-8413  
<http://miningamigos.com>  
Executive Director ..... Sydney Hoff Hay

Arizona Rock Products Association  
916 West Adams, Phoenix, AZ 85007  
Phone (602) 271-0346, Fax (602) 255-0363  
www.azrockproducts.org  
President ..... Rusty Bowers

Society For Mining, Metallurgy, and Exploration, Inc. - National Headquarters  
P. O. Box 625002, Littleton, CO 80162-5002  
Phone (303) 973-9550, Fax (303) 973-3845  
www.smenet.org  
Executive Director ..... Gary Howell  
Manager Member Services ..... Angie Giles  
Editor - Mining Engineering ..... Tim O'Neil

Additional copies of the *Directory of Active Mines in Arizona 2001-2* may be obtained for \$6.00 (\$8.00 by mail).  
Circulars listing mining related Federal, Arizona, and County agencies, mine permitting information, as well as a complete publication list are available at [www.admmr.state.az.us](http://www.admmr.state.az.us)  
For more information or assistance contact the Department.

Plant Foreman .....Waukene Campbell

**VALLEY ROCK & SAND CO.**  
10700 E. Irvington Road, P.O. Box 18469, Tucson, AZ 85731 - Phone (520) 296-1733 - Employees: 3 - Sand, gravel, and rock products.  
President.....Martin McCann

**VULCAN MATERIALS CO.**  
**WESTERN DIVISION**  
**Corporate Office** - 3200 San Fernando Road, Los Angeles, CA 90065 - Phone (323) 258-2777 - www.vulcanmaterials.com  
**Regional Office**, , Arizona and New Mexico - 1801 E. University Drive, Phoenix, AZ - Phone (602) 254-8465 - Employees: 220 - Sand, gravel, rock products, ready mix concrete, ABC, and asphaltic concrete.  
VP/General Manager .....MarkReardon  
Production Manager..... Rodney Nelson  
Sales/Marketing Manager ..... Dave Hilton  
Permitting Manager .....Carolyn Loder  
**Higley Plant**  
4000 N. Higley Road, Mesa, AZ 85215 - Phone (480) 480-947-1332 - Ready mix concrete and asphaltic concrete.  
RMC Manager ..... Eddie Center  
**Litchfield Plant**  
11923 W. Indian School Road, Litchfield Park, AZ 85340 - Phone (623) 535- 0058 - Sand, gravel, rock products, ABC, and ready mix concrete.  
Manager ..... Tom Clay  
**Mesa Plant**  
1900 N. Longmore, Scottsdale, AZ 85201 (on the Salt River Pima Maricopa Indian Community Reservation) – Phone – 480-947-1332 Ready mix concrete and asphaltic concrete.  
RMC Manager ..... Eddie Center  
**Phoenix Plant**  
1801 E. University Drive, Phoenix, AZ 85034 - Phone (602) 254-8465 - Sand, gravel, rock products, ABC, and asphaltic concrete.  
Manager ..... Robbie Loudon

**Sun City Plant**  
14521 N. 115th Avenue, El Mirage, AZ 85335 – Phone (623) 876-3763 - Sand, gravel, rock products, ABC, ready mix concrete, and asphaltic concrete.  
Manager.....Norm Buckner  
**West 43rd (Phoenix) Plant**  
4830 S. 43rd Avenue, Phoenix, AZ 85041 – (602) 237-9702- Sand, gravel, rock products, and ABC.  
Manager..... Steve Buckner

**W. A. MORRIS SAND, GRAVEL & CONCRETE INC.**  
US Highway 191 South, Safford, AZ 85546 – PO Box 789, Safford, AZ 85548 - Phone (928) 428-1371 - Employees: 40 - Sand, gravel, rock products, ABC, ready mix concrete, and asphaltic concrete.  
Owner ..... Jack Gilbert  
Plant Superintendent .....Rick Claridge  
**Morris Pit #1 T7S R26E Sec. 29**

**WHEELER CONSTRUCTION INC.**  
1310 N. 24th Street, Phoenix, AZ 85008 - Phone (602) 254-3179 - Employees: 25 - Sand, gravel, rock products, and ABC.  
Executive Vice President ..... Bob Johnson  
**Ashfork Pit**  
Located near Ashfork - Operated on as needed basis.  
**Dixileta Pit**  
Located in north Phoenix - Captive production of rock products for construction and rock products marketed by others.

**WILLCOX ROCK & SAND**  
1501 E. Maley, P.O. Box 156, Willcox, AZ 85644 - Phone (520) 384-2181 - Employees: 12 - Sand, gravel, rock products, ABC, and ready mix concrete.  
Owners .....Keith, Robert, and William Gallagher  
**Riggs Pit T14S R26E Sec. 25**

**YAVAPAI APACHE SAND AND ROCK**  
PO Box 249, Camp Verde AZ 86322 - Phone (928) 567-3109 – Employees: 22 – Produces sand and gravel.  
Manager..... Ed Davidson

In April, 2001, a joint venture was announced for BHP’s Magma Porphyry discovery, also called Resolution Copper, that would allow Kennecott to earn a 55 percent interest by spending \$25 million over 6 years. Kennecott began a planned 18-month drilling campaign on the deep but high-grade deposit. The deposit, deeply buried under post-mineral rocks, was first intersected by drill holes from the underground workings of the Magma mine in 1995. The top of the deposit is approximately one mile beneath the surface and the host rocks are reported to have high temperatures similar to or higher than those encountered in the Magma mine.

**San Manuel**  
San Manuel produced 23 million pounds of copper from its in-situ leach operation in the year 2000 and 20.5 million pounds in 2001. San Manuel consists of a block-caving underground copper mine, a 62,000-ton-per-day concentrator, in-situ leach and a 60,000-ton-per-year SX-EW plant.

It was announced in January 2002 that the in-situ operations would close. Underground mining ceased in August 1999. Sadly, the only recently developed Lower Kalamazoo orebody, with its estimated ore reserves of 2.5 billion pounds of contained copper will not be mined.  
BHP's San Manuel smelter is the largest single furnace smelter in the industry at 1,300,000-ton-per-year. There is also a 3,000-ton-per-day acid plant, a 690-million pounds-per-year electrolytic refinery, and an 180,000-ton-per-year rod plant. The smelter was shut down in the spring of 1999 for a \$66 million rebuild and modernization. Improvements included installing a new burner design, new draft fans and waste heat boiler, construction of a 40,000-ton concentrate storage building, and improving the conveyor systems to reduce spillage and airborne contamination. These changes increased the flash smelter volume and, when operating, would result in lower SO<sub>2</sub> emissions. The project was completed but the smelter did not restart due to the mine closure.

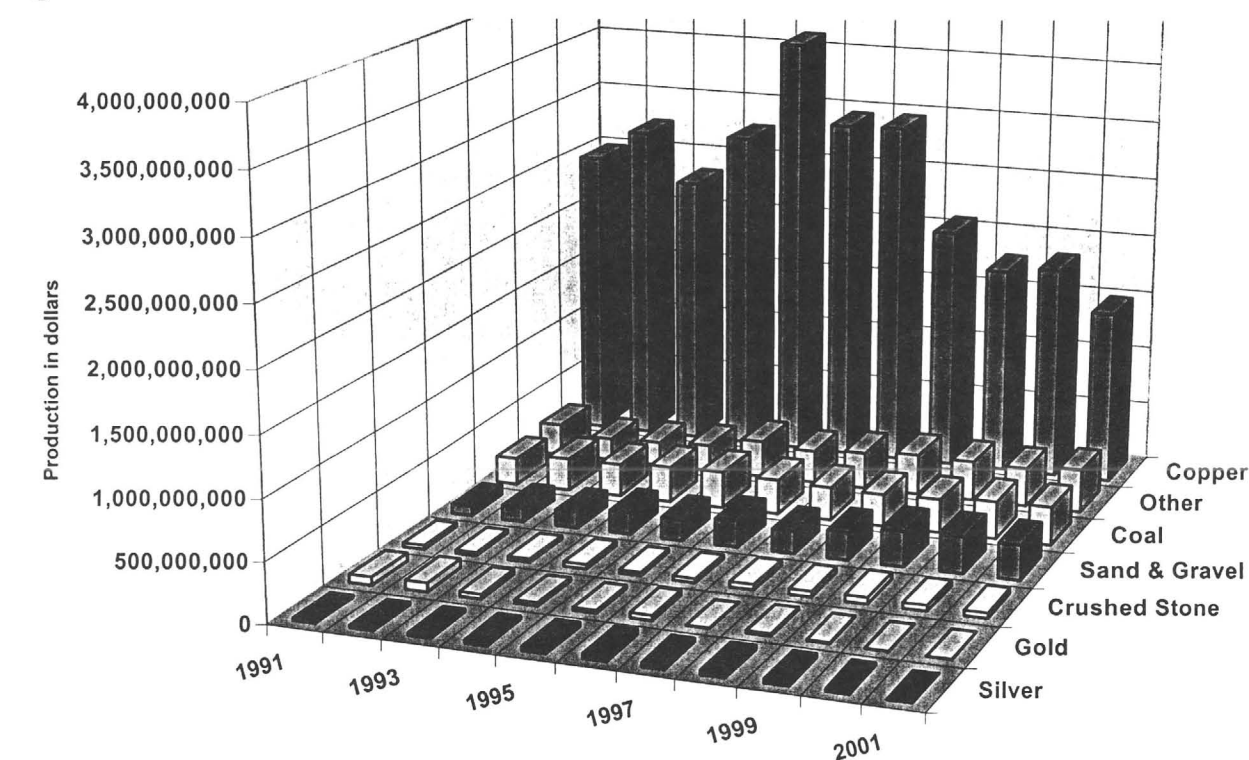
**Table 3. Arizona Copper Production – 1997-2001**  
Cu (million lb.)

Mine, Company	2001	2000	1999	1998	1997
Morenci, Phelps Dodge and Sumitomo	783.2	834	960	1,046	1,084
Ray, Asarco	352.5	304	318	335	304
Sierrita, Cyprus (PD late 2000) <sup>2</sup>	241.8	245	204.5	226	246
Bagdad, Cyprus (PD late 2000) <sup>2</sup>	257.2	247	211.2	215	246
Mission, Asarco	138.9	189	200	255	252
Miami, Cyprus (PD 2000) <sup>2</sup>	88.2	137	124.2	164	156
Silver Bell, Asarco and Mitsui	41.9	40	46	42	19
Pinto Valley, BHP <sup>1</sup>	32.0	38	na	37	157
San Manuel, BHP <sup>1</sup>	20.5	23	na	271	251
Tohono, Cyprus (PD late 2000)	0	0	0	8	27
Mineral Park, Equatorial Mining	3.6	5.0	inc	inc	3
Other	na	na	na	6	2
<b>Total</b>	<b>1,959.8</b>	<b>2,062</b>	<b>~2,300</b>	<b>2,605.4</b>	<b>2,747</b>

Data from company annual reports, form 10-ks, etc.  
na - not available inc. – included with other  
1. June 1, - May 31, annual basis for 1997 and 1998  
2. Production data for Oct. 1-15, 1999 is unreported.



Figure 1 Mineral Production 1991- 2001



Pinto Valley

The Pinto Valley division includes the closed Pinto Valley sulfide mine, and the Miami in-situ leach and Miami No. 2 tailings leach operations. In early 2001 hydraulic mining/leaching of the #2 tailings. was completed. In-situ leaching at Miami continues. Pinto Valley produced 38 million pounds of copper in fiscal year 2000 and 32 million pounds in 2001.

Miami's operations recover copper from in-situ leaching of the old Miami mine block cave area. The resulting pregnant leach solutions are processed through Miami's 20-million-pound-per-year SX-EW plant. The Miami in-situ project contains 172 million tons at an average grade of 0.40 percent copper.

Florence

Florence was sold by BHP to Vanguard Property, a real estate firm doing business as Florence Copper. The 5,500 acres reportedly sold for \$14 million.

Phelps Dodge Corporation

Phelps Dodge is the second largest copper company in the world, trailing only Codelco, the government-owned Chilean company. Phelps Dodge Corporation, headquartered in Phoenix, is the world's largest producer of SX-EW cathode copper. Phelps Dodge is also the world's largest molybdenum producer.

In early 2002, Phelps Dodge moved into its new corporate headquarters in the newly constructed Phelps Dodge building at One North Central in downtown Phoenix. Phelps Dodge will anchor the building, occupying over half the office space.

The company's Morenci mine in Greenlee County is the largest copper mine in North America. Phelps Dodge owns an 85 percent interest in the Morenci mine; Sumitomo Metal Mining Company, Ltd owns the remaining 15 percent. In Arizona, in addition to Morenci, Phelps Dodge controls significant undeveloped copper resources throughout the state, including several deposits near Safford and the New Cornelia mine at Ajo. They also operate Bagdad, Miami, and Sierrita mines, acquired from Cyprus in 1999.

Morenci

Morenci is the fifth largest copper mine in the world and the largest copper mine in North America. It had an annual production of 834 million pounds in 2000 and 783.2 million pounds in 2001.

The Morenci operation consists of the Metcalf and Northwest Extension open-pit copper mines, four dump leaches with four SX plants, and three electrowinning tankhouses. The new Southside EW plant has an annual capacity of 150 million pounds, Morenci is the worlds largest EW plant, with an annual capacity of 370 million pounds, and the newest plant, Stargo, built in 2000, has a 240 million pound capacity. In the late Fall 2000, heavy rains caused an interruption in mining, diluted the leach solutions and resulted in a loss of 20 million pounds in production.

For the first time in nearly 60 years there is no concentrator operating in the Morenci district. The Morenci concentrator closed at the end of February 2001, after having operated continuously since February 1942. A \$220 million construction project, which included

Plant Superintendent .....Jim Shields  
**Plant 112 - Glendale**  
11920 W. Glendale Road, Glendale, AZ 85307 - Phone (623) 935-3562 - Sand, gravel, rock products, ready mix concrete, ABC, and asphaltic concrete.  
Plant Superintendent .....Norris Fish  
**Plant 115 - McKellips**  
Dobson and McKellips, Salt River Pima Maricopa Indian Community, 85256.  
**Plant 117 - Higley**  
Higley and Thomas Rd., Salt River Pima Maricopa Indian Community, 85215 - Ready mix concrete.  
**Plant 118 - Jomax**  
Sand, gravel, and rock.  
Plant Manager .....Mike Dillon  
**Plant 141 - Maricopa**  
Maricopa Road and the Gila River, Gila River Indian community, Maricopa - Phone (602) 220-5540 - Sand, gravel, rock products, ready mix concrete, ABC, and asphaltic concrete.  
Plant Superintendent .....Terry Hudson  
**Plant 142 - Queen Creek**  
Schnepf and Combs, Queen Creek AZ - Sand, gravel, rock, and ready mix concrete.  
Plant Manager .....Seth Powell  
**Plant 143 - Apache Junction**  
2854 W. Baseline Rd., Apache Junction, AZ - Ready mix concrete.  
**Plant 148 - Sacaton**  
Highway 93, 1 mile north of Casa Blanca Road, Gila River Indian community - Sacaton, AZ 85247 - (602) 262-1453 - Sand, gravel, rock products, ready mix concrete, and ABC.  
Plant Superintendent .....Terry Hudson  
**Plant 333 - Flagstaff**  
5200 E. Railroad Avenue, Flagstaff, AZ 86004 - Phone (928) 526-5250 - Fax (928) 526-0597 - Plant site - Material shipped in from various company pits - Ready mix, asphaltic concrete.  
Northern Arizona Area Manager .....Marcene Turner  
**Plant 335 - Hill Pit (closed)**  
Hwy. 89, 12 miles north of Flagstaff - Sand and gravel pit - Portable crushing and screening plant.  
**Plant 336 - McCormick Pit**  
Highway 89 and Sunset Crater - Phone (928) 526-5250- Sand and gravel pit - Portable crushing and screening plant - Operated on a seasonal basis.  
**Plant 447 - Coolidge**  
Highway 287 and Attaway Road, Coolidge, AZ - (520) 220-5454 - Sand, gravel, rock products, ready mix concrete, and ABC.  
Plant Superintendent .....Don Williams  
**Plant 449 - Casa Grande**  
2305 S. Rooftile Rd., Casa Grande, AZ 85222 - Phone (520) 836- 8705 - Sand, gravel, rock products, ready mix concrete, ABC, and asphaltic concrete.  
Plant Superintendent .....Will Wadkins

**Plant 546 - Winkelman**  
10 miles south of Winkelman on SR 77 - Post 126, Winkelman, AZ - Phone (928) 357-7002.  
**Plant 601 - Globe**  
Bixby Rd.- P.O. Box 3100, Globe, AZ 85502 - Phone (928) 425-5775 - Fax (928) 487-1117 - Sand, gravel, rock products, ready mix concrete, ABC, asphaltic concrete.  
Plant Supervisor .....Wes Bryant  
**Plant 640 - Mammoth (inactive)**  
104 Main Street, Mammoth, AZ 85618, - Phone (520) 487-2232 - Fax (520) 487-1117  
**Plant 701 - Show Low R/M**  
1250 N. Penrod Rd., Show Low, AZ 85901 - Phone (928) 537-5716 or (800) 442-2252- Fax (928) 537-3930  
Plant Manager .....Eddie Hall  
**Northeastern Arizona Plants (ready mix concrete)**  
Plants Manager .....Brian Brimhall  
**Plant 702 - Heber**  
1801 S. Hwy. 260, Heber, AZ 85928 - Phone (928) 535-3512 -Fax (928) 535-3957  
**Plant 772 - Holbrook**  
South Hwy 77, Holbrook, AZ 86025 - Phone (928) 524-3794 - Fax (928) 524-2303  
**Plant 773 - Snowflake**  
850 N. Main, Snowflake, AZ 85937 - Phone (928) 536-5506 - Fax (928) 536-7183  
**Plant 774 - Winslow**  
S. Airport Hwy 87, Winslow, AZ 86047 - Phone (928) 587-4260 - Fax (928)-289-3797  
**Plant 775 - Chinle**  
Plateau Materials Yard, Chinle, AZ 86503 - Phone (928) 674-3663  
**Plant 776 - Greasewood**  
50 mi. N. of Sunvalley on Hwy 87, Greasewood, AZ 86029 - Phone (800) 442-2249  
**Plant 777 - Joseph City**  
Exit 277 on I-40, Joseph City, AZ 86032 - Phone (800) 442-2250  
**Plant 778 - Kinlichee**  
E. of Ganado on 264 - Navajo Reservation -Kinlichee, AZ 86034 - Phone (800) 442-2251  
**Plant 782 - Bidahochie**  
Phone (800) 442-2252  
**Plant 785 - Springerville**  
Phone (800) 442-2252  
**Plant 790 - St.. Micheals's/Window Rock**  
Phone (800) 442-2252  
**Plant 791 - Quality**  
Joseph City, AZ- Phone(928) 288-3461-  
**Plant 792 - Kayenta**  
Phone - (800) 442-2252  
**Plant 793 - Cowsprings**  
Phone (800) 442-2252  
**Plant 881 - Fort Mohave**  
1101 Aztec Rd., Fort Mohave, AZ 86427 Phone (928) 330-3330 - Fax (928) 330-3332 - Aggregate and ready mix concrete.

7th Avenue and Alameda (½ miles south of Happy Valley Road) - Sand, gravel, mortar and golf coarse sand, pipe bedding backfill, and ABC.

**SUPERIOR MATERIALS OF UNITED METRO Plant 550 - Prescott R/M**

26 Kiji Dava Drive, Prescott, Az 86301 - Phone (928) 443-9207 - Fax (928)-541-0633 – Ready mix concrete. Plant Manager .....Farron Bently

**Plant 551 - Prescott Asphalt**

5899 Wilkinson Drive, Yavapai Materials, AZ 86301 - (928) 899-0216 - Ready mix concrete.

Plant Manager .....Farron Bently

**Plant 552 - Paulden**

Dispatch Phone (928) 636-4173– Ready mix concrete.

**Plant 555 - Camp Verde**

Phone (928) 567-2244 - Fax (928) 567-0245

**Plant 556 - Cherry Pit**

3600 Old Hwy 279, Camp Verde, AZ 86322 - Phone (928) 567-2244 – (800) 649-6413 -Employees: 40 - Sand, gravel, rock, and ready mix.

Area Manager..... George Davis

**SUPERSTITION CRUSHING LLC.**

26 W. 1st Avenue, Mesa, AZ 85210 - Phone (480) 962-5326.

Owner.....Johnny Weik  
Owner/Manager ..... Myron Jones

Employees: 58 – Also provides contract crushing for sand and gravel producers and builders including:, Cemex, Pulte Construction, Rock Solid, Vulcan’s Calmat Division, etc.

**Hassayampa River Pit (339th Avenue)**

**Black Canyon City**

**59th and Southern**

**THE TANNER COMPANIES (Yuma)**

2088 E. 20th Street, P.O. Box 1449, Yuma, AZ 85366 - Phone (928) 343-4100 - Fax (928) 343-4190 - Employees: 200.

President ..... Gerald Janney

**Plant 801 – Hwy 95**

13 miles east of Yuma on S.R. 95 at mile marker 37.5 - Phone (928) 343-4180 - Sand, gravel, and asphaltic concrete.

Plant Foreman .....Richard Arviso

**Plant 811 - Yuma**

Southwest intersection Avenue 3E and County 19 east of Yuma, 2500 S. Industry Ave., Phone (928) 341-4150 - Sand, gravel, rock products, ABC, and ready mix concrete.

Plant Manager ..... D.J. Shiplet

**Plant 486 - Lake Havasu City**

1785 Kiowa Blvd. Lake Havasu City, AZ 86403 - Phone (928) 855-7210 - Fax (928) 855-0506 - Plant Phone (928) 764-3277 - Aggregate, ready mix concrete, and asphaltic concrete.

Plant Foreman ..... George Davis

**TUCSON READY MIX**

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 - Three operations in the Tucson area - Sand, gravel, rock products, ready mix concrete, ABC, and asphaltic concrete.

President .....Charles O. Wallace

Sales Manager .....Chris Stolpt

Operations Manager .....Mike Smith

**TWIN PEAKS ROCK AND STONE**

P.O. Box 803, Rillito, AZ 85654 - Phone (520) 682-7058 - Employees: 2 - Gravel, rock products, and ABC - Operates at Arizona Portland Cement's Twin Peaks Limestone Quarry.

**UNITED METRO MATERIALS, INC.**

701 N. 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..... Dan Speck

Executive Vice President .....John Fowler

Vice President Sales..... Bill Heeter

Vice President Operations..... Gary Nielson

Chief Engineer ..... Bill Peck

Director Safety & Labor Relations..... David Chavez

**Plant 101 - Central Avenue**

2800 S. Central Ave., Phoenix, AZ 85066 - Phone (602) 243-7080 or (602) 220-5000 - Sand, gravel, rock products, ready mix concrete, ABC, and asphaltic concrete.

Plant Superintendent ..... Jim Shields

**Plant 102 Beeline Mesa**

2830 North Beeline, Mesa, AZ 85256 - Phone (480) 990-0844 - Sand, gravel, rock products, ready mix concrete, ABC, and asphaltic concrete.

Plant Superintendent ..... Russ Hampton

**Plant 106 - El Mirage Plant**

8507 N. El Mirage Road, El Mirage, AZ 85335 - Phone (623) 935-2653 - Sand, gravel, rock products, ready mix concrete, ABC, and asphaltic concrete.

Plant Manager .....Norris Fish

**Plant 107 – 7th Street**

7th Street and Beardsley, Phoenix, AZ 85024 – Ready mix concrete.

Plant Manager ..... Mike Dillon

**Plant 108 - Sun City**

115th Avenue and Beardsley, Sun City, AZ 85382 – Ready mix concrete.

Plant Manager .....Norris Fish

**Plant 110 - Buckeye**

11000 S. Miller Rd.  
Plant Manager .....Norris Fish

**Plant 111 - 19th Avenue**

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

crusher modifications, mobile conveyors, stackers, and leach and SX-EW facilities, was completed in March 2001 allowing Morenci to convert to an all-leach operation. Morenci is the world’s largest producer of copper cathode from SX-EW.

A major drilling program during 2000 delineated deposits north of the Morenci mine. Garfield contains a resource of 1,750 million tons grading 0.27 percent copper.

Morenci's milling reserves totaled over 128.7 million tons grading 0.41 percent copper, while crushed leach reserves totaled over 468.8 million tons of 0.60 percent copper and dump leach reserves 2,853 million tons of 0.22 percent copper at the end of 2001.

**Sierrita**

Sierrita produced 245 million pounds of copper in 2000 and 241.8 million pounds in 2001 and is the largest molybdenum producer in the state.

The Sierrita property consists of an open-pit copper-molybdenum mine, a 115,000-ton-per-day concentrator, two molybdenum roasting plants, a ferromolybdenum plant, a rhenium plant, and an oxide and low grade sulfide dump leaching operation with SX-EW plant. At the end of 2001 Phelps Dodge reported Sierrita contains sulfide reserves of 1.052 million tons grading 0.27 and leach reserves of 62.5 million tons grading 0.19 percent copper.

After dispelling closure rumors in the spring by announcing plans to invest \$13 million to improve the mine and mill at Sierrita, in January 2001 Phelps Dodge announced it might be forced to lay off 740 workers. A cutback of 50 percent was announced in November of 2001, effective January 2002. High-energy prices and energy disruptions due to the California electric crisis along with low molybdenum prices, in addition to low copper prices, are to blame.

**Bagdad**

The Bagdad mine in Yavapai County produced 247 million pounds of copper in 2000 and 257.2 million pounds in 2001. A cutback of 50 percent was announced in November of 2001, effective January 2002.

Phelps Dodge reported at the end of 2001 that Bagdad had a 884.9 million ton sulfide reserve of 0.36 percent copper, as well as 17.7 million tons of leach material of 0.29 percent copper.

Phelps Dodge also announced it would begin construction of a \$40 million copper concentrate leaching demonstration plant at the Bagdad Mine in the second

**Table 4. Value of nonfuel mineral production per capita and per square kilometer in 2000**

	Arizona	US Total or Average
<b>Total Value (thousands)</b>	2,510,000	39,400,000
<b>Population (thousands)</b>	5,310	284,000
<b>Per capita \$ (ranking)</b>	474 (6th)	139
<b>Area (sq. kilometers)</b>	295,000	9,370,000
<b>Per sq. kilometer \$ (ranking)</b>	745 (11th)	4,200

quarter of 2002. The plant is designed to recover commercial-grade cathode copper from chalcopyrite concentrates. The facility will be the first of its kind in the Western Hemisphere.

When completed in mid-2003 the plant will process 150 tons per day of concentrate produced by the existing mill and flotation operation. At full capacity it is expected to produce 35 million pounds of copper cathode from concentrate annually, accounting for approximately 15 percent of Bagdad’s total copper production capacity. If successful it could eliminate the need for smelting, with attendant economic savings.

**Miami**

The Miami operation consists of an open-pit copper mine, an SX-EW plant, a 650,000-ton-per-year capacity smelter with acid plant, a 380-million-pound annual capacity electrolytic refinery, and a 135,000-ton-per-year rod plant. Miami produced 137 million pounds of copper in 2000 and 88.2 million pounds in 2001. At the end of 2001 Phelps Dodge reported leach reserves for Miami of 117.6 million tons grading 0.38 percent.

Phelps Dodge announced a mine and refinery closure effective January 2002, but with smelting of concentrates from Bagdad and Sierrita continuing.

**Table 5. US and Arizona Copper Production and Prices**

Year	US (metric ton)	Arizona (metric ton)	Arizona (billion lbs)	Change	Price cents/lb	Change
1998	1,860,000	1,190,000	2.600		78.6	
1999	1,600,000	1,050,000	2.314	-11%	75.9	-3.4%
2000	1,440,000	963,000	2.123	-8%	88.1	16.1%
2001 <sup>p</sup>	1,340,000	888,000	1.945	-8%	77.0	-12.6%

p) preliminary from USGS



Safford

The final EIS for Phelps Dodge’s Safford leach project (San Juan and Lone Star deposits) was not published by the BLM in 2001. Although there had been hope that the change in administrations would speed the permitting, it was reported to be on regulatory hold while the BIA studies models of water flows beneath the nearby San Carlos Indian reservation. The planned open pit heap leach operation would produce 250 million pounds of copper per year by SX-EW.

Other Copper Companies

Equatorial Mining Limited’s Mineral Park mine in Mohave County produced 5.0 million pounds of cathode copper in 2000 and 3.6 million in 2001. The sale of Mineral Park to Mercator Minerals awaits financing.

The Carlota leach project remains on hold, waiting for copper prices to improve. Cambior estimates it would take \$100 million to develop the mine and plant that could produce 70 million pounds of cathode copper at costs below \$.50 per pound.

The property consists of four oxide ore bodies, Carlota, Cactus, and North and South Eder with reserves that total 96 million tons grading 0.44 percent copper.

AMT’s Copper Creek project was halted due to lack of funding for drilling and development.

Nord Resources of Albuquerque acquired Johnson Camp mine in Cochise County from Summo Metals in the spring of 1999. The mine, currently on care and maintenance, continues to produce a small amount of copper annually by SX-EW from existing heap leaches. With a rise in copper prices the mine is expected to re-open with a production of cathode copper of 18 million pounds per year.

COAL

Peabody Group, parent company of Arizona's Peabody Western Coal Company is the world's largest private sector coal company. Coal ranks second only to copper in economic importance in the State. In 2000, Arizona’s coal production was 13.1 million short tons and 13.4 million in 2001.. The Kayenta mine ranked as the 18th largest coal mine in the country with a production of 8.45 million tons. All production is from 64,858 acres of land leased from the Navajo Nation and Hopi Tribe by Peabody. The direct economic annual benefit to the reservation communities in the year ending March 1999, was more than \$100 million. These results included royalties, wages, benefits, and charitable contributions. The 30-year economic benefit totaled over \$1.8 billion by 1999.

In 2000, the latest year for which figures are available, Arizona coal reserves were at 102 million tons.

In 2001, the Kayenta mine operated more than 1 million employee hours without any accident causing an employee to miss work. In the same year Peabody Group was named ‘best coal company’ by an international panel of judges. Coal companies were judged on safety,

environmental concern, productivity, market/technology innovation and financial record.

High-quality, low-sulfur coal is strip mined from the Kayenta and Black Mesa mines in central Navajo County. The coal is sub-bituminous with an average quality of 11,000 Btu, 0.5 percent sulfur, and 10 percent ash. 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.

Kayenta Mine's coal is carried by a conveyor system 17 miles to storage silos. Electric-powered unit trains of the Black Mesa & Lake Powell Railroad next transport it 78 miles to Salt River Project’s Navajo Generating Plant at Page. At Black Mesa 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.

Table 6. Arizona Coal Production

Mine	Rank in US 1999	Tons 1999	Rank in US 2000	Tons 2000
Black Mesa	46	4,483,260	43	4,625,345
Kayenta	21	7,251,024	18	8,485,952

Peabody's operations on 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. More than 10,000 acres have been reclaimed, with the land put back to hardy range that is least 10 times more productive than before mining.

GOLD

Prices below \$300 per ounce have discouraged most exploration and production activities with one major exception. In the fall of 2000, American Bonanza Gold Mining Corp. began an underground development project at Copperstone in La Paz County to provide drill sites and possible extraction of a 50,000-ton bulk sample. The operation, a joint venture with the contractor Centennial Development’s parent BLM Services Group, included a 2,000 ft. decline from the lower level of open pit.

INDUSTRIAL MINERALS

The economic importance of industrial minerals continues to grow. In 1999 Arizona industrial mineral production was \$548 million, only 19 percent of the state’s total mine production. By 2001 the value of industrial mineral production had increased to \$693 million, or 27 percent of the state’s total. This diversified sector’s leading products are construction minerals; sand and gravel, cement, dimension stone, and crushed rock.

REIDHEAD SAND & ROCK, INC.

2095 Paper Mill Rd., P.O. Box 7, Taylor, AZ 85939 - Phone (928) 536-4519 - Employees: 35 - Sand, gravel, and ready mix concrete. - Quarry located 2 miles west of State highway 77 on Paper Mill Road.  
Manager..... Jack Zellner  
Taylor Pit

ROCKLAND MATERIALS

Corporate Office  
3636 S. 43rd Avenue, Phoenix, AZ 85009 – Phone (602) 278-4444 – Fax (602) 278-7778 – Employees: 210  
Chief Executive Officer ..... Grant Goodman  
Chief Operating Officer .....Clifford Ayres  
President.....Jay Powell  
General Counsel..... Robert Porter  
Main Plant #1  
3636 S. 43rd Avenue, Phoenix, AZ 85009 – Phone (602) 278-4444 – Fax (602) 278-7778 – Produces aggregate products from the Salt River - ABC, sized and crushed aggregates, ready mix concrete, and rip-rap.  
Plant Manager .....Jay Powell  
Quality Control Manager .....Martine Satgado  
Transportation Manager..... Steve Clark  
Salt River Pit

Buckeye – State Route 85 – Plant #4  
12820 S. Rooks Road, Buckeye, AZ 85326 - Phone (623) 3271330 – Fax (623) 327-1325 - Produces aggregate products from the Gila River - ABC, sized and crushed aggregates, and ready mix concrete.  
Plant Manager ..... Wade Kelton  
Gila River Pit  
Chino Valley Plant #5  
4455 E. Perkinsville Road, Chino Valley, AZ 85323 – Phone (928) 636-9226 - Fax (928) 636-9255 - Produces aggregate products from the Gila River - ABC, sized and crushed aggregates, and ready mix concrete.  
Plant Manager ..... Wayne Bender  
Perkins Pit

SALT RIVER SAND & ROCK

Dobson Road and McKellips Road, P.O. Box 728, Mesa, AZ 85211 - Phone (480) 990-1987 – Fax (480) 941-7159 - Employees: 350 - Sand and gravel - Second largest sand and gravel mine in the United States.  
Owner..... Salt River Pima Maricopa Indian Community  
Manager ..... Wayne Hills  
Sales Manager.....Denny Willcox  
Plant Manager .....  
Dobson Pit  
Higley Pit  
Beeline Pit  
Sun City Pit  
Glendale Pit

SAND SPECIALTIES, INC.

(Division of Aggregate Products, Inc.)  
5570 N. Bush Highway, Mesa, AZ 85205 - Phone (480) 832-2120 - Employees: 3 - Screens dredged materials

from Granite Reef Dam to produce minus 1/16 golf course sand, minus 1/8 masonry sand, and natural river rock.  
Manager..... Robert Odle  
Granite Reef Dam Sand

SAN XAVIER ROCK & MATERIALS

Business Office - 3895 N. Business Center Dr., Suite 115, Tucson, AZ 85705, P.O. Box 551, Cortaro, AZ 85652 - Phone (520) 293-6833 – Fax (520) 293-6837 - Employees: 180.  
President and Division Manager .....Tori Robinson  
V.P. Sales & Marketing.....Scott Clark  
Plant 221 - Valencia  
1011 W. Valencia Road, Tucson, AZ 85747 – Phone (520) 746-1003 – Fax (520) 746-1119 - Sand, gravel, ABC, ready mix concrete, and asphaltic concrete.  
Plant 222 – Poorman Road  
6500 S. Spanish Trail, Tucson AZ 85747 – Phone (520) 647-0106 – Ready mix concrete.  
Plant 223 - Cortaro  
6200 W. Cortaro Farms Road, Marana, AZ 85654 – Phone (520) 572-5728 – Fax 520-744-6634 -Sand, gravel, ABC, ready mix concrete, and asphaltic concrete.  
Tucson Plants Manager ..... Bill Holland  
Plant 225 - Green Valley  
18001 S. Old Nogales Highway, Green Valley, AZ 85614 - Phone (520) 625-5889 Fax (520) 648-1086.  
Plant Manager .....Mark Kincade  
Plant 228 - Nogales  
91 W. Ruby Road, Nogales, AZ 85621 - Phone (520) 281-9669 Fax (520) 281-1656 - Sand, gravel, ABC, and ready mix concrete.  
Plant Superintendent .....Mark Kincade

SMITH AND BELL CONSTRUCTION  
Smith & Bell Concrete and Materials

1711 N. 8th Avenue, Safford, AZ 85546 - Phone (928) 428-4747 - Employees: 14 - Sand, gravel, ABC, rock products, and ready mix concrete.  
Owner..... Ivan Smith and Robert Bell  
Manger ..... Brian Smith  
Graham Pit

SUN STATE ROCK & MATERIAL CORP.

P.O. Box 1340, Sun City, AZ 85372 - Phone (623) 566-3000 - Employees: 65 - Sand, gravel, ABC, and rock products.  
Owner ..... Dolores Walker  
Owner/Production Manager ..... Larry Walker  
Plant #1  
115th Avenue and Beardsley – Sand, gravel, mortar and golf coarse sand, specialty washed blends, ABC, rip-rap, leach rock, and 57-rock.  
Plant #3  
20th Avenue 2 blocks south of Beardsley - Sand, gravel, specialty washed blends, and ABC  
Plant #6 T1N R3E Sec. 27



**HUACHUCA CONCRETE, INC.**

Office; 423 S. Schrader Rd., Sierra Vista, AZ 85635; plant, 293 W. Rail Road Drive, Huachuca City, AZ 85616 - Phone (520) 456-1600 - Employees: 20 - Sand, gravel, aggregate products, ABC, leach rock, rip rap, and ready mix concrete.  
General Manager..... Kevin Thompson  
**Huachuca Concrete Pit**

**JIM BUSH SAND & GRAVEL**

1015 N. Cameron, Ajo, AZ 85321 - Phone (520) 387-6250 - Employees: 3 - Operates portable screen to produce sand, gravel, and landscaping material.  
President.....Patti Bush  
Consultant ..... Jim Bush  
Safety Supervisor..... Roy Chaney

**L. A. DOWNEY & SONS INC.**

11600 E. Poorman Rd., Tucson, AZ 85747 - Phone (520) 886-2315 - Employees: 9 - Washed, uncrushed sand and gravel.  
President.....Dennis C. Downey  
Vice President/Manager..... Darrell Downey  
Secretary/Treasurer.....David Downey  
Office Manager ..... Doris DeSmit  
**Downey Sand and Gravel Pit T15S R16E Sec. 7**

**LINDEN PEARCE CONSTRUCTION, INC.**

1020 Pearce Road, Show Low, AZ 85901 - Phone (928) 537-7454 - Employees: 28 - Rock, sand, cinders, ready mix concrete, and asphaltic concrete.  
Owner/President.....Joy T. Pearce, Jr.  
Owner .....Lavar Merrill  
Secretary ..... Kim Pearce  
**Cinder Pit**  
**Aggregate Pit**

**MADDUX & SONS, INC.**

4000 N. Leslie Canyon Road, Douglas, AZ 85607, P.O. Box 1077, Douglas, AZ 85608 - Phone (520) 364-7564 - Employees: 35 - Sand, gravel, ready mix, and rock products.  
President..... Leonard Maddux  
Office Manager ..... Toni Vance  
Sales and Orders ..... Roxy Maddux  
**Highway 80 Pit T24SR26E**  
**Highway 191 Pit T24SR27E Sec. 3**

**MCCORMICK CONSTRUCTION**

1941 Richardo Ave., P.O. Box 545, Bullhead City, AZ 86430 - Phone (928) 763-2272 - Employees: 38 - Sand, gravel, rock products, and asphaltic concrete.  
President.....Scott Merrill  
Office Manager .....Sharon Hartman  
**Rio Lomis #3 T19N R21W, Sec.7**

**MESA MATERIALS, INC.**

3410 N. Higley Road, P.O. Box 20040, Mesa, AZ 85277 - Phone (480) 830-1521 - Fax (480) 981-9255  
Employees: 60 - Sand, gravel, and asphaltic concrete.

Owner.....Edward C. Levy  
Vice President ..... Wayne Stamper  
Office Manager ..... Bruce Erickson  
Operations Manager, West Side.....Ron Ernst  
Safety Manager .....Frank Vallie  
**Sun Plant (Plant 2) T1N R7E Sec. 20**  
**Jack Rabbit Plant (Plant 3) T1S R2W Sec. 5**

**METRO MATERIALS CO.**

5231 E. Buffalo Soldier Road, P.O. Box 52140, Sierra Vista, AZ 85635 - Phone (520) 378-2321 - Employees: 55 - Sand, gravel, and ready mix concrete.  
**Plant 229 - Sierra Vista**  
General Manager..... Tim Dillahunt

**PADILLA SAND, GRAVEL, & REDI MIX**

409 Camino Ramanote, Rio Rico, AZ 85648 - Phone (520) 761-4998 - Fax (520) 761-8336 - Employees: 10 - Sand, gravel, and ready mix concrete.  
Owner.....Manuel Padilla  
**Agua Pit and Plant**

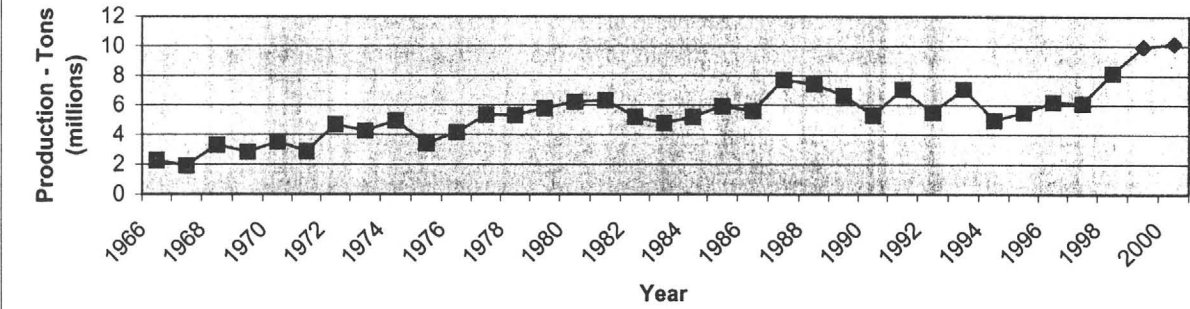
**PAYSON CONCRETE & MATERIALS, INC.**

1900 E. Hwy. 260, Payson, AZ 85541 - Phone (520) 474-2231 - Fax (928) 474-0956 Employees: 40 - Aggregate, sand, gravel, rock products, ready mix concrete, and asphaltic concrete.  
Plant Manager .....George Randall  
Plant Manager .....John Chillson  
Asphalt Plant Manager ..... Fred Randall  
Asphalt Plant Manager .....Clayton Randoll  
Sales Representative..... Tim Hughes  
**Old Tonto Pit**  
**Payson Plant**  
**Tonto Basin Plant**

**PIONEER SAND COMPANY**

1801 S. Extension, Suite 130, Mesa, AZ 85210 - Phone (480) 926-8200 - Fax (480) 668-8929 - Employees: 125. - <http://www.pioneersand.com/>  
Produces sand, natural river rock, crushed rock, Grande Rose decorative rock and boulders, plaster and mortar sand, and golf course sand from numerous pits and quarries in central Arizona.  
Owner..... Gary Schnurr  
Superintendent ..... Dave Sawyers  
Office Manager ..... Tammie MixDorf  
**San Tan Quarry**  
26401 S. Gary Road, Queen Creek, AZ - Phone (480) 888-8985 -  
**Casa Grande Quarry**  
Grande Rose decorative crushed rock and landscape boulders.  
**Picacho Quarry**  
Located near Picacho Peak south of Casa Grande - Produces Picacho Pink crushed decorative rock.  
**Navajo Quarry**  
Located near Morristown - Produces Navajo crushed landscape rock.

**Table 7. Arizona Crushed Stone Production**



**Sand and Gravel**

Rinker Materials Corporation has acquired Kiewit Materials Company, the 16th largest aggregates producer in the US. Kiewit operated in Arizona as United Metro Material, Inc. and will continue to use that name. This transaction continues the consolidation trend in the aggregate industry of the last decade. Including the Kiewit Materials operations, Rinker will be the fifth largest aggregates producer in the U.S.

In January 2001, Rockland Materials switched its entire fleet of ready mixed concrete trucks and mobile aggregate equipment to 100 percent soy-based (B100) biofuel. Operating about 120 heavy-duty diesel units, Rockland Materials is the only Arizona company to make a complete switch to biofuel. It also represents the largest commercial fleet in the United States to make the conversion. According to owner Grant Goodman, Rockland Materials will spend about \$300,000 more to run its fleet with a fuel consumption rate estimated at about 1.2 million gallons a year.

Vulcan Materials opened two new plants near Sun City, a hot asphalt plant and an aggregate processing facility costing \$7.5 million.

**Cement**

In 2000 Phoenix Cement announced plans for a \$105 million modernization of the Clarkdale cement plant. The upgrades include a new high-efficiency vertical roller mill, a low NOX kiln system for clinker manufacture, and an increased capacity of 400 tons-per-day.

The expansion project at the Phoenix Cement plant at Clarkdale will be completed before the end of 2002. Expanded capacity at the plant will be 1,100,000 tons of cement per year. The majority of the kiln fuel is coal from the National King Mine near Hesperous, Colorado.

Stirling Bridge Cement Company is continuing with their proposed 350,000 ton per year Portland cement plant at Drake north of Prescott. Current expectations are for the plant to be operational in January 2004 The proposed \$80 million cement plant is to be built on private land the company has acquired at Drake. Projected full-time employment will be between 75 and 100. Maxi-

mum employment during construction will be about 220. The plant will produce Type 1/2 Portland cement. Limestone for the plant will be produced at the at the previously quarried Cedar Glade limestone quarry. The proposed quarry lies within the Prescott National Forest

Activity at the quarry and plant site began in October 2000 with the location of mining claims and the purchase of private land for a plant site. The limestone deposit was drilled in the summer of 2001 and sufficient reserves were proven to supply 550,000 tons of limestone per year for the projected 70-year life of the cement plant.

Rockland Materials, a Phoenix area sand and gravel and ready mix concrete producer, would likely consume a large portion of the cement production as the two companies have a common owner.

**Evaporates**

Copper Eagle Gas Storage LLC, an affiliate of Pinnacle West (APS's parent), conducted drilling on the Luke Salt deposit west of Phoenix to investigate a possible gas storage facility.

Aquila, a subsidiary of UtilCorp United purchased a 36,000-acre ranch covering a portion of the Red Lake evaporite basin in Mohave County north of Kingman It plans to build a 12 billion cu ft gas storage facility that would connect to El Paso and Transwestern gas pipelines.

U.S. Borax conducted exploration for evaporites in the Verde Valley. In the same area drilling by Arizona Department of Transportation recently identified a lens of thenardite in the Camp Verde formation near the AZ 260 and I-17 interchange.

**Clay**

Common clays are mined to manufacture tile, pipe, and bricks and to provide an aluminum source for the manufacture of cement. Bentonite is mined for out-of-state processing into desiccants and for bleaching and clarifying of edible oils.

**Crushed Stone**

Stone is quarried and crushed for aggregates, rip rap, and landscaping. Decomposed granite is used for landscaping.

*The Crushed Stone Industry Grows Up, A History of Mineral Trespass on Public Lands in Central Arizona*, by Scott Donaldson, a Phoenix mining attorney, has been released by the Department as Open-File Report 02-18. The report is a discussion of the details of specific cases involved in the fascinating and lengthy litigation battles between the BLM and the crushed stone producers in Maricopa County.

**Dimension Stone**

Silver Arrow Stone Company is a new dimension stone company located in Fredonia. The principals, Roger Smith, President and Larry Casebolt, Vice President, were formerly with Arizona uranium mining operations for Energy Fuels. Their stone yard and plant are located at the former IUC site in Fredonia. Silver Arrow is quarrying building stone from sedimentary rock deposits at various locations on the Arizona Strip.

Other additions to the dimension stone producers include: Mortimer Stone, Hammond Wholesale Stone, Horner Stone, Howard Grey Stone, and Stone World. Seventeen dimension stone producers are listed in the directory. Sandstone cut and split into flagstone is the predominate product of these mining operations.

It is estimated that Arizona's sandstone-flagstone industry's annual production is 380,000 tons per year with an estimated mine value of \$51,400,000. Official production data is very limited. The seventeen dimension stone producers listed in this director employ 690 workers.

**Gypsum**

Arizona's expanding cement production caused a corresponding increase at the gypsum mines that supply the retarder mineral to the cement companies. Both United Metro Materials' Winkleman Gypsum mine and Phoenix Cement's Verde Gypsum mine are expanding to fill the almost-doubled demand for gypsum. United Metro supplies gypsum to the Arizona Cement Company plant at Rillito and Verde Gypsum supplies its parent company's cement plant at Clarkdale.

Western Gypsum was acquired by the James Hardie Industries in 2000 and renamed Western Mining and Minerals. James Hardie Industries was one of the large manufacturers of gypsum wallboard makers in the USA. In the first quarter of 2002 British Plaster Board (BPB), the world's largest manufacturer of gypsum wallboard bought the three wallboard plants owned by James Hardie Industries and their Western Mining and Minerals gypsum mine near Littlefield Arizona south of St. George, Utah.

Current gypsum production at Western Mining and Minerals is reported to be 700,000 tons per year. This is more than the current combined total of the Arizona's other five producers. Western Mining and Minerals reports plans to double capacity to 1,400,000 tons per

year by the end of 2004. Essentially 100 percent of Western's production is consumed outside of Arizona. Gypsum wallboard manufacture and Portland cement production in the Las Vegas area are the major consuming markets.

**Pumice**

Pumice is used for lightweight aggregate. More than 15 years of mining pumice came to an end on March 1, 2001, when Phoenix based Arizona Tufflite accepted a \$1 million payment from the federal government to quit fighting for approval for a new plan of operations from the Forest Service and shut down its small open-pit White Vulcan Mine 12 miles of Flagstaff. The sell-out and agreement to stop mining was the culmination of years of environmental group activists' efforts to get Native Americans to stop mining in the region. The San Francisco Peaks, 14 miles to the northwest are considered a sacred site by some members of Indian Tribes. The buy-out included provisions for reclamation and 10 years of shipping from pumice stockpiles at the mine site.

**Other Industrial Minerals**

These minerals are a diverse group and include limestone and marble, cinders, smelter slag, zeolites, crushed stone, decomposed granite, boulders, perlite, gypsum, silica flux, hematite, sandstone, dimension stone, industrial sand, and mine tailings.

Calcium carbonate is mined as limestone and marble for mineral filler and as raw material for lime and cement plants. The zeolite minerals, chabazite and mor-denite, are mined for processing into molecular sieves and for waste treatment. Salt is crystallized by solar evaporation from brines produced by solution mining for use in food processing, livestock feed, and chemicals. Perlite is mined for processing into filter media, fillers, and carriers. Quartz and quartzite is mined for use as silica flux in copper concentrate smelting. Industrial sand is produced for use as hydrafrac sand used in petroleum production. Mill tailings from a closed zinc mine are processed into fertilizer. This enables the tailings to provide iron, sulfur and other trace elements, along with added nitrogen, to be used by plants.

**GEMSTONES**

Arizona is the leading state in the value of mined gemstones in the United States. Approximately \$4 million worth of commercial gemstone production is reported for Arizona annually. Rockhound hobby production is purported to add over \$2 million in value that is not included in official reports. Turquoise, peridot, and petrified wood account for most of the value, with amethyst, chrysocolla, azurite, 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 Native American jewelry. Contractors at a few of Arizona porphyry copper deposits mine

Senior V.P. .... Matt Gully  
**New River Pit** T6N R2E Sec. 24  
One half mile west of Interstate 17 and Anthem Way interchange - Phone (623) 465-4741 – Employees-27 - Sand and gravel.  
Site Superintendent ..... Ken Quartermain

**FT. MCDOWELL SAND & GRAVEL CO.**  
13106 N. Hiawatha Hood Road, Ft. McDowell, AZ 85264 - Phone (480) 837-2358 Fax (480) 836-7170 - Employees: 100  
Acting General Manager .....Steven Pattea  
**Plant 3 – Granite Pit**  
17600 E. Yavapai Coral Road, Ft. McDowell, AZ 85264 - Phone (480) 837-8237 – Fax (480) 837-4983 - Sand and gravel.  
Production Foreman .....Jim Loske  
**Florence Pit**  
28700 E. Diversion Dam Road, Florence, AZ 85232 – Phone (520) 868-1190 – Fax (520) 868-4430 - Sand and gravel.  
Production Foreman ..... Scott Shuks

**G & S SAND & ROCK**  
P.O. Box 1259, Mayer, AZ 86333 - Phone (928) 632-9359 - Employees: 4 - Aggregate materials.  
Owner ..... Susan Bennett  
**Star Placer** T12N R1E Sec. 16

**GLORY ENTERPRISE, LLC**  
P.O. Box 3627, Flagstaff, AZ 86003 - Phone (928) 526-5571 - Employees: 4 - Volcanic cinders and dirty cinders/fill dirt.  
Owner ..... Bonnie and Jim 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, ready mix concrete, and asphaltic concrete.  
Branch Manager ..... Ted Haworth  
Office Manager ..... Maura Noland  
**Swan Road Pit**  
**Tangerine Pit** T12S R11E Sec. 1

**GRANITE MOUNTAIN MATERIALS**  
560 EZ Street, P.O. Box 3520, Prescott, AZ 86302 - Phone (928) 778-5553 - Employees: 8 - Crushed and decomposed granite – Buckskin decorative granite.  
Owner ..... Rachele Sult  
Operations Manager ..... Ron Sult  
**Granite Mountain Quarry**

**HAMILTON SAND & GRAVEL**  
Hamilton Rd., RR 1 Box 1350, Wilcox, AZ 85643 - Phone (520) 384-2582 - Employees: 4 Natural sand, washed sand products, gravel, and rock.  
Owner ..... David May  
**Hamilton Pit** T13S R24E Sec. 33

**HANSON AGGREGATES OF ARIZONA**  
4127 E. Van Buren, Suite 205, Phoenix, AZ 85008 - Phone (602) 685-4800 – Fax (602) 275-4869 - Employees: 275 - www.hansonplc.com  
President ..... Bob Gilbert  
Operations Manager ..... Dan Smith  
**51st Avenue Plant**  
4002 S. 51 Avenue, Phoenix, AZ 85045- Phone (602) 352-1210 - Sand, rock, ABC, ready mix concrete.  
**Apache Junction**  
2941 W. 37 Avenue, Apache Junction, AZ 85220 - Phone (480) 671-9702 - Ready mix concrete.  
**Deer Valley**  
21829 N. 16 St., Phoenix, AZ 85022 - Phone (602) 492-9063 - Ready mix concrete.  
**Higley Plant**  
3602 N. Higley Rd., Mesa, AZ 85215 Phone (480) 981-0134 - Ready mix concrete.  
**Mesa Plant**  
2001 W. McKellips Rd., Mesa, AZ 85201 - Phone (480)990-3536 - Ready mix concrete.  
**Queen Creek Plant**  
44191 Peckary Rd., Apache Junction, AZ 85219 Phone (480) 983-4111 - Sand, rock, ABC, ready mix concrete.  
**River Ranch Plant**  
5159 N. El Mirage Rd., Phoenix, AZ 85340 - Phone (623) 935-1875 - Sand, rock, ABC, ready mix concrete.  
**Sun City Plant**  
21801 N. 115 Avenue, Sun City, AZ, 85373 - Phone (623) 584-8695 - Ready mix concrete.  
**Tempe Plant**  
1976 E. Pima St., Tempe, AZ 85281 Phone (480) 894-0172 - ready mix concrete.  
**Clarkdale Plant**  
2500 W. Cement Plant Road, Clarkdale, AZ 86324, P.O. Box 634, Cottonwood, AZ 86326 - Phone (520) 634-4250 - Employees: 45 - Sand, rock, ABC, ready mix concrete, and asphaltic concrete.  
General Manager ..... Tim Cox  
**Wickenburg Plant**  
U.S. Hwy. 60 at mile marker 117.5, P.O. Box 1450, Wickenburg, AZ 85358 - Phone (520) 684-3402 Sand, rock, ABC, ready mix concrete, and asphaltic concrete.  
General Manager ..... Jay Parker, Jr.  
**Yavapai Materials**  
5899 Wilkinson Drive, P.O. Box 814, Prescott, AZ 86302 - Phone (520) 445-7305 - Sand, rock, and ABC.  
General Manager ..... John Pemberton

**HATCH CONSTRUCTION & PAVING**  
Hwy. 77, Taylor, AZ 85939 - Phone (928) 536-7213 - Employees: 40 – Produces sand, gravel, road materials, ready mix concrete, and asphaltic concrete From company owned pit and numerous job pits.  
President ..... Jerrold L. Hatch  
Secretary/Treasurer ..... Lynn R. Hatch  
Vice President ..... Lenn B. Hatch  
**Four Mile Pit**



**CEMEX USA - ARIZONA**  
Executive Office, One Gateway, 426 N. 44 Street, #250, Phoenix, AZ 85008 - Phone (602) 416-2600 - Fax (602) 495-1672 - www.cemexusa.com - Employees: 300 - Sand, gravel, rock products, and ready mix concrete. Aggregate Plant Operations Manager ..... Steve Knudsen Concrete Operations Manager .....Ernie Langston General Manager..... Rob Cutter

**Phoenix Area**  
Sand, gravel, rock, ABC, and ready mix concrete products.

**Casa Grande Batch Plant**  
1161 W. Main St., Casa Grande, AZ 85222 – Phone (520) 421-2083

**Coolidge Plant**  
14152 N. Attaway Rd., Coolidge, AZ 85228 – Phone (520) 723-5805

**El Mirage**  
4515 N. El Mirage Road, Glendale, AZ 85340 - Phone (623) 935-7767

**Laveen Plant** (inactive)  
75th Avenue and Southern, Laveen, AZ 85043

**Lehi Plant**  
2600 E. Lehi, Mesa, AZ 85213 - Phone (480) 396-0999

**Mesa Plant**  
1901 N. Alma School Road, Mesa, AZ 85201 - Phone (480) 898-8230

**North Plant**  
21001 N. 7th Street, Phoenix, AZ 85024 - Phone (623) 582-4436

**Queen Creek Plant**  
38721 N. Kenworthy Rd., Queen Creek, AZ 85242 – Phone (480-987-5673)

**Sun City Plant**  
24004 N. 107th Avenue, Sun City, AZ 85373 - Phone (623) 566-1851

**West Plant**  
11701 W. Indian School Road, Phoenix, AZ 85037 - Phone (623) 877-2411

**Tucson Division**

**Apex Plant**  
11500 N. CalMat Drive, Marana, AZ 85653 - Phone (520) 629-0033 - Sand, gravel, rock products, ABC, and ready mix concrete.

**Columbia Batch Plant**  
4100 E. Columbia, Tucson, AZ 85714 – Phone (520) 744-2500

**Hughes Plant**  
8855 S. Hughes Access Road, Tucson, AZ 85706 - Phone (520) 574-9002 - Asphaltic concrete.

**Ina Road Plant**  
5400 W. Massingale, Tucson, AZ 85743 – Phone (520) 744-3253

**Pima Mine Road Plant**  
13599 S. Nogales Hwy., Tucson, AZ 85706 - Phone (520) 295-1500 - Sand, gravel, rock products, ABC, and ready mix concrete.

**Flagstaff Division**  
633 E. Brannen, Flagstaff, AZ 86001 - Phone (520) 774-0304 - Ready mix concrete.

**CHANDLER READY MIX**  
P.O. Box 928, Mesa, AZ 85211 - Corporate phone (480) 892-0501 - Quarry phone (480) 830-3464 - Employees: 25 - Sand, gravel, and ready mix concrete.  
President.....Charles O. Wallace

**CHURCHMAN SAND & GRAVEL**  
P. O. Box 42874, Tucson, AZ 85733 - Phone (520) 325-1611 - Employees: 4 – Produces sand and gravel from recycled construction and excavation materials.  
President.....Dick Smith  
Vice President ..... Doug Smith  
Sales and Orders.....Kathy Wallis

**River Road Site**

**CKC MATERIALS DIVISION**  
1234 E. Airport Road, Safford, AZ 85546 - Phone (928) 428-3423 - Employees: 25 - Aggregate base, mineral base, and ready mix concrete.  
President.....David Cluff  
General Manager .....Brian Cluff

**Airport (CKC) Pit East Pit**

**DAY & SONS**  
440 W. Third South, P.O. Box 157, St. Johns, AZ 85936 - Phone (928) 337-2121 – FAX (928) 337-2010 - Employees: 7 - Sand, gravel, and ready mix concrete.

**DESERT CONSTRUCTION INC.**  
4490 E. Hwy. 66, Kingman, AZ 86401 - Phone (928) 757- 2213 – Fax (928) 7578544 - Employees: 60 – Rock products, paving materials, and ready mix concrete.  
President.....Tom Short

**Getz Pit T22N R16W Sec. 27**

**EADS CONSTRUCTION & REDI-MIX INC.**  
608 Highway 92, 46 Cochise Row, Bisbee, AZ 85603 - Phone (520) 432-4121 - Employees: 7 - Sand, gravel, and ready mix concrete.  
President..... Charles R. Eads  
Secretary/Treasurer/Owner ..... Louise Eads

**FLINTSTONE INDUSTRIES**  
7563 E. Highway 69, Suite B, Prescott Valley, AZ 86314 - Phone (520) 772-6446 - Employees: 20 - Sand and gravel, rock, and leach rock.  
President/Superintendent..... William H. Hyslip

**P V Pit**

**FNF CONSTRUCTION, INC.**  
115 S. 48th Street, PO Box 5005, Tempe, AZ 85280-5005 – Phone (480) 784-2910 – Fax (480) 829-8607 – www.fnfinc.com. – Sand and gravel production and heavy highway and road construction.  
President.....Jed Billings

it as a by-product. The best quality material is sold by the piece, and the remainder sold or processed for sale by weight.

Turquoise has recently moved from the niche market to upscale, mainstream markets when some famous film stars starting adorning themselves with turquoise jewelry. The resulting frenzy in the turquoise industry delighted and exhausted Arizona producers. By-product turquoise is produced by Sleeping Beauty Turquoise from the Sleeping Beauty Mine at Pinto Valley. Colbaugh Processing terminated their turquoise mining agreement at the Mineral Park Mine in June and processes only purchased material. Although long known for their turquoise, the Morenci Mine and the deposits at Bisbee are currently yielding very little.

Peridot, the gem variety of the mineral olivine, comes from the Peridot Mesa area of the San Carlos Apache Reservation east of Globe. Arizona material is suitable for faceting and is the finest quality in the world. This deposit accounts for approximately 90 percent of the world's production.

Amethyst from the Four Peaks mine in Maricopa County has been coveted by lapidaries and collectors since the turn of the century. The best quality Four Peaks material rivals any in the world. Kurt Cavano and Jim Machlan purchased the mine, inactive for over 10 years, in late 1997. The amethyst is mined by hand, flown by helicopter to Mesa (the property is surrounded by the Four Peaks Wilderness Area), and shipped to Bangkok, Thailand for faceting.

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.

**GOVERNMENT NEWS**

In October, 2001 the Interior Department’s Bureau of Land Management (BLM) issued new mining regulations that removed the controversial provision giving the Interior Secretary authority of prohibit new mine sites. The ‘3809’ surface mining regulations, which apply to hard-rock mining on public lands, retain the strict bonding requirements that the Clinton administration added in the last days of office.

The Arizona State Land Department made changes in the Arizona Revised Statutes §37-205 to provide for the reimbursement of some expenses incurred by a non-successful bidder who originally applied for the material sale and who incurred certain expenses in that application process. The text reads, “If the successful bidder at the auction is not the applicant, the successful bidder shall reimburse the applicant for fees and costs paid pursuant to this section in amounts and on terms as the

commissioner or the commissioner’s designee directs in the auction notice. After reviewing the reimbursement amounts, the commissioner shall remit them to the applicant.”

Some examples of costs for which reimbursements may be made are: cultural resource investigations, legal land surveys, environmental assessments and economic consulting, engineering, planning, legal or geological studies.

Additionally, reimbursement may be given by the Land Department if an auction does not occur as a result of a mistake or circumstances caused by the Department, including issues arising out of concerns over title, misidentification of the parcel and factors affecting eh commissioner’s view of the timeliness or desirability of disposing of the parcel.

The Arizona Corporation’s Securities Division accused Xenolix Technologies Inc. of fraud in a stock promotion. The company had previously been known as Mariah International, Guildmark Industries and M.G. Gold Corporation. The commission alleged that the company had made unregistered offerings of stock at a time it was claiming, “to have a patented technology that would extract gold and precious metals from the company’s volcanic cinders property.” The company agreed, along with other terms, to buy back shares from investors from placements made between 1997 and 1999.

**Table 8. National Monuments Created in Arizona**  
2000 through January 2001

Monument	Acres	Date
Grand Canyon Parashant	1,054,264	1/11/2000
Agua Fria	72,544	1/11/2000
Ironwood Forest	189,731	6/9/2000
Vermillion Cliffs	293,000	11/10/2000
Sonoran Desert	496,337	1/17/2001
<b>Total acreage in Monument</b>	<b>2,105,876</b>	
<b>BLM land lost to mining !</b>	<b>1,695,559</b>	
<b>Arizona state lands included</b>	<b>93,543</b>	

In a period of just over a year, January 2000 - January 2001, five new national monuments were created in Arizona, totaling over 2 million acres! Three of the monuments were created in areas of known mineral resource potential, the Agua Fria, Grand Canyon-Parashant, and Ironwood by Presidential Order without the oversight of Congress or public hearings. In fact one reason given for their National Monument status protection was to prohibit possible mine development of future valuable mineral resources. Mountain States Legal Foundation filed suit in Federal Court on August 30, 2000 challenging the legality of the new monuments. The lawsuit has been amended to include the Sonoran Desert Monument. In early 2001 Secretary of Interior Norton announced that the Bush administration would not seek to overturn the new monuments. In November

Mountain States' legal challenge was denied by the Washington D.C. Federal District Court, however an appeal is planned.

RECREATIONAL MINING

Gem material, mineral specimens, and fossils collected by the rockhound and small contractors at the mines are not generally included in the reported gemstone production. It is likely that the value of this production is higher than that officially reported for gemstone production. Some portion of rockhound-collected material goes directly into collections, however, much of it and most of the other material collected is sold privately or at gem shows.

In 2000 the Tucson gem shows generated \$76.5 million for the Tucson area. The State and local govern-

ments collected \$5.98 million in sales taxes for the shows. The gem show in Quartzsite, for example, is the largest in the world, drawing in excess of 100,000 visitors. More than 25 additional gem shows are held in the state annually and 37 organized earth science clubs are currently active. More than 25 additional gem shows are held in the state annually and 37 organized earth science clubs are currently active.

Another segment of recreational mining includes gold panners and operators of small suction dredges. Although gold is recovered by nearly all who participate, the recreational value is undoubtedly greater than the value of gold produced. Economic data for recreational mining is difficult to quantify, but the impact on the Arizona tourism industry is significant.

SAND AND GRAVEL OPERATIONS

A & A MATERIALS

10333 E. McDowell Road, Scottsdale, AZ 85257 - Phone (480) 990-0557 - Employees: 25 - Landscape materials, granite, river rock, sand, and gravel.  
President/Owner/Manager ..... Arthur H. Adams  
Vice President ..... Raymond A. Adams  
Vice President ..... DeWayne Adams  
Apache Granite Pit

A-ROCK INC.

P.O. Box 781, Flagstaff, 86002 - Phone (928) 527-0031 - Employees: 12 - Sand and gravel.  
Manager ..... Don Merrick  
Grey Mountain Pit

ABC SAND & ROCK

5401 N. 119th Avenue, Glendale, AZ 85307 - Phone (623) 935-1677 - Employees: 6 - River rock and sand.  
Owner.....David Waltemath  
Agua Fria River Pit

ACME SAND & GRAVEL

7707 E. 22nd Street, Tucson, AZ 85710 - Phone (520) 296-6231 - Employees: 6 - Sand and gravel, fill, and top soil.  
Owner.....Flo Kempton  
Acme Pit

AJAX SAND & GRAVEL

5026 S. 51st Avenue, Laveen, AZ 85339 - Phone (602) 237-3232 - Located at the southwest corner of 51st Avenue and the Salt River - Employees: 2 - Screened natural river landscape rock.  
Owner.....Joe Guinn  
Ajax Pit T1N R1E, Sec. 29

ALLECO STONE

10401 S. Miller Road, Buckeye, AZ 85326, P.O. Box 729, Avondale, AZ 85323, Phone (623) 386-1148; Fax (623) 386-3755 - www.alleco.com - Employees: 30 - Sand and gravel and stucco sand.  
Facilities Manager.....Mike Marchitta  
Sales ..... Mick Greise  
Alleco Pit T1S R3W Sec. 17

ALLISON ROCK & SAND CONSTRUCTION  
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  
Allison Pit

ARIZONA CENTRAL MATERIALS

9699 E. Hwy. 287, PO Box 365, Coolidge, AZ 85228 - Phone (520) 723-5719, (480) 649-0244 - Employees: 4 - Landscaping and construction materials. Specializing in sized natural river rock and minus 3/16" arena mix.  
Owner.....D. Lavoy Adams  
Manager.....Trent Burke  
Sales/Orders .....Patti Burke

ARIZONA SAND & GRAVEL

1401 Atlantic Ave., Yuma, AZ 85365 - Phone (928) 344-5577 - Located 10 miles east of Yuma on Highway 95 - Employees: 3 - Sand and gravel.  
President.....Ernie Kaznak  
Blaisdell Pit T8S R21W Sec. 21

B & R MATERIALS

4200 S. Harrison Road, P.O. Box 18138, Tucson, AZ 85731 - Phone (520) 298-2371 - Employees: 25 - Sand and gravel.  
President.....Roland C. Brown  
Vice President .....Kim Schroeder  
Harrison-Escalante Pit T14S R15E Sec. 34

BRIMHALL SAND, ROCK,  
& BUILDING MATERIAL

P.O. Box 750, Snowflake, AZ 85937 - Phone (928) 536-4226 - Fax (928) 536-2151 - Employees: 60 - Basalt, sand, and gravel products.  
President.....Gary Brimhall  
Vice President .....Brian Brimhall  
General Manager.....M. Kirk Brimhall  
Secretary.....David Brimhall  
Brimhall Pit T13N R21E, Sec. 14  
Decker Plant T13N R21E, Sec. 22  
Hardluck Basalt Quarry T23N R21E, Sec. 11

BULLHEAD CITY MATERIALS OF  
UNITED METRO

1950 Bullhead Parkway, Bullhead City, AZ 86429 - P.O. Box, 1585, Bullhead, AZ 86430 - Phone (928) 763-2355 - Fax (928) 763-1942 - Employees: 65 - Aggregate, ready mix concrete and asphaltic concrete  
Plant 882 - Bullhead  
Area Manager.....Waukene Campbell  
Crusher Supt.....Ted Downing

CAMPBELL REDI-MIX

1510 Copper Lane, Lake Havasu, AZ 86403 - Phone (928) 855-6535 - Employees: 95 - Sand, gravel, and rock products.  
Co-owner.....Delbert Campbell  
Co-owner.....Dorothy Cammpbell  
Head Mechanic.....Doug Main



Open pit zeolite mines operated by contract mining company - Mordenite used for specialty adsorbents.

**UNITED METRO MATERIALS, INC.**  
dba Superior Materials  
701 N. 44th Street, Phoenix, AZ 85008, P.O. Box 52140, Phoenix, AZ 85072 - Phone (602) 220-5000 - (Also see listing under Sand and Gravel Operators)  
President.....Dan Speck  
Executive Vice President ..... John Fowler  
Vice President Sales.....Bill Heeter  
Vice President Operations.....Gary Nielson  
Chief Engineer ..... Bill Peck  
Director Safety & Labor Relations ..... David Chavez  
Contact (Superior Materials).....George Davis  
**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

**WESTERN MINING AND MINERALS INC.**  
A subsidiary of British Plaster Board (BPB)  
BPB Gypsum Plant - HCR 89033, Box 2900, Las Vegas, NV 89124 – Phone (702) 875-4001  
www.westernminingandminerals.com  
V.P. Manufacturing..... Terry Sherman  
Western Mining and Minerals - 225 N. Bluff Street, Suite 5, St. George, UT 84770, P.O. Box 850, St. George, UT 84771 - Phone (435) 628-3916 - Fax (435) 628-4441 - Employees: 21.  
Mine Superintendent ..... Kenny Thompson  
Office Manager ..... Matina Scayola  
Consultant ..... Don Cecala  
**Gypsum City Mine aka Snowflake Gypsum Mine T41N R13W Sec. 25**  
Open pit gypsum mines - Primary and secondary crushing and screening plant - 300 tpd Raymond roller mill fine grinding plant and loading terminal at Apex, Nevada - Supplies the cement, plaster products, wall board, and fertilizer industries including BPB's Las Vegas plaster board plant.

**WESTERN ORGANICS INC.**  
420 East Southern, Tempe, AZ 85282, P.O. Box 25406, Tempe, AZ 85285-5406 - Phone (480) 966-4442 - Plants located on 51st Avenue between Van Buren and Buckeye Roads and at 27th Avenue and Lower Buckeye Road in Phoenix – 625 S. 51st Avenue, Phoenix, AZ 85043 Phone (602) 269-5756 - Fax (602) 269-7621 – and 2807 S. 27th Avenue, Phoenix, AZ 85009 – Phone (602) 269-5784 - Employees: 100.  
President ..... James Porter  
Vice President/Operations Manager .....Doug Henchett  
Marketing ..... Paul Hess  
Sales Manager .....Dave Diehnelt  
Office Manager ..... Adrian Cluff  
Controller .....David Hancock  
**Salome Gypsum Mine T5N R11W Sec. 30**  
Open pit gypsum mine operated by contractors – as needed. Gypsum for agricultural and horticultural uses, bagged and bulk - Used and sold directly and in horticultural blends.

COMPANY LISTING

The following list is arranged alphabetically by company. Use the index on page 33 to locate a specific mine

**AMERICAN SANDSTONE**  
**Blaser Corporation**  
2600 N. Highway 89, P.O. Box 1154, Chino Valley, AZ 86323 - Phone (520) 636-4454 - Fax (520) 636-2780 – (800) 331-4220 - Employees: 160 - 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  
Superintendent - Mining ..... Jim Baker  
Transportation Coordination..... Dan Buchanan  
**Blaser Stoneyards:**  
2600 N. Highway 89, Chino Valley  
900 W. Lewis, Ash Fork  
**Black Cat Quarries T22N R1W Sec. 17**  
**Golden Buckskin T19N R2E Sec. 19, 20, 29, 30**  
**Cucamunga Quarries T22N R1W Sec. 9**  
**Trick Tank Quarries T23N R2W Sec. 26**  
**Bunker Quarries T23N R2W Sec. 24**  
**Geronimo Quarries T23N R2W Sec. 2**  
**Mills Quarries T19N R2W Sec. 4 and 9**  
**Santa Cruz Quarries T22N R2W Sec. 12**  
**Yellow Horse Quarries T23W R2W Sec. 14**  
**Coconino Quarries T23N R2W Sec. 22**  
**Red Bird Quarries T20N R1E Sec. 32**  
**Apache Quarry T23N R2W Sec. 24**

**ANASAZI COMPANY**  
7486 E. Adobe Drive, Scottsdale, AZ 85255 - Phone (480) 585-9882 – Fax (480) 585-9884 - 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 (623) 581-7625 – Fax (623) 780-0544 - Employees: 9 (including contractors) - www.halquiststone.com - Quarries located near Mayer - Schist and onyx marble quarries - Landscape boulders, building and dimension stone.  
President.....Perry Halquist  
Manager ..... Wayne Evans  
**Blue Bell Schist Quarry T11.5N R1E Sec. 24**

**Rainbow Schist Quarry T12N R1E Sec. 23**  
**Echo Green Quarry T12N R2E Sec. 7 &18**  
**Brown Dog Quarry T12N R1E Sec. 15**  
  
**APPLIED CHEMICAL MAGNESIAS CORP.**  
P.O. Box 270941, Fort Collins, Colorado 80527 – Phone (979) 223-7790, (800) 397-1210 – Fax (970) 223-7550 - www.magnesias.com  
President / CEO..... Bob McCreless  
**Processing Plant**  
2011 Plata Caleta, Bullhead City, P.O. Box 22303 Bullhead City, AZ 86439 – Employees: 15 (including contractors)  
40,000 tpy mill - Size reduction and classification of magnesium hydroxide for waste water treatment and smoke and flame retardant functional fillers in plastics and coatings. Toll grinding, sizing, and packaging of white industrial minerals.  
**White House Mine T19N R20W Sec. 7**  
Underground brucite mine – mining by independent contractor.  
Plant Manager .....Rob Main

**ARIONYX**  
P.O. Box 1408, Mayer, AZ 86333 – Phone (928) 632-7912 - www.skybusiness.com/arionyx - e-mail dldanials@commspeed.net  
Co-owner..... Dave Danials  
Co-owner..... Lu Danials  
**Mayer Onyx Quarry T12N R1E Sec. 22**  
Quarries, processes, cuts, shapes, and fabricates travertine onyx into specialty and decorative art objects – supplies rough onyx to other fabricators.

**ARIZONA PORTLAND CEMENT COMPANY**  
**State Sales Office**  
2400 N. Central, Suite 308, Phoenix, AZ 85004 - Phone (602) 271-0069 – Fax (602) 254-9027 – (800) 462-2475 – www.calportland.com.  
Executive V. President & Gen. Mgr..... Vaughn S. Corley  
Vice President, Sales .....Craig Starkey  
**Twin Peaks Quarry T12S R11E Sec. 26**  
**Rillito Plant T12S, R12E, Sec. 6**  
P.O. Box 338, Rillito, AZ 85654 - Phone (520) 682-2221 - Employees: 160 - Limestone quarry 5 miles west of plant - Cement plant - Capacity 1,150,000 tpy - Permits received to expand capacity to 2,300,000 tpy by 2003.  
Plant Manager .....Dave Bittel  
Quality Control Superintendent .....John Bartolucci  
Quality Control Supervisor .....Bill Phillips  
Plant Engineer ..... Russell Hawks

Personnel Manager.....Mardi Nagy  
Quarry Supervisor.....Chuck Hansen  
Environmental Manager.....Janelle Kennedy  
Purchasing Agent.....Tom Follett

#### ARIZONA SILICA SAND COMPANY

P.O. Box 2108, Houck, AZ 86506 - Phone (520) 688-2602 - Fax (520) 688-2607 - 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.....Robert Castillo  
**Houck Silica Sand** T22N R29E Sec. 29  
Open pit hydrafrac sand mine.

#### ASARCO INCORPORATED

A subsidiary of Grupo Mexico, S.A. de C.V.  
**Phoenix Corporate Office**  
2575 East Camelback Rd, Ste. 500, Phoenix, AZ 85016, Phone (602) 977-6500, Fax (602) 977-6700 – www.asarco.com  
President.....Genaro Larrea  
Vice President, Commercial .....Gary A. Miller  
Manager, Sulfuric Acid.....Greg S. Meade  
Vice President and Gen. Counsel..Douglas E. McAllister  
Director, Gov. & Legislative Affairs .....Robert. E. Quick, Jr.  
**Tucson Office**  
1150 N. 7th Avenue, Tucson, AZ 85705, Phone (520) 798-7500 - Fax (520) 798-7781  
**Asarco Copper Operations**  
Senior Vice President of Operations.....John A. Fenn  
General Manager of Copper Operations Support .....T.E. Scartaccini  
Vice President of Finance .....James T. O'Neil  
Divisional Environmental Operations.....D.M. Yantorno  
Director of Purchasing.....Roy Alvarado  
Chief Geologist .....Fred Graybeal  
**Project Development**  
Mngr Dev. Projects & Services.....D.C. Dixon, Jr.  
**Human Resources**  
Vice President.....Brian P. Boylan  
**Treasurer's Department**  
Vice President & Treasurer.....Genaro Guerrero  
Treasury Manager .....H.W. Tuck  
Information Systems Director.....Todd Fedoruk  
**Mission Mine** T16S R12E Sec. 36  
Box 111, Sahuarita, AZ 85629 - 4201 W. Pima Rd. - Phone (520) 648-2500 - Fax (520) 648-0802 - Employees: 453 - Open pit copper mine - Underground copper mine - Two concentrators: Mission and South, one currently operating - Total capacity 63,000 tpd.  
General Manager.....John D. Low  
Mine Manager.....Mark Kalmi  
Engineering Manager.....Hal Richins

Senior Geologist.....R.B. Cummings  
Mill Manager, Mission.....S.D. Lawrence  
Mill Manager, South .....D.E. Fisbeck  
Assistant Controller.....Dave J. Hoffman  
Human Resource Manager .....J.F. Coxon  
Electrical Manager .....J.B. Barton  
Safety Administrator .....R.E. Jordan  
Sr. Environmental Engineer.....A.T. Cooper  
**Santa Cruz** T6S R4E, Sec. 13  
P O Box 5747, Tucson, AZ 85703-0747 – Phone (520) 798-7500 Fax – (520)798-7783.  
Experimental in-situ copper leach - SX-EW plant. On stand-by.  
Santa Cruz Manager .....T.E. Scartaccini  
Site Manager .....H.G. Kreis  
**Silver Bell Mining L.L.C.** (25% Mitsui & Co.)  
**Silver Bell** T12S R8E Sec. 11  
25000 W. Avra Valley Rd., Marana, AZ 85653 - Phone (520) 682-2420 - Fax (520) 682-2347 - Employees: 112 - Open-pit copper mine - SX-EW plant - Capacity 36 million lb. per year.  
Operations Manager .....D.J. Duncan  
Mine Manager .....T.H. Phillips  
SX-EW Manager .....R.V. Washnock  
General Mine Supervisor .....Wade Malone  
General SX-EW Supervisor .....Brandon Beard  
Chief Engineer .....Geoff Fehr  
General Electrical Supervisor .....M. Canez  
General Maintenance Supervisor .....John Hazen  
Safety Engineer .....R.W. Edgell  
Environmental Engineer.....Kathy Arnold  
**Ray** T3S R13E Sec. 10  
**Hayden Operations & Smelter** T5S R15E Sec. 11  
Ray Complex, P.O. Box 8, Hayden, AZ 85235 - Phone (520) 356-7811 - Fax (520) 356-3802 - Employees: 1,504 - Open pit copper mine - Dump leach - Heap leach - SX-EW plant - Capacity 80 million lb. per year - Two concentrators: Ray rated at 32,000 tpd and Hayden rated at 28,000 tpd - Smelter capacity 720,000 tpy and 1,600 tpd acid plant.  
Hayden Operations & Administrative Manager.....John R. Shaw  
Ray Mine Operations Manager .....George R. Burns  
Mine Manager .....Sy Lakosky  
Smelter Manager .....Joe A. Wilhelm  
Technical Service Manager.....Derek J. Cooke  
Process Manager .....Steven A. McGhee  
Environmental Services Manager .....N.A. Gambell  
Hayden Concentrator Manager .....Charlie A. Carroll  
Hayden Electrical Maint. Manger .....Gene Coryell  
Maintenance Manager, Hayden.....Hugh Alexander  
Support Manager.....J.W. Murphy  
Human Resources Manager .....James F. Coxon  
Materials Manager.....Tony Astorga  
Hot Metals Manager.....Steve R. Gasser

**Copper Mountain Quarry** T12N R2E Sec. 18  
**Bloody Basin Green Granite** T11N R11E Sec. 31  
**Mayer Onyx Quarry** T12N R1E Sec. 12

#### STONE WORLD

Old Nevada Corporation  
15979 N. 76th Street, Suite D, Scottsdale, AZ 85260 – Phone (480) 951-4418 – Fax (480) 951-0933 – www.stoneworldcompany.com - Employees: 30  
Owner.....Ray Bosiljcic  
Owner.....Lilianna Hardisty  
Office/Business Manager.....Cecillia Petrovic  
**Fabrication Plant and Wholesale Yard**  
921 Old Route 66, Ashfork, AZ 86304 – Phone (928) 637-1111 – Sandstone marketed as Classic Oak, Rosa, Champagne, Buff, and Peach - Produces flagstone, snap cut bricks, and ledge stones.  
Quarry Foreman .....Leonardo Ramirez  
Quarry Foreman .....Lula Alhandro  
**Sedona Red Quarry** T22N R1W Sec. 20  
**Lizard Group Quarries** T20N R1E Sec. 29 & 30  
**Classic Oak Quarry**  
**Champagne Quarry**  
**Rosa Quarry**

#### Süd-CHEMIE PERFORMANCE PACKAGING

Formerly United Desiccants, Inc.  
United States Corporate Headquarters - P.O. Box 32370, Louisville, KY 40210 - Phone (502) 634-7200  
Vice President (Louisville) .....Bill Monin  
New Mexico Office – 2305 Renard Place, S.E., Albuquerque, NM 87106 – Phone (505) 244-7000  
Global Business Unit Mgr. (Belen) .....Klaus Langer  
California Office, 926, South 8th Street, Colton, CA 92324 – Phone (909) 825-1793  
Sales and Marketing Mgr.....Bob Crossno  
Processing plant, 101 Christine Drive, Belen, NM 87002 - Phone (505) 864-6691 - www.s-cpp.com - www.sud-chemie.de  
Site Manager .....Geno Santistevan  
**Cheto No. 1** T21N R29E Sec. 23  
Employees: 6 - Located 6 miles southeast of Sanders in northeastern Arizona - Strip bentonite mine - Seasonal operation by mining contractors - Low swelling bentonite is shipped to Belen, New Mexico for the production of desiccants.

#### SUPERIOR MARBLE LLC

2 North Mesquite Drive, PO Box 1905, Superior, AZ 85373 - Phone (520) 689-8000 - Fax (520) 689-5555 - www.superiormarble.com- Employees: 20.  
**Superior Marble Processing Plant**  
Marble crushing and screening plant - Used for landscape, plaster, feed supplements, texture sand for EFIS wall systems, and specialty aggregate.  
President (parent Jokake Const.).....Mike Smith  
Vice President (parent Jokake Const.) .....Gary Smith  
President Superior Marble .....Roz Lizpy  
Plant Manager .....Mark Stevens

Sales .....Rick Erman  
Office Manager .....Lori Stevens

#### 3 WINS QUARRIES

P.O. Box 776, Hemet, CA 92546 - Phone (909) 767-7044 - Employees: 16.  
Owner/General Man. Sales/Orders.....Richard Gutierrez  
**Lola Lee Quarry**  
**Jo Ky Oak Quarry**  
**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.

#### T & C ENTERPRISES

**Stone Fabrication Plant**  
State Road 277 West, Snowflake, AZ 85937, P.O. Box 832, Taylor, 85939 - Phone (928) 536-4944 - Employees: 4 - Quarries picture sandstone.  
President.....Howard Thomas  
**Sierra Quarry** T12N R20E Sec. 20

#### TREASURE CHEST GRANITE PIT, INC.

P.O. Box 4795, Apache Junction, AZ 85278-4795 2775 East Canyon, Apache Junction, AZ 85219 - Phone (480) 983-1606 - Employees: 8 - Produces screened granite and granite fines under the names Spanish Red and Desert Rose.  
General Manager.....Doug Konshur  
**Treasure Chest Granite Quarry** T1N R8E Sec. 3

#### TUFFLITE INC.

7206 N 55th Ave., #100, Glendale, AZ 85301 - Phone (623) 931-3681 (800) 942-6368 – Fax (623) 847-4892 - Yard located at 6856 W. Orangewood, Glendale - Employees: 18.  
President .....C. T. Morgan  
Vice President/  
Site and Mine Manager (Flagstaff) .....Ed Morgan  
Secretary/Treasurer .....Clay Morgan  
Orders and Transportation .....Jan Sandlin  
Sales Manager .....Tim Doyle  
**Crown and Morgan Claims** T23N R7E Sec. several  
**More Sand, Moon Sand** T23N R7E Sec. 24  
**White Vulcan** T23N R8E Sec. 19  
Mines and reclamation site located 12 miles north of Flagstaff - Pozzolanic pumice quarries - 2,200 yards/month - Used in making lightweight ready mix and block, cultured light weight decorative stone, and in horticultural preparations.

#### UOP

P.O. Box 2790, Grand Junction, CO 81502 - Phone (970) 245-7957.  
Senior Mining Engineer .....Jim Kirchner  
**Bowie Chabazite** T11S R28E & T11S R29E  
Open pit zeolite mines operated by contract mining company - Chabazite used for specialty adsorbents.  
**Union Pass Mordenite** T21N R20W Sec. 11



### PRESCOTT VALLEY GRANITE

HC 61, Box 1188, Dewey, AZ 86327 - Phone (928) 632-8204 - Employees: 2.

Owner/Operator .....Ed Respondek  
Partner ..... Joe Raleigh

**Prescott Valley Granite Pit** T14N R2E Sec. 33

Quarry located 5 miles north east of Dewey north of Highway 169 - Decomposed and crushed granite for desert landscaping.

### RED MOUNTAIN MINING INC.

4250 North Bush Highway, Mesa, AZ 85215 - Phone (480) 832-3390 Employees: 38.

Owner.....D. Lavoy Adams

**Red Mountain Quarry** T2N R6E Sec. 24

Quarry located 10 miles north east of Mesa - Boulders, broken and crushed granite for desert landscaping.

### ROCK RESOURCES

**Office, Display Center, and Stone Yard**

21401 N. Seventh Street, Phoenix, AZ 85024 - Phone (623) 780-0333 - Fax (623) 780-0336 -  
www.rockresourcesaz.com - Employees: 45.

President.....H. Marc Joesph  
V.P. Operations.....James Bond  
Sales and Marketing..... Kim Bond

**East Valley Display Center**

15815 N. Frank Lloyd Wright Blvd., Scottsdale, AZ 85260

**Congress Quarry** T10N R6W Sec. 4

0 South Hillside, Hillside, AZ - Surface landscape rocks and boulders

Quarry Operation Manager .....Paul Mooney

### SILICA MINES INC.

P.O. Box 332, Oracle, AZ 85623 - Phone (520) 896-2245 - Employees: 12.

President ..... Dave McGee  
General Superintendent ..... Dean Schifferns

**Gold Hill Mine** T10S R15E Sec. 5

Open pit mine - Located 6 miles southwest of Oracle - Copper bearing silica flux for Asarco's Hayden copper smelter - Decorative rock for landscaping.

### SILVER ARROW STONE CO.

H.C. 64, Box 7328, 2555 N. Hwy 89A, Fredonia, AZ 86022, Phone 928-643-7321 Fax 928-643-7328

e-mail - silverarrowstone@yahoo.com - Employees: 10.

Sales office located on 89A, North of Fredonia. Quarries and processes sandstone and limestone from 3 quarries - Products include snap cut veneer, hearths, benches, patio tiles, and landscape boulders. Produces Tuscan Rose and Gray Wolf sandstone

President .....Roger Smith  
Vice President ..... Lawrence L. Casebolt

**Stone yard and plant** T42N, R2W, Sc. 32

### SLEEPING BEAUTY TURQUOISE

P.O. Box 111, Globe, AZ 85502 - Phone (520) 425-7625 or 425-0446 - Fax (520) 425-0638 -

www.sbturquoise.com - Employees: 45.

President .....Monty Nichols

Sales ..... Dan Courvoisier

**Sleeping Beauty Mine** T1N R14E Sec. 12

Produces turquoise under contract with BHP Copper - Sorts, grades, and processes turquoise for worldwide distribution.

### SOUTHWESTERN STONE

18 S. Main, P.O. Box 454, Taylor, AZ 85939 - Phone

(520) 536-4912 - Employees: 12 - Quarries sandstone -

Fabricates building and patio stone - Diamond saws tiles and decorative objects.

Owners/Operator.....Lee and Barbara Chartrand

General Manager.....Denise Chartrand

Foreman.....Pat Denetso

**Sierra Quarry** T12N R20E Sec. 20

**Arizona Picture Rock Quarry** T11N R14E Sec. 3

**Brown Quarry** T15N R19E Sec. 31

**Buckskin Quarry** T17N R21E Sec. 30

**Arizona Gold** T14N R21E Sec 25

### STAR VALLEY GRANITE & MATERIALS

Star Valley, HC5 Box 43B, Payson, AZ 85541 - Phone

(520) 474-9396 - Employees: 3 - Quarries and processes decomposed granite.

Owner/Operator..... Roy Haught

**Star Valley Granite Quarry** T11N R11E Sec. 31

### STIRLING BRIDGE CEMENT

**Corporate Office**

5110 N. 40th Street, Suite 110, Phoenix, AZ 85018 -

Phone (602) 508-8089 - Fax (602) 508-8982

**Chino Valley Office**

2235 S. Highway 89, Suite B-2, Chino Valley, AZ

86323 - Phone (928)-636-9226 - Employees: 10 -

350,000 ton per year cement plant to produce Type I/2

Portland Cement - Under permitting and development - Startup projected for January 2004.

Chief Executive Officer ..... Grant Goodman

Chief Operating Officer .....Cliff Ayres

General Counsel..... Robert Porter

**Drake Cement Plant**

**Portland Cement Plant** T19N R1W Sec. 33

Permitting and development

**Cedar Glade Quarries** T19N R1W Sec. 32

Limestone quarry - permitting and development

### STONE SUPPLY

P.O. Box 685, Mayer, AZ 856333 - Phone (520) 632-

9325 - Fax (520) 632-4985 - Employees: 4 - Quarries

located near Mayer and Cordes. - Quarry and process travertine onyx, jasper, granite, schist, river run sand and gravel, and landscape cobbles.

Owner/Operator..... Bruce Bennett

Marketing .....Dale Bennett

### AZCO MICA, INC.

7239 N. El Mirage Road, Glendale, AZ 85307 - Phone (623) 935-0774 - Fax (623) 935-0781 - www.azco.com - Employees: 15.

Mica processing plant - Wet ground muscovite mica for functional fillers and strengtheners for industrial coatings, plastics, and cosmetics - Feldspathic sand for stucco and specialty aggregates.

President .....Lawrence Olson

Vice President of Operations ..... Gary Zimmerman

Marketing Director.....John Rud

Plant Manager ..... Gary Nelsen

Mine Manager..... Fred Brost

**Black Canyon Mica Mine** T8N R2E Sec. 7

Open pit pegmatite mica mine - primary and secondary crusher and concentrator.

### BHP COPPER INC.

7400 N. Oracle Road, Tucson, AZ 85704 Phone (520)

575-5646 Fax (520) 575-5648 - www.bhpbilliton.com

President.....John Perry

**Florence**

14601 East Hunt Highway, Florence, AZ 85232 - Phone

(520)868-5094 - In-situ leach and solvent extraction-

electrowinning plant - Permitted, awaiting start-up.

Project Manager.....John Kline

**Pinto Valley Operations** T1N R14E Sec. 20

**Miami Unit** T1N R15E Sec. 19

P.O. Box 100, Miami, AZ 85539 - Phone (928) 473-

6200 - Employees: 83 - Open pit copper-molybdenum mine - 62,000 tpd concentrator - Dump leach - SX-EW plant - Capacity 22 million lb. per year - Miami in-situ leach - SX-EW plant - Capacity 25 million lb. per year. Sulfide operations on standby.

Operations Manager ..... Jesse Gage

**San Manuel Mine** T8S R16E Sec. 34, 35

P.O. Box M, San Manuel, AZ 85631 - Phone (520) 385-

3100 - San Manuel and Kalamazoo underground

copper-molybdenum mines - 62,000 tpd concentrator -

In-situ leach - SX-EW plant - Capacity 120 million lb.

per year. On stand-by. 1,300,000 tpy flash smelter -

1,150,000 tpy acid plant - 345,000 tpy electrolytic

refinery - 180,000 tpy continuous cast rod plant. On

stand-by.

Vice President, North America .....Ken Driggs

Vice President Operations..... Ron Allum

Manager Sulfide/Oxide Mining .....Jon Graham

Mgr. Concentrator .....Gerald R. Brunskill

Superintendent SX-EW.....Joel Witt

### BLACK CANYON MILLING

P.O. Box 33638, Phoenix, AZ 85067 - Phone (623) 374-5547.

**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 concentration.

Owner/Manager .....Bill Schleisman

### BUILDING PRODUCTS COMPANY

**Phoenix Plant**

4850 W. Buckeye Road, Phoenix, AZ 85043 - Phone

(602) 272-5576 - Employees: 2-3 (involved in clay

mining) - Produces extruded vitreous clay sewer pipe.

Plant Manager and Mining Supervisor.....Jon Humphreys

**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 6 miles north of Dewey.

### CARLOTA COPPER COMPANY

A subsidiary of Cambior USA Inc.

P.O. Box 1009, Miami, AZ, 85539 - Phone (520) 473-3518 - Employees: 9.

**Carlota** T1N R13E Sec. 36

Located 8 miles west of Miami - Anticipated

employment: 300 - Open pit copper mine - Heap leach -

SX-EW plant - Capacity 60 million lb. per year -

Preliminary construction began October, 1998.

General Manager ..... Bob Walish

Mine Manager ..... George Bell

Human Resource Manager .....Kevin Webster

### CHEMICAL LIME

**Scottsdale Office - Forum Office**

6263 N. Scottsdale Road, Suite 280, Scottsdale, AZ

85250 - Phone (480) 368-4200, (800) 288-9676 - Fax

(480) 368-4220 - www.chemicallime.com

Commercial Sales Manager..... Bob Plains

Director New Business Development .....David Fleming

Manager, Technical Services ..... Starr Curtis

Distribution Manager ..... Tom Hughes

Transportation Coordinator ..... Marilee Vraspurs

Account Representative ..... Darren Fry

Account Representative .....Brett Tanner

Account Representative ..... Todd Ingram

**Nelson Quarries & Plant** T25N R10W Sec. 25

P.O. Box 370, Peach Springs, AZ 86434 - Phone (928)

769-2271 - Fax (928) 769-2305 - Employees: 72 -

Limestone quarry - Two rotary kilns - Capacity 1800

TPD lime - Marketed for flue gas desulfurization, water

treatment, soil stabilization, and alkalinity control for

copper ore beneficiation and gold leaching.

Plant Manager .....Mike Staggs

Maintenance Superintendent ..... Mark Phillips

Quarry Superintendent ..... Jim Blackwell

Plant Buyer..... Linda Smith

Shipping/Transportation Coordinator ..... Terry Witte

Senior Process Control Engineer ..... John Proudley

Quality Control Technician ..... Perry Curley

**Douglas Quarry & Plant** T24S R26E Sec. 7

4753 West Paul Spur Road, Douglas, AZ 85607 - Phone

(520) 364-2429 - Fax (520) 364-2706 - Employees: 50 -

Limestone quarry - Three lime kilns - Capacity 1,000 tpd

lime - Marketed for alkalinity control for copper ore



beneficiation, stabilization, and crude crushed limestone for flue gas desulfurization.  
Plant Manager ..... Jerry Young  
Maintenance Superintendent ..... Richard Anderson  
Quarry Superintendent ..... Don Russell  
Production Services Superintendent ..... Robert Kline  
Process Engineer ..... Pat Morgan  
Quality Control Technician..... Louis Roqueni

**CLINTON - CAMPBELL CONTRACTING INC.**  
**Phoenix Brick Yard**  
1814 S. 7th Ave., Phoenix, AZ 85007 - Phone (602) 258-7158 Fax (602)258-1751 -  
www.phxbrickyard.com- Employees: 96.  
President..... Frederic Campbell  
Plant Superintendent .....Don Campbell  
**Tolleson Mine** T1N R1E Sec. 3  
Clay pit located on 84th Ave. north of Van Buren - Used to manufacture structural clay products.  
**Pantano Clay Pits** T16S R17E Sec. 21, 26, 27, 28, 35  
Clay pits located 25 miles southeast of Tucson - 2 miles northwest of the Interstate 10 Pantano Exit - Used to manufacture structural clay products.

**COCONINO CINDER AND MATERIALS**  
7000 E. Highway 66, Flagstaff, AZ 86004 - Phone (928) 526-9509 – Fax (928) 526-6580 - 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.

**CUSTOM LANDSCAPE MATERIALS**  
11435 N. Cave Creek Road, Suite 204, Phoenix, AZ 85020 – Phone (602) 674-0537 – Fax (602) 674-0594 - Employees: 15  
President.....Koos Schippers  
**U.S. Mine** T4N R8W Sec. 1  
Landscape boulders, crushed and sized andesite and rhyolite landscape materials. – Produces Arizona Blond, Jesse Red, Saddleback Brown, Desert Spice, and Desert Tan landscape rock.

**DRAKE STONE PRODUCTS, INC.**  
P.O. Box 10820, Prescott, AZ 86304 - Phone (928) 445-3028 - Fax (928) 717-1359 Truck loading only – 706 Double A Ranch Road, Ashfork, AZ - Employees: 160 - Stone processing plant at Ash Fork - Quarries and processes flagstone into flagging, dimension stone, tiles, and specialty landscape shapes.  
Co-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**  
901 Lewis, P.O. Box 246, Ash Fork, AZ 86320 - Phone (928) 637- 2591 or (928) 637-2592 - Fax (928) 637-2355 - Employees: 85 - Flagstone, marble, quartzite, and

schist quarries - Located in Coconino, Maricopa, Mohave, and Yavapai Counties - Operates over 60 quarries intermittently on an as-needed basis - Produces flagging, dimension stone, and tiles.  
**Dunbar Stone Plant** T21N R2W Sec. 3  
President ..... Gerry E. Dunbar  
Vice President ..... W. B. Dunbar  
Maintenance Superintendent ..... Ron Dunbar  
Office Manager & Transportation ..... Leslie Dunbar  
**Antolini Red Quarry**  
**Antelope Quarry**  
**Armstrong Rose Quarry**  
**Billy 1 and 2 Quarry**  
**Blue Jay Quarry**  
**Hualapai Chocolate Quarry**  
**Roeder Quarry**  
**Red Bird Pit**

**ELIAS CLAY COMPANY**  
P.O. Box 10449, Casa Grande, AZ 85230 - Phone (520) -331-8988 - Fax (520) 876-0994 - Employees: 2 - Open pit clay mine on south side of Santa Cruz River at Friendly Corners - Clay for furnace linings, sports surfaces, construction products, terra cotta, and linings - Markets in Arizona, California, and New Mexico.  
Owner-Operator .....Ernesto Elias  
**Gee Clay** T9S R7E Sec. 35

**ENGELHARD CORPORATION**  
**Chemical Division**  
Box 155, Sanders, AZ 86512 - Phone (928) 521-5468 - Fax (928) 521-3796 - Employees: 6.  
**Cheto No. 2** T21N R29E Sec. 23  
Located 6 miles southeast of Sanders - Surface strip bentonite mine - Primary use is in filters and catalysts, also agriculture and desiccants - Shipped to Mississippi for processing.  
General Superintendent ..... Perry Skersick

**EQUATORIAL MINING NORTH AMERICA INC.**  
1430 E. Fort Lowell Rd. #200, Tucson, AZ 85719-2366 (520) 327-6171 (888) 827-6171 -  
www.equatorial.com.au  
**Equatorial Mineral Park**  
HC 37 Box 500, Kingman, AZ 86401 - Phone (928) 565-2226 Fax (928) 565-9239 - Employees: 17.  
**Mineral Park** T23N R17W Sec. 19  
Located 16 miles north of Kingman - Dump and bench leach copper mine - SX-EW plant.  
Mine Manager .....Joey Matthews  
Environmental Coordinator.....Brian Henderson

**FLAGSTAFF CINDER SALES INC.**  
Old Highway 66 East, P.O. Box 2415, Flagstaff, AZ 86003 - Phone (520) 526-0801 – Fax (520) 526-6580 -  
www.flagcinder.com - Employees: 12  
President ..... Mary Lou Olivier  
General Manager .....Rob Olivier  
**Wildcat Hill Pit** T21N R8E Sec. 9

Open pit copper-molybdenum mine - 85,000 tpd concentrator - Dump leach - SX-EW plant - Capacity 30 million lb. per year.  
President.....A.J. Broderick  
Manager ..... M. Bunch  
Manager, Mine ..... E. Fidler  
Manager, Plant Operation ..... T. Comi  
Manager, Human Resource &  
Community Services..... L. Tanton  
Manager, Environment/Land ..... M. Middleton  
Controller ..... D. Comer  
Superintendent ..... C. Burleson  
**Miami Mine & Smelter** T1N R14E Sec. 24, 25, 26, 35  
P.O. Box 4444, Claypool, AZ 85532 - Phone (928) 473-7150 - Employees: 800 - Open pit oxide copper mine - Dump leach - SX-EW plant - Capacity 150 million lb. per year - 650,000 tpy smelter - Acid plant - Electrolytic refinery - 100,000 tpy continuous cast rod plant - 24,000 tpd concentrator is inactive.  
President ..... A. Tittes  
Controller ..... R. Lamb  
General Manager, Operations ..... R. Griffith  
Manager, Smelter .....A. Binegar  
Manager, Mine ..... M. Yarbrow  
Manager, Hydrometallurgy ..... M. Yarbrow  
Manager, Organizational Services ..... G. Rawson  
Chief Mine Engineer .....C. Iles  
Superintendent, Mine Operations ..... S. Williamson  
Superintendent, Mine Maintenance ..... J. Farran  
Manager, Refining & Rod..... B. Mitchell  
Superintendent Leach/SX/EW .....R. Cabanillas  
Superintendent, Smelter Maintenance .....G. Hinch  
Superintendent, Rod Plant .....R. Hyde  
Coordinator Quality Assurance..... R. Dana  
Manager, Environmental/ Land .....R. Ressler  
Superintendent, Smelter Operations ..... P. Bagdon  
Manager, Hydrometallurgy ..... R. Riddle  
**Morenci.** 81 square miles, centered on T4S R29E 4521 State Hwy. 191, Morenci, AZ 85540 - Phone (928) 865-4521 - Employees: 2400 - Open pit copper mine - Two concentrators (one with molybdenum circuit), total capacity 135,000 TPD - Four SX plants - Three EW tankhouses.  
President..... D.C. Naccarati  
General Manager, Mine Organization..... J. D. Brack  
General Manager, Processing Organization R.D. Giffiths  
Mine Manager ..... D.B. Travis  
Manager, Maintenance,  
Construction & Engineering ..... R.A. Reed  
Manager, Human Resources ..... J.D. Joslin  
Manager, Health & Safety .....R.R. Altamirano  
Controller .....A.D. Zerwas  
**Sierrita** T18S R12E Sec. 7, 8, 9, 10, 16, 17  
P.O. Box 527, Green Valley, AZ 85622 - Phone (520) 648-8500 - Employees: 700 - Sierrita, - 110,000 tpd concentrator - Ferromolybdenum plant - Rhenium plant - Dump leach - SX-EW plant - Capacity 72 million lb. per year - 30 miles south of Tucson.

President ..... R.F. Wishart  
Molybdenum Processing Manager ..... W. H. Sweetser  
Organizational Services Manager ..... R.E. Stilgenbaur  
Controller ..... K. Alme  
Mine Manager ..... T. Ritzel  
Copper Processing Manager..... S.M. Koski  
SX-EW Superintendent.....R. Hernandez  
Technical Services Manager ..... J. Jenkins  
Crushing & Conveying Superintendent ..... E. Guterrez  
**Tohono** T10S R4E Sec. 25  
P.O. Box 15009, Casa Grande, AZ 85230-5009 - Phone (520) 623-1539 - Employees: 10- Open pit copper mine - Heap leach - SX-EW plant - Capacity 100 million lb. per year. Open pit on standby.  
Site Superintendent ..... R. Romero

**PHOENIX CEMENT COMPANY**  
Owned by Salt River Pima-Maricopa Indian Community  
**Phoenix Office**  
8800 E. Chaparral Rd., Suite 155, Scottsdale, AZ 85250 - Phone: (480) 850-5757 - Fax: (480) 850-5758  
www.phoenixcement.com/ - Employees: 11 -  
President.....Roger Smith, Jr.  
**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 (928) 634-2261 - Employees: 148 - Quarry and plant two miles northwest of Clarkdale - 630,000 tpy with expansion to 1,100,000 tpy to be on stream before the end of 2002 – Produces Portland Cement Types 2 and 3, 1P, and masonry cement used in the construction industry.  
V.P. Operations/Plant Manager.....Jim Wells  
Controller ..... Brian Carey  
Assistant Plant Manager/Maintenance ..... Joe D'Avignon  
Assistant Plant Manager/Engineering .....Lew Dodendorf  
Production Manager ..... Chuck Rennie  
Human Resources Manager ..... Jim Moore  
Purchasing/Stores ..... Bill Ayres  
Environmental Engineer ..... Robert Blackford  
**Verde Gypsum** T13N R5E Sec. 11  
P.O. Box 786, Camp Verde, AZ 86322 - Phone (928) 567-3854 - Gypsum and clay quarry five miles east of Camp Verde on State Highway 260 - Supplies gypsum to cement plant at Clarkdale, also agricultural and horticultural uses - Clay for pond, ditch, and liner uses.  
Foreman ..... Bruce McDonald

**PINAL GYPSUM**  
P.O. Box 99, Coolidge, AZ 85228 - Phone (520) 723-3131 - Fax (520) 723-3131 - Employees: 5.  
President and General Manager .....James Bechtel  
Orders and Transportation ..... Lee Skiles  
Office Manager ..... Zora Bechtel  
**White Cross Mine** T7S R17E Sec. 31  
Agricultural and horticultural gypsum - Company processes, sells, delivers and applies gypsum to crop land and golf courses.

**OLD CASTLE SUPERLITE BLOCK COMPANY**  
4150 W. Turney, P.O. Box 23163, Phoenix, AZ 85063 - Phone (602) 269-3561.  
President (Old Castle) .....Cameron Klein  
President (Superlite Block) .....Ted Kozikowski  
**Darling Cinder Pit** T21N R9E Secs. 2, 11, & 14  
P.O. Box 30956, Flagstaff, AZ 86003-0956 - Phone (928) 526-5499 - Employees: 4 - Open pit cinder mine east of Flagstaff - Volcanic cinders used to make building block at the Phoenix and Mesa plants.  
Mine Superintendent .....Terry Mitchell

**OMYA (ARIZONA), INC.**  
**Corporate Office**  
P.O. Box 825, Lucerne Valley, CA 92356 – (760) 248-7306 – Customer orders (800) 222-0120 - www.omya.com.  
Western Division Controller (California) ..Lynn Kraemer  
Geologist (California) ..... Howard Brown  
**Omya Arizona Plant**  
6 N. Mesquite Road, Superior, AZ 85273 – Phone (520) 689-2501 – Fax (520) 689-2961 – Employees: 30 – Calcium carbonate marble processing plant producing powdered calcium carbonate for chemical and functional filler uses in pharmaceutical, food, industrial, construction, and building products.  
Plant manager..... Rod Wilton  
Production Manager.....Randy Russell  
Quality Control Manager .....Karen Washington  
Maintenance Manager..... currently vacant  
**Queen Creek Marble Quarry** T1S R13E Sec. 17  
Employees: 5 – Calcium carbonate marble quarry - Primary crushing and screening plant. Supplies feed to Omya Arizona Plant and Superior Marble Company plant.  
Quarry Manager ..... Dave Fry

**PEABODY ENERGY CORP.**  
701 Market Street, Suite 825, St. Louis, Missouri 631010-1826, Phone (314) 342-3400 - www.peabodyenergy.com  
**Arizona Business Unit**  
P.O. Box 650, Kayenta, AZ 86033 - Phone (928) 677-3201.  
Manager, Coal Operations ..... Charles J. Stenftenagel  
General Manager .....C. Scott Williams  
Manager, Information Services..... Douglas G. Botone  
Mgr. Safety and Training..... William K. Bippus  
Ariz. Business Unit Controller..... Charles W. Tilly  
**Black Mesa Mine** T35N R18E Sec. 5  
P.O. Box 650, Kayenta, AZ 86033 - Phone (928) 677-5040 - Employees: 331 - Surface coal mine - Located approximately 30 miles southwest of Kayenta.  
Mine Manager ..... Buck R. Woodward  
Production Mgr., 1st Shift ..... Barry L. Grass  
Production Supt., 2nd Shift..... Paul C. Yazzie  
Production Supt., 3rd Shift..... Tim Kozela  
Safety Supervisor ..... Keith Grass  
**Kayenta Mine** T36N R18E Sec. 9

P.O. Box 650, Kayenta, AZ 86033 - Phone (928) 677-5008 - Employees: 511 - Surface coal mine - Located 30 miles southwest of Kayenta.  
Mine Manager ..... D. Scott Pearson  
Production Mgr., 1st Shift ..... Alan Gough  
Production Supt., 2nd Shift ..... Randall L. Hendrix  
Production Supt., 3rd Shift..... Jonas Grass  
Safety Supervisor ..... Daniel Ashike

**PHELPS DODGE CORPORATION**  
**Corporate Headquarters**  
One N. Central Ave., Phoenix, AZ 85004-2306 Phone (602) 366-8100– www.phelpsdodge.com  
Chairman, President, & CEO ..... J.S. Whisler  
Senior Vice President and President,  
Phelps Dodge Mining Company ..... T.R. Snider  
Senior Vice President, Human Resources..... D.L. Pulatie  
Senior Vice President & CFO ..... R.G. Peru  
Senior Vice President & General Counsel .... S.D. Colton  
**Phelps Dodge Mining Company**  
One North Central Ave., Phoenix, AZ 85004, - - Phone (602) 366-8100.  
President..... T. R. Snider  
Senior Vice President,  
North American Operations .....D.E. Bartlett  
Senior Vice President,  
South American Operations ..... G.A. Loving  
President, Exploration ..... S.M. Enders  
Vice President, Engineering ..... W.S. Brack  
Vice President & CFO..... S.I. Tanner  
Vice President, Global Sourcing ..... N.F. Mailhot  
Vice President, Technology and  
Development ..... J.O. Marsden  
Vice President, Financial &  
Operational Analysis ..... L.A. Shonk  
**Phelps Dodge Exploration Corporation**  
One North Central Ave., Phoenix, AZ 85004, - Phone (602) 366-8100.  
President ..... S.M. Enders  
Counsel ..... L.D. Milner  
**Phelps Dodge Ajo, Inc.** T12S R6W Sec. 23, 26, 27  
P.O. Drawer 9, Ajo, AZ 85321 - Phone (520) 387-7451 - Employees: 13 – Copper mine - Permitting & development.  
General Manager ..... F. Menzer  
**Safford District**  
625 Main Street, Safford, AZ 85546 - Phone (928) 428-8720 Mine plan of operations/land exchange underway.  
Manager ..... A. Kaczmarek  
**Copper Queen** T23S R24E Sec. 15  
36 W. Highway 92, Bisbee, AZ 85603 - Phone (520) 432-3621 - Employees: 30 - Mine dump leaching - copper precipitation plant.  
General Manager ..... F. Menzer  
**Bagdad** T14N R9W Sec. 4  
P.O. Box 245, Bagdad, AZ 86321 - Phone (928) 633-2241 - Employees: 500 –

Located 1.5 miles east of Flagstaff Mall - Cinder quarry - Used for aggregate, landscaping, and construction materials.

**FLINTSTONE INDUSTRIES**  
7563 E. Highway 69, Prescott Valley, AZ 86314 - Phone (520) 772-6446 - Fax (520) 775-4361 - Employees: 1 - Granite quarry for landscape uses - Crushing and sizing plant.  
President / Superintendent. .... William H. Hyslip  
**Granite Quarry** T13N R2E Sec. 5

**FOUR PEAKS MINING**  
19026 North 32 Way, Phoenix, AZ 85020 Phone (602) 332-5215 – Employees: 6 - mines quartz-variety amethyst; gem rough, carving rough and crystal specimens. 21 miles NE of Beeline Highway from Four Peaks exit.  
Mine Manager ..... Ed Davis  
**Four Peaks Amethyst** T4N, R10E, Sec 21

**GSA RESOURCES INC.**  
7660 N. Business Park Drive, Tucson, AZ 85743 - Phone (520) 744-8845 – (800)-866-4052 Fax (520) 744-7770 – www.gsaresources.com - Employees: 8 (including contractors).  
President..... Daniel T. Eyde  
Chief Financial Officer .....Robert Morgan  
MIS Manager ..... Barbara Carroll  
**Lyles Mine** T13N R6W Sec. 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 Sec. 1, 2, 12  
Open pit zeolite mine located 13 miles north of Bowie - Chabazite - Used for cation exchange media, specialty adsorbents, deodorizers, and RAD waste treatment for adsorbing Cs<sup>137</sup> and Sr<sup>90</sup>.  
**Burro Creek Clay** T14N R10W Sec. 7  
Open pit clay mine located 8 miles southwest of Bagdad - 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 85273-0005 - Phone (520) 689-5723 - Fax (520) 689-2362 - www.worldminerals.com - Employees: 9 - Crushing, screening, and drying plant located 2 miles west of Superior - Two open pit perlite mines - Used in the

manufacture of filter media for filtering pharmaceuticals, chemicals, sugar, and beverages and as an agricultural fertilizer carrier.  
Production Supervisor ..... Mike Putz  
Office Manager ..... Julia Alvarado  
**Superior Perlite** T2S R12E Sec. 9

**HARLEY GRAY STONE COMPANY**  
P.O. Box 323, Paulden, AZ 86334 - Phone (520) 636-2436 – Fax (520) 636-0704 - Employees: 25-35 - Quarries located 8 miles northeast of Drake - Quarries and processes Arizona flagstone into flagging, dimension stone, and tiles.  
Owner ..... Carl Gray  
Office Administrator ..... Nancy McCabe  
**Flagstone Quarries**

**HORNER STONE**  
Office: PO Box 476, Ashfork, AZ 86320 – Phone and Fax (928) 637-2271  
Stone Yard and Fabrication Shop, 398 Quarry Road, Ashfork, AZ 86320 – Employees 40 – quarries sandstone for flagstone, patio stone, standup stone work, and hand cut shapes – produces Rosa, Classic Oak, Peach, Buff, Fiesta (varicolored), Champaign, Raspberry (light background with lavender spots), and Blush sandstone.  
President..... James Horner  
Sales and Marketing ..... David King  
**Bacon and Beans Quarry**  
**Cucomunga Quarry**  
**Jericho Quarry**  
**Mary Ann Quarry**

**HOWARD GRAY STONE COMPANY**  
PO Box 68, Ashfork, AZ 86320 – Phone (928) 636-1421 – Employees: 6 – produce sandstone flagstone for sale to other Ashfork area producers.  
Plant Manager ..... Jim Shields  
Safety Director ..... David Chavez  
**Ground Quarry**  
**Million \$ Buff Quarry**  
**Rosa Quarry**

**IMERYS**  
P.O. Box 759, Sahuarita, AZ 85629 - Phone (520) 625-6040, 1-800-952-2769 - Fax (520) 625-0388 – Employees: 18.  
Plant Manager ..... James “Roger” Young  
Office Manager ..... Susan Jansen  
Sales ..... Tim Nelson  
**Davidson Quarry** T17S R17E Sec. 19  
Marble quarry - Crushing and grinding plant - Used for calcium feed additive, decorative stone, plaster and roofing material - Fine ground material used as mineral filler.  
**Santa Rita Quarry** T18S R15E Sec. 15



Marble quarry - Located 15 miles southeast of Sahuarita - Raymond roller mill - Sizing and bagging plant - Crushed or ground marble for landscape, construction, functional filler, and chemical uses.

**IRONITE PRODUCTS COMPANY**

**Scottsdale Office**  
8700 E. Via De Ventura, Suite 280, Scottsdale, AZ - 85258 - Phone (480) 991-9804 - (800) 677-9941 - Fax (480) 991-1727 - www.ironite.com - Employees: 39.  
President ..... Heinz Brungs  
**Iron King Tailings** T13N R1E Sec. 15  
Iron King Road, Humboldt, AZ, P.O. Box 218, Humboldt, AZ 86329 - Phone (520) 632-7214 - Fax (520) 632-5747 - Reclaims zinc mine tailings - Activation, pelletization, and packaging plant - Produces fertilizer-soil supplement that provides available iron, zinc, trace elements, and nutrients.  
Plant Manager ..... Steve Schuchardt

**J C ROCK, LLC.**

6860 South Nogales Highway, Tucson AZ 85706 - Phone (520) 573-9948 - Employees: 3.  
Partner/Operator..... Kevin Hall  
Partner/Operator..... James L. Rodman  
**Johnson Camp** T15S R22E Sec 26  
Quartzite quarry – Sorting, crushing, and screening, of metal mine overburden for landscape materials and rip-rap.

**KALAMZOO MATERIALS**

6975 N. Oracle Rd. Tucson, AZ 85705 – Phone (520) 575-9601 Fax (520) 575-9604 – Employees: 30.  
President..... Paul D’Alessio  
General Manger ..... Bob Linsell  
Produces crushed granite and other decorative landscape rock.  
**Bonita** T10S R16E Sec. 14  
**Chloride Pit** T24N R18W Sec. 34  
**New Superior Pit** T2S R12E Sec. 36  
**San Manuel/Desert Gold** T9S R16E Sec. 19  
**Silver Bell Pit** T12S R9E Sec. 20  
**Superior** T2S R12E Sec. 14  
**Valentine Pit** T23N R13W Sec. 20  
**White Hills** T28N R19W Sec. 21

**KESSEN AND KESSEN**

P.O. Box 174, Globe, AZ 85502 - Phone (928) 425-0123 - Employees: 5.  
Owner..... Stewart Kessen  
**Copper Hill Mine** T1N R15E Sec. 15  
Silica flux for Phelps Dodge’s Miami copper smelter - Mine located northwest of Globe.

**KILAUEA CRUSHERS INC.**

P.O. Box 10606, Glendale, AZ 85318-0606 - Phone (602) 843-1888 - Fax (623) 561-1528 - Employees: 40.  
President ..... Bill Nichols  
**Picacho Quarry** T6N R2W Sec. 5

Two quarries and crushing – screening plants located 12 miles east of Morristown - Crushed rhyolite for desert landscaping.  
**Jomax Quarry** T5N R1W Sec. 34  
Quarry and crushing-screening plant located 131th Avenue and Jomax Road - Crushed rhyolite for desert landscaping.

**KINDER AND SONS  
AGRICULTURAL GYPSUM**

Packing Plant Road, Willcox - P.O. Box 45, Willcox, AZ 85644 - Phone (520) 384-4489 and (520) 384-4901 - Employees: 7.  
President/Operator..... Tommy Kinder, Sr.  
Secretary/Treasurer ..... Carol Kinder-Stevens  
**White Eagle Gypsum Mine** T24S R28E Sec. 11  
Open pit gypsum mine - Crushing and screening plant - Gypsum for agricultural use.

**LEVIN STONE COMPANY, INC.**

Double A Ranch Road, P.O. Box 95, Ashfork, AZ 86320 - Phone (520) 637-2288 - Fax (520) 637-2290 - Employees: 50-70 - 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.  
**Levin Stone Plant** T22N R2W Sec 34  
President..... Phil Levin  
Manager..... Lyle Levin  
Transportation & Maint. Supt. .... Fred Hurd  
Office Manager ..... Ilene Harrison

**MADISON GRANITE**

7050 Grand Avenue, Glendale, AZ 85301 - Phone (623) 931-7760 - Fax (623) 939-7722 - Employees: 6.  
President..... Stan Novak  
**Madison Granite** T5N R2E Sec. 24  
Open pit granite quarry - Located east of Interstate 17, 4 miles south of Carefree Rd. - Crushed granite products  
Desert Madison Gold® for desert landscaping.

**McKUSICK MOSAIC**

Route 1, Box 35-D, Globe, AZ 85501 - Phone (928) 425-5051 - Fax (928) 425-7471 - Employees: 4.  
Co-owner ..... Robert & Charmion McKusick  
Co-owner ..... Kathleen Condit  
**Weary Lode Mine** T1S R15E Sec. 22  
Clay quarry located 5 miles south of Globe - Used for tile and wind chimes, cosmetic additives, sealants, horticultural mixes, and slip glazing material.

**MATERIAL DELIVERY, INC.**  
dba MDI Rock

P.O. Box 26055, Prescott Valley, AZ 86312, 14900 E. Highway 169, Dewey, AZ 86327 - Phone (928) 632-5320 - Employees: 35.  
Owner/General Manager ..... Mike Denny  
Office Manager/Dispatch ..... Marion Mager

Phoenix Yard – 2414 E. Mohawk Lane, Phoenix, AZ 85050 – P.O. Box 30881, Phoenix, AZ 85046 - Phone (602) 569-8722  
Phoenix Yard Manager/Dispatch..... Mike Houle  
Prescott Yard – 2971 Willow Creek Road, Prescott, AZ – Phone (928) 778-6033  
**MDI Pit (El Paso Pit)** T13N R1E Sec 1  
Pits located 3 miles east of Dewey north of Highway 169 - Produces decorative boulders and multi-colored crushed and screened material.  
Pit Manager ..... Rick Denny

**MG QUARRIES**

1334 East Chandler Blvd., Bldg. 5, PMB B72, Phoenix, AZ 85048 – Phone (480) 460-7842 - Fax (480) 460-6324 – Employees: 4.  
Owner/Manager ..... Mike Amundson  
Owner/Manager ..... Jeanne Amundson  
**Martin Peak Marble Quarry** T4N R13W Sec. 28  
Marble quarry – crushing and screening plant – produces “Cotton Candy Marble” decorative landscape stone.  
Quarry Foreman ..... Walter Walker

**MINERAL PARK DECORATIVE ROCK**

Mineral Park Division - 8275 N. Mineral Park Rd., HC 30 Box 266, Kingman, AZ 86401 - Phone (928) 565-9455 – and Cedar Hills Division, 9376 E. Wright Dr., Kingman, AZ 86401 – Phone (928) 692-0868  
Employees: 18 – Produces Mineral Park Gold, Mineral Park Red, Hualapai Red, and Hualapai Gold crushed granite and boulders for landscaping.  
**Mineral Park** T23N R17W Sec. 19  
**Cedar Hills** T21N R14W Sec. 20  
Owner..... D. Lavoy Adams  
General Manager..... Mark Adams

**MINERALS RESEARCH AND RECOVERY, INC.**  
Tucson Office and Plant

4620 S. Coach, Tucson, AZ 85714 - Phone (520) 748-9362 – (800) 875-0776 - Fax (520) 748-9364 - www.mrrinc.com- Employees: 35.  
President ..... Michael Vick  
Plant Superintendent ..... Pat Snyder  
V. President Sales ..... Steve Mehlman  
**Ajo Plant and Slag Stockpile** T12S R6W Sec. 23  
Highway 85, Ajo, 85321 - Phone (520) 387-76821 - Processes copper smelter slag for roofing granules and abrasives.

**MORTIMER, INC.**

3166 Willow Creek Road, Prescott, AZ 86305 – Phone (928) 776-8000 – Fax (928) 776-1618 – www.mortimernursery.com - Employees: 20 – Produces Sedona Red, Rosa, and Classic Oak sandstone flagging and facing stone.  
President..... Gary Mortimer  
**Switchback Quarry**

**MORTON SALT**

13000 W. Glendale Ave., Glendale, AZ 85307 - Phone (623) 247-3000 -www.mortonsalt.com - Employees: 36.  
Facilities Manager/Environmental Coordinator ..... Michele Jones  
Safety Manager ..... Lonnie Hansen  
**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.

**MURPHY LANDSCAPING & EXCAVATION, LLC**

PO Box 1504, Salome, AZ 85348 – Phone (928) 859-6166 – Employees: 2.  
Owners/Operators ..... Steve and Cherie Murphy  
**Rio Del Monte Mine** T4N R13W Sec 3, 4, 9, 10  
Mine located 7 mi N of exit 53 (Hovatter Rd.) I-10 or 4 mi S. of Salome on Harquahala Rd. Quartz boulders for landscaping; screened material; fractured rock; and rip-rap.

**NATIONAL GYPSUM COMPANY**

Gold Bond Building Products Division  
1414 E. Hadley St., Phoenix, AZ 85034 - Phone (602) 258-9321 – Fax (602) 257-8250 - www.nationalgypsum.com - Employees: 58 - Wallboard and joint treatment plant.  
Plant Manager ..... Doug Baresich  
Office Manager ..... Wendy Self  
Production Manager ..... Robert Piercy  
Joint Treatment Quality Control..... Rick Turner  
**Feldman Quarry** T6S R16E Sec. 27  
1103 South Highway 77, Winkelman, AZ 85292 - Phone (520) 357-7180 - Employees: 4 - Open pit gypsum mine located 12 miles south of Winkelman - Gypsum shipped to Phoenix plant for manufacture of plaster board.  
Quarry Superintendent ..... Robert Foster

**NORD RESOURCES CORP.**

**Johnson Camp** T15S R22E Sec. 26  
3048 Seven Dash Road, Dagoon, AZ 85609, P.O. Box 384, Dagoon, AZ 85609 – Phone (520) 586-2241- www.nordresources.com - Employees: 16 – Located north of exit 322 off I-10 – Open pit copper mine – Heap leach – Solvent extraction-electrowinning plant – Capacity 45,000 lb per day – Copper recovery from existing heaps – Mine on care and maintenance.  
Operations Manager ..... Erland Anderson  
Superintendent..... Matt Williams

**NORTHERN ARIZONA STONE COMPANY**

P.O. Box, 835, Ashfork, AZ 86320 – Phone (928) 637-2515 – Employees: 10.  
**Gleed Quarry** T22N R3W Sec 18  
Contact ..... Paula Henderson  
Sandstone dimension stone quarry – stone cutting and shaping plant – Produces Buckskin, Rustic, and Buff sandstone flag stone, blocks, and landscape pieces.