THE MINERAL INDUSTRY OF NEVADA

This chapter has been prepared under a Memorandum of Understanding between the U.S. Geological Survey and the Nevada Bureau of Mines and Geology for collecting information on all nonfuel minerals.

In 1999, the preliminary estimated value[1] of nonfuel mineral production for Nevada was $2.78 billion, according to the U.S. Geological Survey (USGS). This was a 12% decrease from that of 1998,[2] and followed a 3.1% decrease in 1998 from 1997. The State was second in the Nation (first in 1998) in nonfuel mineral production value, of which Nevada accounted for more than 7% of the U.S. total.

Nevada, the Nation's leading State in gold production and second-leading State in silver production, provided 74% and 27% of the Nation's gold and silver, respectively. The "Silver State" has been first in gold production since 1981, and, except 1999, first in silver since 1987. In 1999, gold accounted for more than 82% of Nevada's nonfuel mineral value, but the precious metal also accounted for the largest portion of the State's drop in value. The total value of gold decreased by $300 million, in part because of reduced production, but more so owing to overall lower prices for gold during the year (table 1). Other nonfuel minerals that had significant decreases included copper, down about $83 million; silver, down about $25 million; and construction sand and gravel, down about $8 million. Relative to these changes, small yet significant increases occurred in lime (up about $5 million), crushed stone (up $3 million), portland cement, and diatomite. All other nonfuel minerals showed changes in value of less than $1 million. In 1998, decreases in the values of copper, silver, lithium minerals, gold, and crushed stone (descending order of change in value), totaling about $102 million, accounted for most of the State's decrease in value for the year (table 1). Barite and diatomite values also decreased, about $4 million and $5 million, respectively. Nonfuel mineral values that increased included a $4 million rise in construction sand and gravel and an increase of about $1 million each in portland cement and gypsum; all other changes were small relative to these.

Based upon USGS estimates of quantities produced in the 50 States during 1999, Nevada was the only State to produce lithium minerals, magnesite, brucite, and mercury. The State remained second of two diatomite-producing States, sixth in gypsum and perlite, and seventh in lime. Nevada went down in rank to second from first in silver and to fifth from fourth in copper. Additionally, significant quantities of construction and industrial sand and gravel were produced in the State.

The following narrative information was provided by the Nevada Bureau of Mines and Geology (NBMG).[3] Production data in the following text are those reported by the NBMG, based upon its own surveys, estimates, and information gathered from company annual reports. The NBMG data are reported by that agency to be nonproprietary data and may differ from some USGS preliminary estimates and production figures as reported to and estimated by the USGS.

Nevada produced 257,000 kilograms (kg) of gold in 1999 along with 607,000 kg of silver. Newmont Mining Corp.'s Nevada operations, which include the Carlin Trend mines, the Lone Tree complex, Twin Creeks, and one-half of the production from the Rosebud Mine, reported production of 75,974 kg in 1999, down from 86,144 kg in 1998. Newmont maintained its place as the largest gold-producing company in Nevada, while Barrick Gold Corp. remained in second place, producing 65,559 kg of gold in 1999. Barrick Gold's Betze-Post Mine lost its place as the largest Nevada gold mine and was replaced by Placer Dome Inc.'s Cortez operation (Pipeline Mine), which produced 41,321 kg in 1999. Betze-Post production in 1999 was 35,150 kg, but Barrick's Meikle underground mine reported 1999 production of 30,399 kg gold, up from 26,354 kg in 1998. Other major gold producers in 1999 included Smoky Valley Common Operation's Round Mountain Mine, 16,852 kg; Independence Mining Co.'s Jerritt Canyon Mine, 11,291 kg; Franco-Nevada Mining Corp.'s Ken Snyder Mine, 5,672 kg; Florida Canyon Mining Co.'s Florida Canyon Mine, 4,342 kg; Echo Bay Minerals Co., 3,872 kg from its McCoy/Cove operation; and Homestake Mining Co.'s Ruby Hill Mine, 3,852 kg (Tingley and LaPointe, 2000).

Echo Bay's McCoy/Cove Mine was Nevada's largest silver producer in 1999, producing 262,000 kg. The Rochester Mine, operated by Coeur d'Alene Mines Corp., produced 192,692 kg silver, and Franco-Nevada Mining Corp.'s Ken Snyder Mine produced 57,874 kg. Other large silver-producing operations included the Denton-Rawhide Mine, 20,700 kg; the Round Mountain Mine, 14,445 kg; Barrick Gold Corp.'s Meikle Mine, 8,187 kg; and the Rosebud Mine, operated by Hecla Mining Co., 7,711 kg (Tingley and LaPointe, 2000).

Concentrates containing 28,011 metric tons (t) of copper, along with 816 kg gold, and 4,762 kg silver, were shipped by BHP Copper Co. from its Robinson Mine in White Pine County.

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[1]The terms "nonfuel mineral production" and related "values" encompass variations in meaning, depending upon the minerals or mineral products. Production may be measured by mine shipments, mineral commodity sales, or marketable production (including consumption by producers) as is applicable to the individual mineral commodity.

All 1999 USGS mineral production data published in this chapter are preliminary estimates as of May 2000, and are expected to change. For some mineral commodities, such as, construction sand and gravel, crushed stone, and portland cement, estimates are updated periodically. To obtain the most current information, please contact the appropriate USGS mineral commodity specialist. A telephone listing for the specialists may be retrieved over the Internet at URL http://minerals.usgs.gov/minerals/contacts/comdir.html, by using MINES FaxBack at (703) 648-4999 from a fax machine with a touch-tone handset (request Document #1000 for a telephone listing of all mineral commodity specialists), or by calling USGS information at (703) 648-4000 for the specialist's name and number. All Mineral Industry Surveys–mineral commodity, State, and country–also may be retrieved over the Internet at URL http://minerals.usgs.gov/minerals; facsimile copies may be obtained from MINES FaxBack.

[2]Values, percentage calculations, and rankings for 1998 may vary from the Minerals Yearbook, Area Reports: Domestic 1998, Volume II, owing to the revision of preliminary 1998 to final 1998 data. Data for 1999 are preliminary and are expected to change; related rankings may also be subject to change.

[3]Joseph V. Tingley and Daphne D. La Pointe, Research Geologists, co-authored the text of mineral industry information provided by the Nevada Bureau of Mines and Geology.

Following an announcement that it would cease operations at all of its North American properties by the end of August, BHP ceased production at Robinson at the end of June.

Two new gold mines came into production in Nevada in 1999. Franco-Nevada Mining Corp.'s Ken Snyder Mine in Elko County produced its first gold in December 1998, but it did not officially begin production until February 1999, and can be counted as a 1999 startup. Newmont Mining Corp.'s Trenton Canyon Mine, one of the Lone Tree complex mines, began production in May 1999. The continuing low price for gold took its toll on Nevada's gold-mining industry. Most of the mining operations cut staff and production, as evidenced by Nevada's lowered annual gold output. Alta Gold Co. declared bankruptcy in 1999, and closed its operations at the Griffon Mine in White Pine County and the Olinghouse Mine in Washoe County. These mines opened in 1998 and closed within less than a year.

The total value of industrial minerals produced in Nevada in 1999, an estimated $381 million, was about 2% above the value in 1998. In order of estimated value, the most important minerals in 1999 were construction aggregate, lime, diatomite, gypsum, cement, barite, lithium, silica, magnesia, and clay, each valued at more the $5 million. Commodities with values of less than $5 million were dolomite, limestone, perlite, salt, and brucite. Colemanite and zeolite were processed in Nevada from ore mined nearby in California.

In 1999, construction aggregate production in Nevada had an approximate total value of $130 million and was ranked second among the State's mined commodities behind gold. For 1999, State aggregate production was estimated at 26 million metric tons (Mt), nearly 10% more than in 1998. Aggregate produced from sand and gravel deposits accounted for about 80% of aggregate production Statewide, with crushed stone and lightweight aggregate making up the balance. Aggregate produced in the Las Vegas area, estimated at about 18 Mt, increased about 18% from 1998; this increase may be due, in part, to more complete data for 1999. Production from portable crushers at construction sites throughout the Las Vegas basin makes calculations of the total difficult. Production in the Reno-Sparks-Carson City area, at about 5.4 Mt, was also higher than in 1998.

Companies in the Las Vegas area that produced more than 1 Mt of aggregate in 1997, ranked in approximate order of tonnage produced, were Las Vegas Paving Corp., Nevada Ready Mix Corp., CSR America Inc. (formerly WMK Transit Mix Inc.), Hanson Aggregates West (formerly Bonanza Materials Inc.), and Blue Diamond Materials Co. Other important producers were Frehner Construction Co., Inc., Wells Cargo Inc., Granite Construction Co., and Gornowich Sand and Gravel, Inc. The largest Las Vegas producer, Las Vegas Paving Corp., mostly mined aggregate from the new Las Vegas landfill and from a pit in the Lone Mountain area. Nevada Ready Mix Corp., the second leading producer, mined most of its aggregate from an open pit in an alluvial fan in the Lone Mountain area. Hanson Aggregates West (formerly Bonanza Materials) shut down its Stephanie Pit operation in Henderson in 1999 and now produces mainly from granite mined near Railroad Pass. Community pits and other aggregate mining facilities administered by the U.S. Bureau of Land Management and operated by several companies provided about 3 Mt to the Las Vegas area total in 1999.

In 1999, sand and gravel operations accounted for about 85% of aggregate used in the Las Vegas metropolitan area, with crushed stone and lightweight aggregate making up the balance. Major crushed stone producers in the Las Vegas area were Hanson Aggregates West, Frehner Construction Co., Inc., Granite Construction Co., and Southern Nevada Lightweight.

For years, the largest source of Las Vegas aggregate has been near Lone Mountain northwest of Las Vegas. Once a comfortable distance from residential areas, Lone Mountain operations have been subjected to public criticism mostly related to dust and traffic problems. Although significant production still comes from sites located in more heavily urbanized parts of the metropolitan area, such as the Buffalo Road area in the southwestern part of Las Vegas, it is likely that future production will come increasingly from more distant sources. The new landfill in Apex near Interstate 80 about 16 kilometers (km) northeast of Las Vegas has recently become a large aggregate production area, and aggregate is being hauled as far as 80 km from sites in Lincoln County.

In the Reno-Sparks-Carson City area, Granite Construction Co. and All-Lite Aggregate Co. produced more than 900,000 t of aggregate in 1999. Companies that produced 450,000 t or more in 1999 included Rocky Ridge Inc. and Rilite Aggregate Co. Paiute Pit Aggregates and A&K Earthmovers Inc. were also important producers. Crushed rock continued to be an important source of aggregate in this area; crushed rock operations of Granite Construction, Rocky Ridge Inc., and Frehner Construction, and lightweight rhyolite aggregate from All-Lite Aggregate Co., Rilite Aggregate Co., and Naturalite Aggregate Corp. accounted for about 65% of the aggregate used in 1999 in the Reno-Sparks-Carson City area.

Barite shipments from Nevada totaled 324,000 t, about 25% less than in 1998. Production slipped considerably in recent years (from about 540,000 t in 1996), and was far below the more than 900,000 metric tons per year (t/yr) produced between 1977 and 1982. Active barite producers now number 4, compared with more than 20 companies in the early 1980's. Low-priced imports of Chinese barite into the gulf coast were the main reason for the long-term Nevada decline, although Nevada barite remained highly competitive for drilling uses in terms of specific gravity and chemical purity. Somewhat higher production is expected for 2000 due to increases in North American gaswell drilling in late 1999.

M.I. Drilling Fluids Co., now owned by Smith International Inc. (60%) and Schlumberger Ltd. (40%), was again the largest Nevada barite producer, with combined production of more than 180,000 t of screened and crushed high-grade ore from the Greystone Mine and ground and bagged barite from its Battle Mountain plant, both in Lander County. In late 1998, Halliburton Co. acquired the Baroid Drilling Fluids Rossi Mine (owned briefly by Dresser Industries Inc.) in Elko County, and in 1999 continued shipments of drill-grade barite from that property and the Dunphy processing plant in Eureka County. Baker Hughes Inteq, a division of Baker Hughes Inc., produced barite from its Argenta property (previously a Millpark operation) near Battle Mountain in Lander County.

Standard Industrial Minerals Inc. shipped a small amount of barite in 1999 from a deposit of white bedded barite at the P and S Mine in Nye County to a processing plant in Bishop, CA. The company markets high-value, finely ground (400-mesh), white, paint-grade barite with brightness in excess of 80%.

American Borate Co. mined borate minerals from an underground operation in Death Valley, CA, in 1999. The ore was processed at the Lathrop Wells mill in Nye County, but because the ore was from out of State, this production was not included in the estimate of total value of Nevada minerals.

The Nevada Cement Co., a subsidiary of Centex Construction Products, Inc. produced portland cement at a plant at Fernley in Lyon County. Annual production exceeded 450,000 t of cement. Limestone was mined from Cenozoic lacustrine deposits south of Fernley, and other ingredients came mostly from northern Nevada.

In 1999, Royal Cement Co. refurbished and restarted an idle plant near Logandale in Clark County. Limestone was mined at a site near the plant; other raw materials were purchased from regional suppliers. Anticipated production was in the 230,000 t to 270,000 t range.

Nevada clay production increased slightly from 1998 to 1999. IMV Nevada, owned by Mud Camp Mining Co., mined about 30,000 t of sepiolite and saponite from deposits in Neogene lacustrine sediments in the Ash Meadows area of Nye County. The company's processing plant in Amargosa Valley exported a variety of clay products worldwide. It was the only producer of sepiolite and saponite in the United States.

Other Nevada producers shipped relatively minor amounts of clay minerals. Vanderbilt Minerals Co. shipped a small amount of clay from widely scattered Nevada deposits from a crushing plant at the New Discovery Mine near Beatty in Nye County in 1999. American Colloid Co. shipped some clay in 1999, including white bentonite from Coal Canyon near Lovelock in Pershing County and hectorite from the Disaster Peak deposit in Humboldt County. The Art Wilson Co. sold less than 90 t of montmorillonite from the Jupiter Mine in Lyon County in 1999 for aquaculture. The company also mined halloysite clay from a deposit in Washoe County for Nevada Cement Co.; however, the halloysite was not reported as clay in NBMG mineral production figures because it was included in portland cement.

In 1999, Oil Dri Corp. which had been producing cat litter for more than 30 years and produced about 25% of the cat litter used in the United States, announced the discovery of a large montmorillonite clay deposit in Hungry Valley north of Reno. The clay was considered to be excellent material for cat litter, and the company was proceeding with permitting despite local opposition.

Specialty Clays Corp. of Reno continued development of a deposit of montmorillonite in Churchill County about 19 km southeast of Fallon, stripping overburden, stockpiling clay, and building a drying and screening plant in 1999. The clay was reportedly comparable to Na-montmorillonite from Wyoming, and the company hoped to market it for drilling and environmental uses.

Eagle-Picher Minerals, Inc., a division of Eagle-Picher Industries, Inc., produced most of Nevada's diatomite at three different operations. The largest was the Colado operation in Pershing County, which consists of a plant east of Lovelock that produces diatomaceous earth filtration products from beds of pure diatomite mined northwest of Lovelock. The company also produced diatomite that is mainly used in fillers and absorbents at its Clark plant and mine in Storey County, and diatomite that is used in insulation was produced from a pit near Hazen in Lyon County. The company was recently named Nevada Exporter of the Year on the basis of its strong international performance.

Moltan Co. of Tennessee was the second largest diatomite miner in Nevada, producing cat litter, oil absorbent, and soil conditioner from diatomite mined in Churchill County northeast of Fernley. Other companies that produced diatomite in Nevada in 1999 were CR Minerals Corp. at Hazen in Lyon County and Grefco Inc. at its Basalt operation near the Esmeralda/Mineral County line.

Nevada Neanderthal Stone had quarried and cut Tertiary tuff near Beatty in Nye County for floor tile and other stone products for about 10 years. The operation ceased production in 1999 because of drastic sales declines due to competition from material imported from Mexico following ratification of the North American Free Trade Agreement (NAFTA). Decorative stone was produced at several Nevada sites. Las Vegas Rock, which mainly produces crushed landscape rock, produced some sandstone building stone at Goodsprings in Clark County. In 1999, Mount Moriah Stone, of Baker, renewed production of quartzite from quarries in eastern White Pine County under new ownership. The company reportedly produced over 900 t of stone for flagstone, ashlar, and other uses during the year.

Gypsum production in Nevada increased to 1.9 Mt in 1999 from 1.6 Mt in 1998. PABCO Gypsum in Clark County east of Las Vegas was the largest producer, mining over 900 Mt of ore in 1999; however, actual gypsum production was lower because the ore must be beneficiated to produce a gypsum concentrate. PABCO processed most of this gypsum into wallboard at a plant adjacent to the mine, and also made plaster. The Blue Diamond operation of James Hardie Gypsum Co., just southwest of Las Vegas in Clark County, was the second largest producer at about 590,000 t in 1999. USG Corp., which mined gypsum in northern Pershing County, was the third largest producer at about 530,000 t. USG processed the gypsum into wallboard and plaster at its Empire plant in northern Washoe County. The Art Wilson Co., Carson City, shipped about 132,000 t of gypsum and anyhdrite from the Adams Mine in Lyon County for use in cement and agricultural markets. The company was finalizing plans for adding a bagging plant.

In 1999, lime production in Nevada continued at record levels, increasing 10% from that of 1998. Lime was produced from Devonian limestone deposits that were at nearly opposite ends of the State. The Continental Lime, Inc. Pilot Peak high-calcium lime operation near Wendover in Elko County shipped the most lime in 1999, mainly to Nevada gold-mining operations for use in pH control. The Pilot Peak plant, which began as a one-kiln operation in 1989, now consists of three kilns, with a combined capacity of more than 630,000 t/yr of quicklime, and a hydrated lime plant capable of producing 320 metric tons per day.

Chemical Lime Co. produced lime at Apex near Las Vegas. The operation mainly produced high-calcium quicklime used in metallurgical processing, paper manufacturing, and environmental markets. The operation also produced dolomitic lime and hydrated high-calcium lime, mainly for use in construction. Chemical Lime also produced dolomitic hydrate at its plant at Henderson, although the lime kiln was idle in 1999. In late 1997, Chemical Lime shut down its dolomite mining operation at Sloan, south of Las Vegas, where limestone and dolomite had been mined since 1910. Frehner Construction

Co., Inc., purchased the Sloan property, and was producing construction aggregate from limestone at the site.

In addition to lime, both Continental Lime, Inc. and Chemical Lime shipped crushed limestone. Other carbonate rock producers in Nevada were Min-Ad, Inc. and Nutritional Additives Corp., producers of agricultural dolomite near Winnemucca in Humboldt County. Min-Ad, the larger of the two, shipped about 58,000 t of ground dolomite in 1999, a slight increase from that of 1998.

In late 1998, a subsidiary of the giant international company Metallgesellschaft AG purchased the Silver Peak, Esmeralda County, lithium operation from Cyprus Amax Minerals Co., changing the operator name from Cyprus Foote Mineral Co. to Chemetall Foote Co. The operation, active since 1965, produced lithium carbonate and lithium hydroxide compounds from brine. The brine was pumped from beneath Clayton Valley playa and evaporated in nearby ponds. In recent years, the Nevada operation benefited from increasing prices, but a new lithium brine operation in South America caused price reductions for large orders of lithium carbonate from about $2.00 per pound to about $0.90 per pound during 1998. In 1999, the bulk price rebounded to about $1.30 per pound. On the basis of U.S. Securities and Exchange Commission information, production at Silver Peak for 1998 was estimated at 5,400 t lithium carbonate and 2,300 t lithium hydroxide.

Production of magnesia from magnesite at Gabbs in Nye County by Premier Services Corp. was nearly 15% more in 1999 than in 1998. Magnesite and brucite deposits in the Gabbs area had a production history of more than 30 years; for most of this time, including a period of magnesium metal production during World War II and refractory production until the 1980's, the operator was Basic Inc. The magnesia produced presently by the Gabbs plant was light-burned magnesia, which was mainly used in agriculture. Relatively small amounts of brucite were also shipped from Gabbs.

In 1999, Eagle-Picher Minerals, Inc. produced expanded perlite at the Colado diatomaceous earth facility in Pershing County from perlite that was mined at the Popcorn Mine in Churchill County. The perlite was marketed as a filter aid, and plant capacity was reportedly about 7,000 t/yr.

The Wilkin Mining and Trucking Co. mined perlite from the Mackie Mine in Lincoln County. In the past, most of the perlite was shipped as crude; however, the company built a small popping plant in Caliente in 1987, and now sales are almost exclusively expanded perlite. In 1999, shipments totaled about 1,800 t, mainly of large sizes of perlite (including the difficult-to-obtain #4 size) for horticultural uses.

The Huck Salt Co. produced about 14,000 t of salt in 1999. The salt, mined from a playa deposit on Fourmile Flat near Fallon in Churchill County, is now mainly used for de-icing roads. Salt has been harvested from this deposit more or less continuously since it was hauled to the mills that processed Comstock silver and gold ore in the 1860's.

Simplot Silica Products in Clark County shipped 614,000 t of silica sand in 1999, an increase of nearly 6% over the 1998 production. The sand was mined from a large deposit of friable Cretaceous sandstone, washed in the pit, and transported via a slurry pipeline to a plant at Overton where it was screened and bagged.

American Resource Corp. (formerly East West Minerals) processed clinoptilolite at a plant near Amargosa Valley in Nye County since 1985 when the facility was purchased from Anaconda Minerals. In 1998, American Resource was placed in receivership along with Rea Gold Corp., its parent company. Badger Mining Corp., a Wisconsin-based industrial mineral company, acquired the operation in 1999. The clinoptilolite, used in water filtration, odor control, and nuclear cleanup, was mined from a nearby deposit in California. The new owner had plans for plant expansion and development of a separate deposit in Nevada.

American Colloid Inc. sold the Eastgate plant in Churchill County to Nolind Industries, L.L.C. of California in 1998. The plant, acquired from American Resource Corp. in 1995, was originally constructed by East West Minerals in 1987 to process mordenite from Tertiary tuffaceous rocks into cat litter and absorbent products.

Metal exploration continued to suffer from the effects of depressed metal prices. Although activity was reported from 107 mining districts throughout the State compared with only 69 districts in 1998, the level of activity was still low. Exploration activity was concentrated along the major Battle Mountain-Eurkea Range, Pershing County, and, exploration was reported at historical platinum properties in the Bunkerville district, Clark County.

Reference Cited

Tingley, J.V., and LaPointe, D.D., 2000, Nevada, *in* Annual Review 1999: Mining Engineering, v. 52, no. 5, May, p. 76.

TABLE 1
NONFUEL RAW MINERAL PRODUCTION IN NEVADA 1/ 2/

(Thousand metric tons and thousand dollars unless otherwise specified)

Mineral		1997		1998		1999 p/	
		Quantity	Value	Quantity	Value	Quantity	Value
Gemstones		NA	474	NA	159	NA	125
Gold 3/	kilograms	243,000	2,600,000	273,000	2,590,000	255,000	2,290,000
Sand and gravel: Construction		23,600	110,000	26,400	114,000	24,100	106,000
Silver 3/	metric tons	878	138,000	670	110,000	497	85,400
Stone: Crushed		5,150	41,800	6,320	34,000	6,700	37,000
Zeolites	metric tons	(4/)	NA	(4/)	NA	NA	NA
Combined values of barite, brucite, cement (portland), clays (bentonite, fuller's earth, kaolin), copper, diatomite, gypsum (crude), iron ore [usable (1998-99)], lime, lithium minerals, magnesite, mercury (1997, 1999), perlite (crude), salt, sand and gravel (industrial)		XX	383,000	XX	320,000	XX	257,000
Total		XX	3,270,000	XX	3,170,000	XX	2,780,000

p/ Preliminary. NA Not available. XX Not applicable.

1/ Production as measured by mine shipments, sales, or marketable production (including consumption by producers).

2/ Data are rounded to no more than three significant digits; may not add to totals shown.

3/ Recoverable content from ores, etc.

4/ Withheld to avoid disclosing company proprietary data.

TABLE 2
NEVADA: CRUSHED STONE SOLD OR USED, BY KIND 1/

Kind	1997				1998			
	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Unit value	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Unit value
Limestone	7 r/	2,980 r/	$23,300 r/	$7.84 r/	8	4,090	$19,000	$4.64
Dolomite	3	W	W	14.67 r/	2	W	W	33.00
Granite	1	W	W	9.43 r/	2	W	W	7.72
Traprock	3 r/	W	W	2.44 r/	2	34	152	4.42
Volcanic cinder and scoria	2 r/	W	W	4.26 r/	2	W	W	4.23
Miscellaneous stone	4 r/	W	W	8.74 r/	4	1,630	11,000	6.76
Total or average	XX	5,150	41,800	8.12	XX	6,320	34,000	5.38

r/ Revised. W Withheld to avoid disclosing company proprietary data; included in "Total." XX Not applicable.

1/ Data are rounded to no more than three significant digits, except unit value; may not add to totals shown.

TABLE 3
NEVADA: CRUSHED STONE SOLD OR USED BY PRODUCERS
IN 1998, BY USE 1/ 2/

Use	Quantity (thousand metric tons)	Value (thousands)	Unit value
Coarse aggregate (+1 1/2 inch):			
Riprap and jetty stone	W	W	W
Filter stone	W	W	W
Other coarse aggregate	W	W	W
Total or average	38	$208	$5.47
Coarse aggregate, graded:			
Concrete aggregate, coarse	461	4,590	9.95
Bituminous aggregate, coarse	254	1,120	4.42
Bituminous surface-treatment aggregate	77	340	4.42
Other graded coarse aggregate	164	632	3.85
Total or average	956	6,680	6.99
Fine aggregate (-3/8 inch):			
Stone sand, concrete	W	W	7.96
Stone sand, bituminous mix or seal	W	W	3.88
Screening, undesignated	33	144	4.36
Other fine aggregate	7	26	3.71
Total or average	270	1,730	6.41
Coarse and fine aggregates:			
Graded road base or subbase	W	W	3.71
Unpaved road surfacing	W	W	4.45
Total or average	290	1100	3.80
Other construction materials	W	W	3.47
Agricultural:			
Agricultural limestone	W	W	33.36
Other agricultural uses	W	W	26.46
Total or average	63	2,050	32.49
Chemical and metallurgical:			
Cement manufacture	W	W	4.30
Lime manufacture	W	W	3.31
Flux stone	W	W	3.83
Sulfur oxide removal	W	W	3.96
Total or average	2,790	9,940	3.57
Special: Mine dusting or acid water treatment	(3/)	(3/)	4.23
Other miscellaneous uses: Waste material	(3/)	(3/)	2.76
Unspecified: 4/			
Actual	813	6,880	8.46
Estimated	392	3,030	7.72
Total or average	1,210	9,910	8.22
Grand total or average	6,320	34,000	5.38

W Withheld to avoid disclosing company proprietary data; included in "Total."
1/ Data are rounded to no more than three significant digits, except unit value; may not add to totals shown.
2/ Includes dolomite, granite, limestone, miscellaneous stone, traprock, and volcanic cinder and scoria.
3/ Withheld to avoid disclosing company proprietary data; included in "Grand total."
4/ Reported and estimated production without a breakdown by end use.

TABLE 4
NEVADA: CRUSHED STONE SOLD OR USED BY PRODUCERS IN 1998,
BY USE AND DISTRICT 1/

(Thousand metric tons and thousand dollars)

Use	District 1		District 2	
	Quantity	Value	Quantity	Value
Construction aggregates:				
Coarse aggregate (+1 1/2 inch) 2/	W	W	W	W
Coarse aggregate, graded 3/	W	W	W	W
Fine aggregate (-3/8 inch) 4/	W	W	W	W
Coarse and fine aggregate 5/	W	W	W	W
Other construction materials	1,080	4,600	1,180	7,530
Agricultural 6/	(7/)	(7/)	(7/)	(7/)
Chemical and metallurgical 8/	(7/)	(7/)	(7/)	(7/)
Special 9/	--	--	(7/)	(7/)
Unspecified: 10/				
Actual	259	2,000	553	4,880
Estimated	--	--	392	3,030
Total	2,050	11,400	4,270	22,700

W Withheld to avoid disclosing company proprietary data; included in "Other construction materials." -- Zero.
1/ Data are rounded to no more than three significant digits; may not add to totals shown.
2/ Includes filter stone, riprap and jetty stone, and other coarse aggregate.
3/ Includes concrete aggregate (coarse), bituminous aggregate (coarse), bituminous surface treatment aggregate, and other graded coarse aggregate.
4/ Includes screening (undesignated), stone sand (concrete), stone sand (bituminous mix or seal), and other fine aggregate.
5/ Includes graded road base or subbase and unpaved road surfacing.
6/ Includes agricultural limestone and other agricultural uses.
7/ Withheld to avoid disclosing company proprietary data; included in "Total."
8/ Includes cement manufacture, flux stone, lime manufacture, and sulfur oxide removal.
9/ Includes mine dusting or acid water treatment and waste material.
10/ Reported and estimated production without a breakdown by end use.

TABLE 5
NEVADA: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 1998,
BY MAJOR USE CATEGORY 1/

Use	Quantity (thousand metric tons)	Value (thousands)	Unit value
Concrete aggregates and concrete products 2/	2,280	$11,800	$5.18
Asphaltic concrete aggregates and other bituminous mixtures	1,580	8,810	5.58
Road base and coverings 3/	3,890	14,800	3.81
Fill	1,040	4,140	3.97
Snow and ice control	42	179	4.26
Other miscellaneous uses	465	1,670	3.58
Unspecified: 4/			
Actual	13,500	55,400	4.09
Estimated	3,550	17,100	4.82
Total or average	26,400	114,000	4.32

1/ Data are rounded to no more than three significant digits; may not add to totals shown.
2/ Includes plaster and gunite sands.
3/ Includes road and other stabilization (cement).
4/ Reported and estimated production without a breakdown by end use.

TABLE 6
NEVADA: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 1998,
BY USE AND DISTRICT 1/

(Thousand metric tons and thousand dollars)

Use	District 1		District 2		Unspecified districts 2/	
	Quantity	Value	Quantity	Value	Quantity	Value
Concrete aggregate and concrete products 3/	1,310	6,960	966	4,830	--	--
Asphaltic concrete aggregates and road base materials 4/	2,220	12,200	3,240	11,500	--	--
Fill	829	3,620	211	515	--	--
Other miscellaneous uses 5/	6	39	500	1,810	--	--
Unspecified: 6/						
Actual	62	102	9,030	47,900	4,460	7,370
Estimated	1,480	5,560	2,070	11,600	--	--
Total	5,910	28,400	16,000	78,100	4,460	7,370

-- Zero.
1/ Data are rounded to no more than three significant digits; may not add to totals shown.
2/ Includes production within the State with no district reported.
3/ Includes plaster and gunite sands.
4/ Includes road and other stabilization (cement).
5/ Includes snow and ice control.
6/ Reported and estimated production without a breakdown by end use.