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THE NEVADA MINERAL INDUSTRY

1981

Metals
Industrial Minerals
Geothermal
Oil and Gas

Exploration
Development
Mining
Processing

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Mines and oil fields — 1981
metal and industrial- mineral mines
metal mines
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new mines — 1981
future mines
oil fields
* STOREY, CARSON CITY
Modified from Nevada Bureau of Mines and Geology Map 72 (1981)

INTRODUCTION

This report is the third of an annual series. Its purpose is to discuss 1981 activities in Nevada's mineral-resource industry. It describes current mineral exploration and development programs, discovery of orebodies, new mines opened, expansions and closings at existing mines, oil and gas drilling and production, and geothermal drilling and utilization.

MINERALS

Exploration

To find (explore or prospect for) an ore deposit is a complex, time consuming, expensive undertaking. Exploration requires outlining geologically favorable areas, using all the geologic data available, adding mapping and other studies to narrow down the search to a relatively small area (a "target"), and following these steps by a more detailed examination including sampling and drilling to outline the ore.

Exploration in Nevada, whether by the weekend prospector or highly trained geologist, continued at a high level in 1981 in terms of the number of individuals and companies involved, money being spent in the search, and variety of minerals—both metals and industrial minerals—being sought but dropped somewhat from last year's all-time high. The decrease was due mainly to lower prices received for mineral commodities resulting from short-term decreases in demand.

Exploration, by its nature, is a rather secretive undertaking; for this reason much of what goes on is not public knowledge. Only a very few of the many exploration targets being examined in Nevada are mentioned below.

Industrial Minerals
by Keith G. Papke

As it has been for the past several years, exploration for barite in Nevada was at a high level in 1981—the intensity of exploration exceeded any previous efforts for industrial minerals anywhere. Exploration was somewhat curtailed from the 1980 level, principally due to increased imports of cheaper barite into the United States. However, most of the major companies continued or increased their exploration efforts, and the decrease was caused by small companies or individuals. The material sought was bedded barite occurring in submarine exhalative deposits associated with siliceous (western) facies rocks of Cambrian through Devonian age. The bedded deposits occur in a belt that crosses the State in a northeast-southwest direction, but most of the deposits—and most of the exploration—is in the northeastern half of this belt. Exploration methods used include prospect examination, geologic reconnaissance, geochemical surveys, and, locally, gravimetric surveys. Some significant new discoveries were made during the year, but none have been publicly announced. I estimate total proven and suspected barite reserves in Nevada at 90 million tons. Vein barite deposits are also present in Nevada, but because of their generally relatively small size, they are little sought and had only minor production during the year.

Some increased interest was noted during the year for industrial minerals suitable for use as insulating materials, e.g., for diatomite and perlite, for high-alumina materials useable in high-temperature refractories, and for zeolites. **Las Vegas Portland Cement Company** announced plans to build a cement plant near Jean in southern Clark County. Ground breaking for the plant, scheduled to have an initial annual capacity of 1 million tons, is to be held in the spring of 1982.

Metals
by Richard B. Jones
and John Schilling

Silver Strike Resources, a Canadian company, completed 21 drill holes totaling 2370 ft on the Wonder Mine property in Churchill County. The zone being evaluated reportedly has a strike length of 1550 ft and a depth of 250 ft. Indicated reserves have been calculated at 731,780 tons grading 0.019 oz gold and 2.42 oz silver/ton. In addition, 78,000 tons exist in two ore dumps, one grading 0.014 oz gold and 1.59 oz silver/ton and the other 0.019 oz gold and 3.12 oz silver/ton. (Northern Miner, 17 Sep 81).

Pacific Gold and Uranium announced that its joint venture with Noranda Exploration in the main section of the Goldfield district, Esmeralda County, has been 10% completed. Analysis of the results of 151 drill holes (100-ft depth) indicate a commercial gold orebody exists, and further drilling is warranted. Initial drilling has indicated 500,000 tons grading 0.07 oz/ton gold. (Intermountain Pay Dirt, Bisbee, Ariz., Apr 81).

Kordex is performing exploratory drilling for gold and silver at the Hasbrouck Mine at Divide in Esmeralda County. An adit is planned to crosscut the orebody and provide a bulk sample for metallurgical testing.

U.S. Minerals Exploration of Orvada, Colorado, announced results from their Tokin gold property in the Antelope district, Eureka County. By the end of the third quarter of 1981, 107 drill holes had been completed on a 100-ft grid spacing. Mineralization between 5 and 100 ft in thickness has been encountered with assays ranging from 0.03 to 0.20 oz/ton gold; this zone is near surface and covers an area 2000x2000 ft. Additional drilling and metallurgical testing is planned. (Mining Record, Denver, Colo., 21 Oct 81).

Exxon Minerals Co., a division of Exxon Corp., announced that exploratory drilling has revealed a substantial molybdenum deposit in the Mt. Hope mining district 20 miles northwest of Eureka in

Eureka County. Exxon began exploratory drilling in late 1978; 17 core holes have been completed within a 1-square-mile area and molybdenum mineralization was encountered in 15 of the holes at depths ranging from 150 to 3150 feet. Four contract rigs were continuing drilling at year's end; several more years of drilling and evaluation will be required before the feasibility of development can be determined (Exxon Minerals Co. press release, 7 Aug 81). Tonnages of over 450 million with grades of 0.13–0.32% MoS_2 previously had been reported (Ertec report E-TR-50, 1981, pg. 93). Exxon has 8 workers at the site; Longyear, the drilling contractor, has 24 men on site (Ely Daily Times, 19 Nov 81).

Victor Industries purchased the 63-claim Darby property in the Yerington district, Lyon County. Over the years drilling has been done by both Duval and Anaconda on this property. (Mining Record, Denver, Colo., 14 Oct 81).

Homestake Mining Co. was doing exploration drilling at the mercury deposit just east of Sulphur in southwestern Humboldt County (Humboldt Sun, Winnemucca, 24 Mar 81).

American Copper and Nickel, a subsidiary of International Nickel, is drilling extensively around the Ashdown Mine at the north end of the Pine Forest Range in northwestern Humboldt County. The Becker Drilling Company is the drilling contractor.

Exploratory drilling by Pacific Silver Corp. at the Buckskin Mine, Douglas County. *Mason Valley News (Yerington) photo: Trent Dolan, photographer.*

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(Humboldt Sun, Winnemucca, 3 Dec 81). The exploration is reportedly for gold and copper.

AMAX continued exploration drilling at the Buckingham molybdenum prospect south of Battle Mountain in Lander County. The company denied rumors of imminent development of the property saying that there presently are no plans to develop. (Battle Mountain Bugle, 25 Mar 81). Drilling continued throughout the year. Two full-time geologists were assigned to the project (Elko Free Press, 28 Dec 80).

Klondex Gold and Silver Co. of Vancouver is performing extensive exploratory drilling at Fire Creek in the northern part of the Shoshone Range, 10 miles north of Tenabo in Lander County. Reportedly "at least 300,000 tons of gold ore" have been found to date. (Nevada Appeal, Carson City, 21 Oct 81).

Conoco, Inc. is drilling at Pumpkin Hollow, a few miles southeast of Yerington in Lyon County. The drilling explores what is believed to be small but high-grade copper deposits at depths of 1500–2000 ft on claims leased from U.S. Steel. Copper is known to occur around the edges of the huge iron (magnetite) deposit that U.S. Steel drilled some years ago. Drilling began several months ago and may continue for several years. (Mason Valley News, Yerington, 11 Dec 81).

Electra North West Resources continued working on the Aurora gold-silver property in the Aurora district, Mineral County. The property is held jointly by Electra Resources (40%), Pacific North West Resources (40%), Houston Oil and Minerals (20%), and Summa Corp. has an overriding 2% net smelter royalty.

By February, 33 holes totalling 4000 ft had been completed, outlining a zone 50 ft wide, 1050 ft long, and 262 ft deep, with mineralization continuing downdip (Northern Miner, 26 Mar 81). Four thousand feet of additional drilling was to have started in March and by June is was announced that drill-indicated tonnage had been increased to 1.2 million tons grading approximately 0.13 oz gold and 0.3 oz silver/ton. The zone was, at this time, still open at depth to the northeast and to the southwest. Metallurgical testing was to have begun in June. (Northern Miner, 11 Jun 81).

Hawthorne Gold Corp. and **E&B Explorations** continued working on the Mindora property in the Fitting district, Mineral County. In March they announced potential open-pitable reserves of 620,000 tons grading 0.036 oz gold and 2.18 oz silver/ton with a stripping ratio of 3.43:1. By July an additional 20 drill holes had been completed to test the extension of the proposed open pit; values ranged from 0.020 oz gold and 6.17 oz silver/ton over a 5 ft interval to 0.06 oz gold and 3.35 oz silver/ton across 105 ft. Metallurgical testing had begun by midyear. Also, molybdenum was encountered in most of the holes drilled. (Northern Miner, 7 Mar 81, 30 Jul 81).

Victor Industries completed 1800 ft of rotary drilling on the Doc claims in the Seven Troughs district, Pershing County, and may drill an additional 10,000–15,000 ft. Assays from the drilling ranged from 0.05 to 1.0 oz/ton gold. (Mining Record, Denver, Colo., 14 Oct 81).

Mines and dumps of the Goldfield district, Esmeralda County. Once thought to be mined out, many of these districts have potential for the future as low-grade, open-pit mines. *Ertec photo.*

Ventures West Minerals, a Canadian company, completed 22,715 ft of rotary-percussion drilling in 38 vertical holes in the Santa Fe district, Mineral County, during 1981. Reserves at the year's end amounted to 3 million tons grading 0.095 oz gold and 1.8 oz silver/ton. The deposit appears to be a broad pipe-shaped body of pyritic jasperoid with disseminated gold-silver values covering an area of at least 1400x600 ft. Northwest of the gold-silver area is a newly discovered zone of gold-silver mineralization. By year's end approximately $1.2 million had been spent on this project. (Northern Miner, 26 Dec 81).

Silver King Mining Corp. and its sister corporation, Pacific Silver, are rehabilitating the old Two-G Mine in the Tybo district, Nye County. In 1981 **Sierra Pacific Power Co.** constructed an 8-mile, 55,000-volt power line from Highway 6 to the mine site. Initially this line will be used to power pumps large enough to pump out the old shaft. It is estimated that 1000 gallons/minute will have to be pumped from the old 1300-foot vertical shaft. The Two-G Mine was purchased by Silver King in 1960. It is estimated that it will be at least 2 years before any production is realized from this property. (Mining Record, Denver, Colo., 8 Jul 81).

The Anaconda Company signed an agreement in January with Flowery Gold Mines Co. of Nevada to perform exploration work on the Flowery claims in Storey County. Anaconda has the option to purchase the claims for $500,000 plus royalties during the first 10 years, as well as a perpetual overriding royalty to Flowery Gold Mines of 1% of net smelter returns. The property is comprised of 26 lode claims along a structure parallel to the Comstock Lode in

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the Six Mile Canyon area, 3 miles east of the Comstock Lode. The initial work program is expected to take 2 years. Work for the current year consisted of geologic mapping, geochemical soil sampling, channel sampling and an I.P. survey, the drilling of 31 holes, a resurvey of the claim boundaries, and hazard-correction work that included sealing and safe guarding of inactive mine workings. Proposed work for 1982 will consist partially of drilling 12 additional holes, some possibly deeper than 500 ft, and metallurgical testing. The target is thought to be an open-pitable, low-grade, heap-leachable gold-silver deposit. (Mining Record, Denver, Colo., 23 Dec 81).

Suneva Resources Ltd., a Vancouver company, announced plans to explore a gold deposit adjacent to the Alligator Ridge Mine in northwestern White Pine County. A program of exploratory drilling costing up to $360,000 is being considered. (Mining Congress Journal, Nov 81).

Goldera Resources Inc., a Vancouver company, announced in February that it had signed a joint venture agreement with Normac Explorations, Ltd. on the Mary Anne, Motherlode, and Exchequer-New Century properties in the Cherry Creek district, White Pine County. The Mary Anne property is comprised of 24 patented claims with 3000 ft of underground access. The Motherlode property, originally known as the Baltic Mine, consists of 10 located claims with 1980 ft of underground access and 11 trench or shaft exposures along the Motherlode vein over a known strike length of 2400 ft. The areal extent of the Exchequer-New Century prospect is not known. In May a 6-hole drilling program reportedly was begun on the Mary Anne property by the Allen Drilling Company of Yerington. Maximum depth of these holes was to have been 400 ft. After completion of this work the drill was to have been moved to the Exchequer-New Century prospect where drilling was to begin on two previously known zones of silver mineralization. A leaching program was to have been started during the year on the old Mary Anne mine dumps. These dumps reportedly contained 10,000 tons of material averaging 5 oz/ton silver. Recovery was estimated at 2½ oz/ton silver for a total estimated production of approximately 25,000 oz silver. (Mining Record, Denver, Col., 18 Feb 81, 27 May 81, 24 Jun 81, 23 Sep 81; Northern Miner, 5 Mar 81).

DEVELOPMENT/FUTURE MINES
by John Schilling

Development is the second step in the long, expensive mine-finding process. Once mineralization is found, additional sampling including drilling is needed to ouline the ore. This sampling is done to determine if the mineralization is rich enough and the tonnage large enough to pay for the physical plant needed as well as for the preparation of the mine itself, and still allow for a reasonable profit.

Development, like exploration, has increased markedly in Nevada in recent years. A list of developing mines follows:

American Pyramid Resources, Inc. of Vancouver, B.C., announced that its subsidary, Bell Mountain Mining Co., has scheduled construction of a 250-ton/day cyanide mill and leach pads for late summer 1981 at the Bell Mountain Mine in Churchill County. Total development costs are estimated at $6.25 million; $500,000 have been spent so far. Approximately 1000 m of exploratory workings have been driven, blocking out 500,000 metric tons of milling ore averaging 70 gm/ton silver and 2 gm/ton gold; an additional 500,000 metric tons of heap-leachable ore averaging 35 gm/ton silver and 1 gm/ton gold have been blocked out. Several million tons of additional low-grade ore reportedly is present. Mining will be by open pit. Production is scheduled to begin in 1982. (Nevada Mining Association Bulletin, July 1981, pg. 5).

Universal Gas Co. of Montana is "developing a gold property adjacent to Newmont's Carlin Gold Mine" in northern Eureka County and has built a 200-ton/day cyanide concentration plant at the town of Carlin. "More than 100,000 tons of gold ore . . . . already has [been] mined"; milling is expected to begin shortly. (Nevada Appeal, Carson City, 21 Oct 81).

Newmont Mining Corp. increased its estimate of probable gold reserves at its Gold Quarry property to 25.1 million tons of milling ore containing 0.106 oz of gold/ton, plus an additional 150 million tons of lower grade ore averaging 0.036 oz/ton suitable for heap leaching. The property is 14 miles south of Newmont's Carlin Gold Mine in northern Eureka County (Newmont Mining Co. 1981 Annual Report). Mining will not begin until at least 1984; the production rate probably would be 150,000–200,000 oz/year. Drilling continues and could increase the reserves (Wall Street Journal, 9 Apr 81).

N.R.D., a Canadian company, is developing the Nevada Scheelite Mine in Mineral County. By year's end over $2.8 million will have been spent on the old mine and milling facilities. Limited mill production was expected by the latter part of March, and when in full operation it will amount to 125 tons/day. Work at the mill consisted of installation of a new jaw crusher, cone crusher, classifier, and another bank of flotation cells, as well as resurfacing of the old shaker tables. At the mine work is underway to completely retimber the old vertical shaft (to its depth of 430 ft) and install a new production hoist. Ore development is concentrated on the 200- and 300-ft levels in areas with known reserves. Ore was being stockpiled. Reserves have been estimated at 55,000 tons grading 1.25–1.50% WO_3. The company believes that ore probably exists below the 500-ft level. (Northern Miner, 12 Mar 81).

Veta-Grande, Inc. announced a joint venture with Nevada Resources and Development, Inc. to develop the Argus silver-gold property in the Pilot Mountain mining district east of Mina, Mineral County. Reserves are estimated at over "6300 tons . . . .

Gold ore being loaded into 85-ton truck at Freeport's Jerritt Canyon Mine, Elko County. *Elko Daily Free Press photo.*

containing . . . . $486 per ton (silver at $12 per ounce and gold at $500 per ounce)." (Las Vegas Review Journal, 7 May 81).

Veta Grande, Inc. also announced a joint venture with Nevada Resources and Development, Inc. to develop the Hasbrouck and adjacent Quartz Mountain Metal Mines properties at Quartz Mountain in the northwesternmost part of Nye County. Reserves are estimated at "over 160,000 tons of ore bearing an average grade of 15 ounces of silver per ton." (Mineral County Independent, Hawthorne, 29 Apr 81).

River Mountain Resources, a Canadian company, acquired the New Reveille Mine in the Reveille district, Nye County, and is developing it as an open-pit operation. Reserves have been estimated at 20,000 tons of oxide material containing silver chloride. Samples collected from the property averaged 5 oz silver/ton and 7.5% lead. The possibility of building a processing facility at the mine is being considered. (Northern Miner, 21 Jan 81).

Utah International, a subsidiary of General Electric, plans to open their Springer tungsten mine and mill early in 1982. The complex is located northwest of Mill City in northern Pershing County. This district was one of the largest producers of tungsten in the U.S., but the mines have been shut down since 1958. Over $55 million have been spent to bring the complex into production; exploratory drilling began in 1972, and development has been underway for several years. The mine will be the largest and deepest active underground mine in Nevada. The mill has a capacity of 1000 tons/day. Some 225 persons will be employed in the mine and mill. The concentrates from the mill will be shipped to Cleveland where General Electric's Lamp Division will process it into miles of tungsten wire. (Nevada State Journal, Reno, 18 Oct 81).

Victor Industries announced purchases of placer ground at Barrel Springs in Pershing County. Inherited with these purchases were a 10,000 yards/day processing plant and the right to mine the 23,000-acre property. Production was to have started in April, and full capacity production of 10,000 yards/day was anticipated by year's end. There are supposedly 3 million yards of proven reserves valued at $15.00/yd. Mining costs are estimated at $3.00/yd. (Mining Record, Denver, Colo., 15 Apr 81).

Victor Industries developed four benches that open up the top of the mineralized zone on the Lucky 4 property, Seven Troughs district, Pershing County. Geology indicates a chimney-shaped structure 75x150 ft at the top, 150x1200 ft at the bottom, and 450 ft deep. Assays run from 0.08 to 0.96 oz/ton gold and from 1 to 2 oz/ton silver. The property reportedly has a total of 12,000,000 tons of indicated reserves. Drilling is continuing. Mining was to have commenced in November at a rate of 50 tons/day, increasing to 500 tons/day in 1982. Upon reaching the 500 ton/day mining rate, ore is to be hauled to Standard Slag's operation at Atlanta, Nevada for processing. (Mining Record, Denver, Colo., 18 Nov 81).

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Shovel at Anaconda's molybdenum mine in Nye County.

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MINING

The estimated value of Nevada's mineral production for 1981 was more than $440,000,000 (based on preliminary nonfuel estimates by the U.S. Bureau of Mines and an estimated price of $27/bbl for oil). The value of mineral output increased almost 12% over 1980. The total increase was less than expected because of lower metal prices, especially for gold.

A number of new mines opened during the year and others are being developed and are scheduled to open in future years. These, and new developments at existing mines, are described below.

NEW MINES

Industrial Minerals
by Keith G. Papke

Only a few new barite operations were started in 1981 in contrast to the large number started in 1980. **Minerals Unlimited, Inc.** opened a barite mine in the northern Osgood Mountains in Humboldt County and built a jig plant near Golconda to upgrade the ore. **Unichem Minerals, Inc.** built a jig plant to process ore from their Coyote Mine in the Tuscarora Mountains in Elko County. **Petro-Chem, Inc.** moved their jig plant to the Taylor Canyon Mine in the Independence Mountains in Elko County and began producing barite. **Peabody Colada** purchased the Bird Mine in central Lander County, but the property has been inactive since the purchase. Several smaller operations started or shut down during the year.

NEVADA'S ROLE IN U.S. MINERAL SUPPLY IN 1981

Major commodity	Share of U.S. output percent	Rank in Nation
Barite	82	1
Diatomite	30*	2
Fluorspar	3*	2
Gemstones	20*	2
Gold	33	1
Gypsum	10*	7
Lithium	20*	2
Magnesite	100*	1
Mercury	99	1
Pumice & volcanic cinder	10*	5
Silver	1	8
Tungsten	15*	3

Data from U.S. Bureau of Mines.
*Estimated by Nevada Bureau of Mines and Geology.

Except for several small and intermittent producers, no new operations were noted for other industrial minerals. The zeolite mill at Ash Meadows in southern Nye County, which the **Anaconda Company** had hoped to build during 1981, has not yet been constructed. The company has been producing some zeolite for several years from an open pit in California several miles south of the Nevada line. Anaconda continued their zeolite exploration on both sides of the State line, made extensive marketing efforts, and hope to build the mill in 1982.

NEVADA'S MINERAL PRODUCTION[1]

Mineral		1980[p] Quantity	1980[p] Value (thousands)	1981[p] Quantity	1981[p] Value (thousands)
Barite	thousand short tons	2268	$ 61,920	1988	$ 58,620
Clays	thousand short tons	83	2619	105	5021
Gem stones			972		950
Gold	troy ounces	250,618	153,699	417,200	194,500
Gypsum	thousand short tons	899	6273	826	8344
Lead	metric tons	26	24	100	100
Mercury	76-pound flasks	3300	13,200	27,900	11,439
Perlite	thousand short tons	5	77	5	107
Petroleum	thousand 42-gallon barrels	893	21,400	699	18,900
Sand and gravel	thousand short tons	7000	23,900	7000	20,000
Silver	thousand troy ounces	167	3597	401	4410
Stone, crushed	thousand short tons	1330	5000	1869	7633
Combined value of cement, copper, diatomite, fluorspar, lime, iron ore, lithium compounds, magnesite, molybdenum, pumice, salt, talc, tungsten, and zinc			98,132		127,976
TOTAL			$390,798		$439,100

[1]Production as measured by mine shipments, sales, or marketable production (including consumption by producers), as compiled by U.S. Bureau of Mines (Mineral Industry Survey, Nevada–1979) except for petroleum.

[p]Preliminary.

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Metals
by John Schilling

Freeport completed construction at their Jerritt Canyon Mine in northern Elko County in mid-June at a cost of $95 million. The mill has two parallel circuits, one for oxide ore and the other for carbonaceous ore. Initial milling rates for both circuits were 2000 tons/day with plans to raise the capacity to 2750 tons/day in the near future. The first gold bar was poured on July 4th. The mine and mill are expected to produce 200,000 oz gold annually and to employ 240 people with an annual payroll of $5.5 million. Over $6 million per year will be spent locally on purchases to support the operation, and the State and county will receive an estimated $1.5 million annually. (Elko Daily Free Press, 6 Jul 81). For a description of the geology see "Discovery of the Bell Gold Mines—Jerritt Canyon district, Elko County, Nevada," by Robert B. Hawkins, in the Mining Congress Journal, Feb 82.

Sierra Pacific Power Co. constructed a 14-mile, 120,000-volt line to serve Freeport's gold mine near Elko; the new line taps into an existing 345,000-volt line extending from the Tracy power plant east of Sparks to Midpoint, Idaho. The project cost $2 million. (Tonopah Times Bonanza, 9 Apr 81).

Falcon Exploration began open-pit mining and heap-leaching at the reopened Gold Hill Mine 8 miles south of Tonopah in July. Some 1000 tons of silver-gold ore are mined daily; at this rate, the operation will last 5 years. Some 30 people are presently employed. (Tonopah Times Bonanza, 6 Aug 81).

Sunshine Mining Co. planned to begin production in March at the 16-1 silver-gold mine 10 miles west of Silver Peak in Esmeralda County. Underground development began in September 1980; surface work on the mill began in late April 1981. The mill will have a capacity of 500 tons/day; it will use the cyanide leaching, zinc dust precipitation process. A 10.5%-dipping, 2400-ft decline has been driven to the orebody; 14-ton "trucks" will be used to haul the ore. A 1300-ft well was drilled to provide water

VALUE OF NONFUEL MINERAL PRODUCTION IN NEVADA, BY COUNTY*
(Thousands)

County	1977	1978	1979	1980[1]	Minerals produced in 1979, in order of value
Carson City	358	252	W		Pumice, sand and gravel, stone
Churchill	1460	W	1903		Diatomite, sand and gravel, salt, tungsten, silver, gold, lead, copper
Clark	32,453	38,199	36,779		Sand and gravel, lime, gypsum, stone
Douglas	W	W	1488		Sand and gravel, stone
Elko	13,084	W	6427		Barite, gold, tungsten, sand and gravel, silver, lead, copper, zinc
Esmeralda	12,556	15,836	17,917		Lithium, diatomite, sand and gravel, talc, clays, tungsten
Eureka	W	30,674	40,864		Gold, iron ore, barite, sand and gravel, silver, stone, mercury
Humboldt	4344	4075	8526		Mercury, stone, sand and gravel, clays, gold
Lander	32,700	30,423	49,082		Barite, gold, copper, silver, sand and gravel
Lincoln	5478	8969	12,131		Tungsten, gold, lime, silver, sand and gravel, perlite, clays
Lyon	58,034	37,538	25,254		Cement, stone, sand and gravel, diatomite, copper, lead
Mineral	56	W	40		Sand and gravel, stone
Nye	11,464	20,259	22,492		Gold, barite, magnesite, clay, sand and gravel, silver, fluorspar, pumice, iron ore, tungsten, lead
Pershing	13,711	14,295	17,731		Diatomite, gypsum, iron ore, tungsten, sand and gravel, perlite, clays, gold, silver, lead, copper
Storey	6168	7924	12,389		Diatomite, silver, gold, sand and gravel
Washoe	W	W	4659		Sand and gravel, pumice, clay, silver, gold, lead, copper, zinc
White Pine	W	W	W		Tungsten, molybdenum, sand and gravel
Undistributed[2]	71,952	28,965	2567		
Total[3]	263,816	237,408	260,249		

*Data from U.S. Bureau of Mines.
W Withheld to avoid disclosing company proprietary data: included with "Undistributed."
[1]Not available.
[2]Includes some sand and gravel that cannot be assigned to specific counties, gem stones, and values indicated by symbol W.
[3]Data may not add to totals shown because of independent rounding.

Number of Mines and Employees in Nevada's Mineral Industry

STATE OF NEVADA'S REVENUE FROM MINERAL INDUSTRY

Source	1977	1978	1979	1980	1981
Federal[1]	$2,903,049	$4,847,428	$6,548,509	$7,718,102	$8,088,086[2]
Net proceeds tax[3] . . .	1,842,283	1,967,717	1,976,912	3,243,145	
Geothermal[4]	451,984	240,000	829,892	753,000	
TOTAL	$5,197,316	$7,055,145	$9,358,250	$11,714,247	

[1]Royalties and rentals paid under Section 35 of the Mineral Leasing Act of 1920.
[2]First 9 months.
[3]On gross yield of mine less specified allowable deductions.
[4]Bonus bid payments from geothermal leases sales.

for the mill, and a 24,600-volt power line was under construction by **Sierra Pacific Power Co.** There were presently "18 hourly workers and 7 staff members" at the property. The total investment is expected to be over $21 million. (Eureka Sentinel, 14 May 81).

Veta Grande, Inc. began mining in January at the Mohawk Mine near Silver Peak, Esmeralda County. Initially the silver ore was shipped to the company's mill near Minden. Production was expected to reach 200 tons/day by year's end. A mill is planned for the future at the mine. An investment of $2 million is expected by the end of 1981. (Nevada State Journal, Reno, 9 Jan 81).

Bullion Monarch reported that its Adelaide copper-gold-silver mine, 10 miles south of Golconda in Humboldt County, is producing 50 tons of ore/day from development work on the Adelaide vein. Over 500 tons of ore have been stockpiled for future shipment to Monarch's flotation mill at Austin. Future mining is planned at 200 tons/day (Mining Record, Denver, Colo., 23 Sep 81). By late October 1000 tons of ore had been mined and stockpiled, and mining is expected to continue at the rate of 100 tons/-day. (Nevada Appeal, Carson City, 21 Oct 81).

Pinson Mining Co. poured the first gold bar in February at their Pinson Mine and Mill near Winnemucca. Construction at Pinson was completed in 11 months at a cost of $19 million dollars. Reserves are sufficient for 9 years of operation. Construction of heap-leach treatment facilities is planned to begin

EMPLOYMENT PROJECTIONS—NEW MINES[1]

County	Company/Project	Production Commencement Date	No. Employees	Anticipated Annual Payroll
Churchill	Bell Mountain Mining BELL MOUNTAIN	1982	25	$ 500,000[2]
Elko	Freeport JERRITT CANYON	1981	240	$6,000,000
Esmeralda	Sunshine 16-1	1982	25-50	$ 700,000[2]
Esmeralda	Falcon Exploration	1981	30	$ 600,000[2]
Humboldt	Pinson Mine PINSON	1981	80	$1,500,000
Humboldt	Bullion Monarch ADELAIDE	1981	10	$ 200,000[2]
Mineral	Houston International BOREALIS	1982	50	$1,000,000[2]
Nye	Cyprus NORTHUMBERLAND	1982	50-60	$1,100,000[2]
Nye	Anaconda HALL	1981	400	$8,000,000[2]
Pershing	Utah International SPRINGER	1982	225	$2,600,000[2]
White Pine	Silver King TAYLOR	1981	75	$1,500,000[2]

[1]Incomplete; "No. Employees" not known for some mines.
[2]Estimate—based on $20,000/employee.

Smokey Valley Mining Co.'s Round Mountain gold mine. *Ertec photo.*

in the second quarter of 1981; these facilities will treat low-grade material that can not be handled in the present mill. Pinson also has reserves at its nearby Preble deposit that will be trucked to the Pinson Mill. The Pinson operation will produce 124–164 oz gold/day. Mining is by open-pit methods using rotary drills, mechanical loaders, hydraulic shovels, and 45-ton trucks. The carbon-in-pulp mill uses the latest technology for carbon handling and separation of the gold-rich carbon from the pulp. The carbon-in-pulp mill circuit is preceded by conventional crushing and grinding. During a 24-hour process when settling, carbon leaching, and chemicals are used, a final electrolysis step follows in which the gold adheres to steel wool that is then melted in a furnace before being poured into gold bars. Pinson employs 80 people, mostly from Winnemucca, and provides employee transportation to and from the mine. Pinson owners, other than Rayrock and Duncan, are Lacana Mining Inc. and Siscoe Metal Inc., Nevada corporations, and Nevada residents John Livermore and Peter Galli. (Mining Engineering, April, 1981).

Anaconda Copper Co., a subsidiary of Atlantic Richfield, continued development of the Hall molybdenum property 25 miles north of Tonopah in Nye County. Development costs are expected to reach $240 million. Construction of the mill and other facilities was 75% complete by the beginning of 1981; over 15 million tons of overburden had been removed, and over 1000 persons were employed, 410 by Anaconda and 761 by contractors. (Anaconda press release). Stockpiling of ore began in January, and the 20,000-ton/day mill was scheduled to start processing ore in October. The company has paved the 18-mile road from Tonopah to the mine. (Nevada State Journal, Reno, 10 Mar 81). By June, 23 million tons of rock had been removed and the open pit was 400 ft deep. In the fall when full production is expected, the mine will produce 12–15 million pounds of molybdenum/year (6–8% of free world production) and will employ 400 people. The open pit eventually will be 1200 ft deep and 1 mile across at its rim. (Tonopah Times Bonanza, 11 Jun 81).

Sierra Pacific Power Co. constructed an 87-mile, 230,000-volt line to serve Anaconda's new molybdenum mine near Tonopah; the new line taps into an existing 230,000-volt line near Austin. (Nevada Mining Association Bulletin, Nov-Dec 1980-Jan 1981).

Amselco Minerals, Inc. began production in June at the Alligator Ridge open-pit gold mine in northwest White Pine County, 70 miles northwest of Ely. The project is a joint venture between Amselco and the Occidental Petroleum Co. When in full production, the mine will process 3000 tons of ore/day (Ely Daily Times, 21 May 81). The operation will produce 60,000 oz of gold each year for at least the next 6 or 7 years. Development costs were $30 million; 140 workers will be employed. (Nevada State Journal, Reno, 7 Jun 81). Amselco paved 41 miles of road to provide better access to the mine; the road extends north from U.S. Highway 50 to the mine and cost over $3 million (Ely Daily Times, 28 Aug 81). The mine had some start-up problems, but produced 63,668 oz of gold during 1981 (Occidental Petroleum Corp. 1981 Annual Report).

Silver King Mines, Inc. began operations at the Taylor silver mine and mill in White Pine County, 20 miles southeast of Ely. The first silver was poured in May. Silver King has been developing the open-pit mine and building the mill since 1979; the investment in the facility has been about $11 million. Production is expected to be 1–1.5 million oz of silver/year; the mill has a capacity of 1200 tons of ore/day. Approximately 150 people are employed, and the payroll is $5 million annually. Known reserves are 7–10 million tons averaging 3 oz of silver/ton. (Mining Congress Journal, Aug 81).

Houston International Minerals Corp. began production at the Borealis Mine and Mill 15 miles southwest of Hawthorne in Mineral County. The first gold-silver bullion was poured October 15th. HIMCO began exploration and development in 1977;

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First 1000-oz silver button produced at Candelaria Partner's Candelaria Mine, Mineral County. *Betchel Civil & Mineral, Inc. photo.*

Pouring silver button at Candelaria Mine. *Occidental Petroleum Corp. photo.*

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feasibility studies were started in late 1980, and the U.S. Forest Service issued the necessary permits in May after a variety of environmental studies had been completed. Bechtel Civil and Engineering Inc., a subsidiary of Bechtel Corp., designed and built the 2500-ton/day mill. Total cost of the project was $14.5 million. The mine and mill employ 60 people. (Reno Evening Gazette, 8 Nov 81). The Borealis Mine and Mill is an open-pit, heap-leaching operation processing 780,000 tons of ore/year that yield 30,000 oz each of gold and silver. Reserves are 2.5–3.0 million tons averaging 0.08 oz gold and 0.62 silver/ton, sufficient to last 4 years; additional exploration is underway and results show promise for additional reserves. The ore is hauled by truck from the open pit, crushed, stockpiled, and spread 10 ft deep on four 80x300-ft sealed-asphalt leach where a cyanide solution is sprinkled on the ore piles. The precious metals, now in solution, are extracted using zinc precipitation and refined into doré metal in an electric induction furnace.

ACTIVITIES/EXISTING MINES

Industrial Minerals
by Keith G. Papke

The recorded value of industrial-mineral production in Nevada in 1981 was $190 million; barite, diatomite, cement, sand and gravel, and lithium carbonate were, respectively, the most valuable commodities. Industrial minerals accounted for nearly one-half of the value of Nevada's mineral production, and nearly one-third of the people employed in mining were involved with industrial minerals. The minerals produced in Nevada in 1981 were barite; bentonite, kaolinite, and sepiolite clays; cement; diatomite; fluorspar; gem stones; gypsum; lightweight aggregate; limestone carbonate; magnesite; perlite; pyritic soil additive; salt; sand and gravel; silica; stone; and talc. Additionally, borate produced in Death Valley, California, was processed in Nevada.

All Minerals' barite operations in Nye County. Processing facilities in Monitor Valley (above) and the mine in East Northumberland Canyon. *Ertec photos.*

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Nevada is the principal source of domestic barite, accounting for 82% of the total U.S. production and nearly one-quarter of the estimated world production. Nevada barite production increased slightly during 1981 despite considerable economic pressure due to increased barite imports and rapidly increasing railroad-freight rates. Most of the barite was used as a weighting agent in drilling muds to prevent costly, environmentally and physically dangerous oil or gas blowouts. The largest producers in Nevada are **All Minerals, Inc.; Dresser Industries, Inc.; IMCO Services, Inc.; Milchem, Inc.; and NL Industries, Inc.** Approximately 25 open-pit mines produced barite during 1981. In recent years a rapidly increasing proportion of the barite has been upgraded by jigging or other gravity methods or by flotation, and more of the material has been ground to the finished product in Nevada mills.

Nevada has the only hard-rock magnesite mine in the United States, **C-E Basic's** operation at Gabbs in northwestern Nye County. (The rest of the U.S. production of magnesium comes from ocean water and brines.) A plant expansion at Gabbs completed during 1981 gave added capacity for production of chemical-grade magnesium oxide.

An expansion at **Simplot Silica Products'** silica sand operations near Overton in Clark County was underway during the year. The expansion involves installation of a slurry transport system from mine to mill and new drying and sizing systems. When complete the new equipment will nearly triple capacity to 1 million tons annually. The company processes sand mined by open pit from the Baseline Sandstone mainly for use by glass plants in California.

Foote Mineral Co. (a subsidiary of Newmont Mining Corp.) continued to produce lithium from brines near Silver Peak in Esmeralda County. The operation recovered 13.7 million pounds of lithium carbonate in 1980 (Newmont Mining Corp. 1980 Annual Report), about one-third of the lithium produced in the U.S.

Two industries that are highly dependent on the construction industry—gypsum and sand-gravel—had a decline in production rates during the year. However, the decline in Nevada was much less than that generally suffered elsewhere, and the production of other construction-related industrial minerals increased over those produced in 1980. All the assets of the **Flintkote Co.** in Clark County were acquired by Genstar Corp. Their new operations are a dolomite mine at Sloan, a dolomite-calcining plant at Henderson, a limestone mine and lime plant at Apex, and a gypsum mine, calcining plant, and wallboard factory at Blue Diamond. Johns-Manville Corp., a producer of silica sand near Overton in Clark County changed its name to **Manville Corp.**

Metals
by John Schilling

Titanium Metals Corp. continued to produce titanium metal at its plant at Henderson in Clark County, one of the largest in the world. In 1980, TIMET began a 3-year project to expand and modernize the facility; The plant's capacity will be expanded to 32 million pounds of titanium sponge per year. (Las Vegas Sun, 25 May 81).

Carlin Gold Mining Co. a wholly-owned subsidiary of Newmont Mining Corp., produced 136,600 oz of gold in 1981 compared to 106,800 in 1980. Over 14,000 oz were produced from leaching operations, the rest from milling. Carlin operates 3 open pit gold mines, a mill, and 2 heap leaching facilities. Fire-refined bullion is produced at the Carlin mill. Over 10 million tons of ore and waste were mined during 1981; the ore milled averaged 0.185 oz/ton compared to an average of 0.163 oz in 1980. Mill feed during the year came from the Carlin Main pit, the Maggie Creek pit, and the Blue Star pits. On April 1, heap leaching of lower grade ore was begun at Maggie Creek and continued through the warmer April-November season that permits leaching. In addition, heap leaching of dumps at the inactive Bootstrap Mine continued for the third year. At the end of 1981, Carlin's total reserves of mill grade ore, including the Carlin Mine and Maggie Creek's mill ore but excluding Gold Quarry, were 6,988,000 tons containing 0.165 oz gold/ton. This compares with reserves at the end of 1980 of 7,291,000 tons containing 0.171 oz gold/ton. (Newmont Mining Corp. 1981 Annual Report).

Pennzoil's Duval Corp. suspended copper mining operations in Arizona and at the Copper Basin Mine between Copper Canyon and Battle Mountain in December. The gold-silver mining operations at Copper Canyon continued. None of the 430 employees at both Nevada operations were laid off; employees at Copper Basin were transferred to Copper Canyon. (Elko Daily Free Press, 3 Dec 81). Consideration also was being given to bringing 60 employees to the Nevada operation from Arizona (Humboldt Sun, Winnemucca, 3 Dec 81). An additional gold-silver deposit was discovered adjacent to the Copper Canyon copper mine; the new discovery contains an

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estimated 16 million tons of ore averaging 0.15 oz gold and 0.57 oz silver/ton (2.4 million oz gold and 9.2 million oz silver). The orebody currently being mined contains 3.9 million tons of ore averaging 0.09 oz gold and 0.28 oz silver/ton. Total reserves (both orebodies) are now 2.7 million oz gold and 62.8 million oz silver. (Wall Street Journal, 5 Nov 81).

Union Carbide continued operations on a reduced scale at the Emerson tungsten mine at Tempiute in western Lincoln County. No new stopes were being started; ore was being pulled from stopes containing previously broken material and was processed in the mill. The mill operated throughout the year and is planned to continue operation through mid-1982. Development also continued throughout the year and is planned for 1982.

Scurry-Rainbow suspended their Gooseberry Mine mining operations in Storey County in May 1981, citing the sagging price of silver as a major factor in their decision. Shaft sinking was to have started early in 1981 to develop areas on the 1150-ft and 1300-ft levels. It was announced at the time of closure that this work plus related development work would continue. Scurry has been evaluating alternative mining and milling methods for the mine in the hope that a return to production can possibly be made in the near future. (Northern Miner, 4 June 81).

Day Mines, Inc., of Wallace, Idaho, announced closure of the Victoria Mine, Dolly Varden district, Elko County, in February 1981, although its official status will be one of limited development. Reasons given for the closure included low copper prices, continued problems in the domestic auto industry and housing industry, and the uncertain outlook for general economic recovery. Copper concentrate shipments began in May 1980 and at the time of closure the mill had processed 124,575 tons of ore grading 0.32 oz/ton silver and 1.56% copper. Copper recovery averaged 85.8%. Concentrates were being refined at Kennecott's McGill smelter. Remaining ore reserves are given at 1,375,425 tons in proven and probable categories, grading 0.35 oz/ton silver and 2.15% copper. Geologic work, followed by drilling, has disclosed "interesting" copper mineralization in an area 6500 ft east of the Victoria ore body. (Nevada Mining Association Bulletin, Jun 81).

Foote Minerals' lithium operation, Silver Peak, Esmeralda County. Evaporating ponds. *Bill Dubois photo.*

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Pouring gold bars at the Pinson Mine, Humboldt County. *Nevada Appeal (Carson City) photo.*

Candelaria Partners, with Occidental Minerals Corp. as operator and Congdon and Carey as a limited partner, operated the Candelaria open-pit silver mine and mill at the rate of 8000 tons of ore and 28,000 tons of stripped waste rock/year (Nevada Mining Association Bulletin, Nov 80-Jan 81). Gordon L. Steele, manager of operations, has written an informative article on the operation in the June 1981 issue of Mining Engineering. The mine produced 1,681,792 oz of silver and 9,219 oz of gold during 1981 (Occidental Petroleum Corp. 1981 Annual Report).

Houston International Minerals Corp. closed the open-pit mine at Gold Hill. Excavation stopped in November because permission to expand the pit could not be obtained from Storey County. Houston's mill, which employs over 100 persons, is expected to process stockpiled ore through at least May 1982. (Nevada State Journal, Reno, 17 Oct 81).

Kennecott Copper Corp. reopened the McGill smelter near Ely in White Pine County in May; concentrates from Kennecott mines in Arizona and New Mexico are being processed. At present, 345 persons are employed at the smelter; the mines at Ruth and the mill at McGill remain closed. The smelter still has not been able to comply with federal EPA regulations; it operates under temporary emergency suspension orders issued periodically by Gov. List. (Las Vegas Review Journal, 24 May 81).

Placer Amex, Inc. reopened the Cortez Gold Mine in Lander County. The mine had a skeleton crew at work during 1977–78; since then the work force has increased until there are now 83 employees. Over $4 million have been spent on reopening and expanding the mine and modernizing the mill. The mill, completed in February, is designed to handle 2000 tons of ore/day. No mining is taking place; heap leaching of existing stockpiles has been underway for some time. (Humboldt Sun, Winnemucca, 17 Mar 81).

Kennametal expanded their tungsten-carbide plant and refinery north of Fallon in Churchill County at a total cost of about $500,000 (Fallon Eagle Standard, 15 Oct 81).

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Tad's Enterprises ethanol plant at Wabuska, Lyon County. Hot water from a geothermal well provides the heat during fermentation. *Nevada Department of Energy photo.*

SUNEDCO geothermal development well in Dixie Valley, Churchill County. *Geothermal Resources Council photo.*

Phillips Petroleum's Cox No. 1 geothermal exploratory well at Steamboat Hot Springs, Washoe County. *Larry Garside photo.*

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GEOTHERMAL ENERGY
by Larry J. Garside

EXPLORATION

Exploration for Nevada's geothermal resources continued at a high level through 1981. The total footage of the 11 large-diameter exploratory wells drilled (88,269 ft) exceeded all previous years (see bar graph). The average well depth also increased from 7319 ft to 8024 ft. Additionally, more intermediate-depth temperature-observation holes (generally 1000–3000 ft) were probably drilled in 1980, although no records were kept on this drilling. The drilling of shallow (less than 600 ft) temperature-gradient holes may be down somewhat from previous years, as exploration companies closed in on targets which required deeper drilling.

Exploration in 1982 will likely be down from 1981's level. A number of factors, including the high cost of venture capital, the relatively stable prices of fossil fuels, the reduced demand for electric power, and the cut-backs in federally funded geothermal programs, will contribute to this expected decline.

Exploration activity in the Tuscarora unit (Hot Sulphur Springs), Elko County, by **AMAX Exploration, Inc.** consisted mainly of intermediate-depth temperature-gradient holes in 1981. Although AMAX completed a geothermal wildcat (No. 66-50) in the area early in 1980, no details have been released on the 5457-ft well.

A 655-ft exploratory geothermal well drilled 14 miles northwest of Moapa Warm Springs encountered a temperature of 204°F. The well was drilled as part of a study for the U.S. Air Force MX missile program by the **Mackay Minerals Research Institute** of the University of Nevada-Reno. (EG&G Idaho Newsletter, Apr 81).

W. H. Hunt announced in early 1981 that it would re-enter, perforate, and test a geothermal well it abandoned in late 1979 in the Monte Neva Hot Springs area of White Pine County. Hunt plans to test selected zones in the well (the W. H. Hunt Schellbourne No. 37-23) between 2350 and 2700 ft.

The Hawthorne Army Ammunition Plant was seeking funding in late 1981 to conduct additional geothermal investigations and tests 1 mile north of the city. The Environmental Research Center of the University of Nevada-Las Vegas drilled an 800-ft well in the area that contained fluids of 194°F. (EG&G Idaho Newsletter, Nov 81).

The **City of Caliente** received $49,800 from the U.S. Department of Energy to drill two 500-ft test wells to confirm the extent and quality of its geothermal resources (Nevada State Journal, Reno, 17 Jul 81). The city plans to develop a community-wide geothermal heating system if the resource is as extensive as anticipated (Nevada State Journal, Reno, 26 Jul 81).

Getty Oil Co. drilled a 9005-ft exploratory geothermal well in the Colado area near Lovelock in 1981. The well was partially funded by the U.S.

LARGE-DIAMETER GEOTHERMAL WELLS DRILLED IN NEVADA IN 1981

CHURCHILL COUNTY		
Dixie Valley		
Sunoco Energy Development Co. Federal No. 84-7	S7,T24N,R37E	8139 ft
Sunoco Energy Development Co. Federal No. 65-18	S18,T24N,R37E	9305 ft
Sunoco Energy Development Co. Federal No. 45-5	S5,T24N,R37E	8261 ft
Rosewood Corp. Eleven Mile Canyon–Federal No. 72-23	S23,T18N,R33E	7459 ft
Rosewood Corp. Pirouette Mountain No. 66-16	S16,T19N,R34E	7379 ft
Stillwater		
Union Oil Co. Richard Weishaupt No. 1	S1,T19N,R30E	10,014 ft
Soda Lakes-Upsal Hogback		
Chevron USA, Inc. Soda Lake No. 84-33	S33,T20N,R28E	8489 ft
Eightmile Flat		
Anadarko Production Co. Federal No. 14-36	S36,T17N,R30E	8783 ft?
EUREKA COUNTY		
Beowawe Geysers		
Getty Oil Co. Collins No. 76-17	S17,T31N,R48E	9005 ft
PERSHING COUNTY		
Colado		
Getty Oil Co. USL No. 44-X-10	S10,T27N,R32E	7964 ft
WASHOE COUNTY		
Steamboat Hot Springs		
Phillips Petroleum Co. Cox No. I-1	S32,T18N,R20E	3471 ft

Department of Energy. (Geothermal Resources Council Bulletin, May 81). The company had previously drilled 18 shallow temperature-gradient holes and two 1500-ft intermediate-depth temperature-observation wells in the vicinity.

AMAX Exploration, Inc. continued their exploration of the McCoy Mine area in northeastern Churchill County by drilling 2 intermediate-depth temperature holes in 1981. Approximately 4 additional holes of similar depth (2000 ft) have been drilled since 1979 when the company acquired 16,020 acres of federal non-competitive geothermal leases. AMAX also has undertaken extensive geophysical and geochemical analyses in the area since 1979. O'Brien Resources Corporation is the only other unit participant. O'Brien holds approximately 14,000 acres of federal non-competitive leases in the area. (Geothermal Resources Council Bulletin, May 81).

Elko Heat Co. completed a geothermal well in August 1981 just southwest of the Elko city limits. The 852-ft well is in Tertiary rocks and has a maximum artesian flow rate of 690 gallons/minute of 180°F water. The well is part of a joint participation program between Elko Heat Co. and the U.S. Department of Energy (expected to provide up to $756,000 in federal assistance on a cost-sharing basis). The well is part of a program designed to determine if there is sufficient geothermal energy available to heat at least three of Elko's larger buildings: the Henderson Bank Building, the Stockmen's Motor Hotel, and Vogue Laundry. (Elko Daily Free Press, 11 Aug 81; EG&G Idaho Newsletter, Aug 81).

The **U.S. Bureau of Land Management** recently announced that Nevada ranks first among the western states in the number of geothermal leases issued on public land. The State contains 45% of the total geothermal acreage leased in the western U.S. In the past fiscal year (1980–81), the State of Nevada has received nearly $800,000 as its half-share of the revenue from geothermal leases on public land. The State will also receive 50% of the royalties if the leases become productive. Competitive bidding has occurred on more than 242,000 acres of Known Geothermal Resource Area (KGRA) lands in Nevada. In addition, non-competitive leases ($1 per acre) in the State cumulatively total 1,638,000 acres. (Nevada State Journal, Reno, 1 Jan 82).

DEVELOPMENT

Geothermal Food Processors, Inc., a geothermal vegetable dehydrating plant at Brady's Hot Springs near Fernley, was sold to Foremost-McKesson, Inc. of San Francisco, according to an agreement signed on October 20, 1981 (Geothermal Resources Council Bulletin, Dec 81).

Alexander Dawson Co. is in the final preparatory stages for moving several large greenhouses from Hurricane, Utah, to Wabuska Hot Springs, Nevada.

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In conjunction with this move, several large ponds have been constructed for waste water from the greenhouses. When the final preparations are made, prawns will be planted in these ponds. (EG&G Idaho Newletter, Jun 81).

Geothermal Energy Systems, a firm specializing in sales and service of hot water well pumps, recently opened for business at 1600 Mt. Rose Highway, Reno. The company offers engineering, design, and installation of geothermal systems for space heating and domestic hot water heating. (Nevada State Journal, Reno, 10 Sep 81).

Phillips Petroleum Co. completed their second large-diameter well in the Steamboat Hot Springs geothermal area in 1981 (Cox No. I-1). They also have numerous shallow temperature-gradient holes and over a dozen intermediate-depth gradient holes in the vicinity. The reservoir temperature is believed to be in excess of 400°F and is in fractured granite and Mesozoic metamorphosed volcanic and sedimentary rocks.

Hydrothermal Energy Corp. received $660,735 for Phase II of a contract to design, construct, and successfully operate a geothermal heating system in the Moana district of southwest Reno. The design and preliminary construction began under Phase I. Phase II includes final design retrofit and construction, acceptance tests, system operation, and performance analysis. (Commerce Business Daily, 14 Oct 81).

Tad's Enterprises, Inc. expects to produce approximately 400,000 gallons of fuel-grade alcohol (ethanol) in 1981 at their Wabuska plant 15 miles north of Yerington. Hot water from a geothermal well at Wabuska Hot Springs provides the heat to turn corn mash into 199-proof alcohol, which is then mixed with gasoline. Gasohol from this plant went on sale in Western Mountain Oil, Inc. stations in the Reno area on May 21, 1981 (Geothermal Resources Council Bulletin, Jul and Oct 81). The company plans to use other feedstock in the plant, possibly Jeruselum artichokes that would be grown locally (Nevada State Journal, Reno, 22 May 81).

The Nevada Public Service Commission has approved a request by **Sierra Pacific Power Co.** for a cooperative agreement with other companies to build a $12.8 million geothermal electric plant 6 miles west of Beowawe in Eureka County. Sierra Pacific will operate the plant to demonstrate the commercial prospects of generating electricity with geothermal energy. Depending on the results, the plant could be operated for up to 10 years. **Chevron USA, Inc.** will supply the geothermal field. The plant is small by conventional standards and is expected to generate 10 megawatts of power, enough to serve about 8000–9000 people. However, if the initial experiment is successful, additional capacity may be added. A construction schedule planned by the company projects a start-up time in early 1983. The cost of the Beowawe project, $12,771 million, will be shared equally by five participants in the project—Sierra Pacific, Eugene Water and Electric Board, Pacific Power and Light Co., Portland General Electric Co., and Sacramento Municipal Utility

FEDERAL GEOTHERMAL LEASES IN EFFECT BY COUNTY*

COUNTY	NUMBER OF LEASES				ACREAGE			
	Non-Competitive		Competitive		Non-Competitive		Competitive	
	FY 80	FY 81	FY 80	FY 81	FY 80	FY 81	FY 80	FY 81
Churchill	154	161	37	29	278,232	448,263	67,640	54,618
Clark	0	0	0	0	0	0	0	0
Douglas	2	0	0	0	2192	0	0	0
Elko	18	19	2	0	28,509	25,688	3823	0
Esmeralda	16	33	1	0	35,069	77,135	2547	0
Eureka	12	13	3	0	11,554	16,229	6767	0
Humboldt	70	90	7	7	144,033	166,349	13,512	13,512
Lander	35	54	4	3	50,330	84,342	6359	6328
Lincoln	4	0	0	0	6723	0	0	0
Lyon	7	6	3	4	5850	4497	3631	5306
Mineral	11	18	0	0	20,897	36,224	0	0
Nye	23	32	4	0	43,368	53,872	7395	0
Pershing	139	164	14	15	248,690	280,704	29,897	29,185
Storey	1	1	0	0	640	591	0	0
Washoe	20	19	11	11	21,235	19,281	17,712	18,255
White Pine	42	42	0	0	97,304	95,309	0	0
	554	652	86	69	994,626	1,308,554	159,283	127,204
	17.7% increase		19.8% decrease		31.6% increase		20.1% decrease	

*Data from the U.S. Bureau of Land Management (FY = fiscal year, 1 Oct 80 to 10 Oct 81).

District. This utility consortium, **NORNEV Demonstration Geothermal Co.**, placed an order earlier in 1981 with **HBA Energy Recovery Systems, Inc.**, in Tyler, Texas, to build the plant, which will consist of portable modules (Nevada State Journal, Reno, 22 Aug 81, 28 Oct 81).

A geothermal well owned by the **El Capitan Hotel/Casino** in Hawthorne may eventually provide space heating for the city's hospital, police station, courthouse, schools, and the El Capitan Lodge and Casino. A pump test completed on the 1025-ft deep well in October indicated that the well could produce 532 gallons/minute with a drawdown of 31 ft. The water temperature remained at 209°F, and total dissolved solids were less than 1100 parts per million (EG&G Idaho Newsletter, Nov 81). There is also the possibility that residences in certain subdivisions could utilize the geothermal heat. Mineral County would be the most likely agency to operate the system. (Nevada State Journal, Reno, 26 July 81, 19 Nov 81).

The **Mackay Minerals Research Institute** of the University of Nevada-Reno completed an evaluation of the geothermal potential of northern Dixie Valley in early 1981. The reports can be examined at the offices of the Nevada Bureau of Mines and Geology.

Hydrothermal Energy Corp. has completed a geothermal well in the Moana area of Reno that will be used to supply heat to a large residential complex, including 150 condominiums. Later expansion of the district heating project to neighboring apartments, condominium complexes, and a school is planned. (EG&G Idaho Newsletter, Oct 81).

The **River Inn** west of Reno was the site of a $10 million expansion and remodeling project this summer. The area is on the site of Lawton's Hot Springs, a favorite spa for many years. The new development includes a spa, motel/casino, and restaurant. (Nevada State Journal, Reno, 21 Jun 81).

Warren Properties of Rancho Santa Fe, California, spent about $1 million installing a closed-loop pipe connecting the 60 homesites in the first phase of their subdivision (off Moana Lane, just southwest of the Washoe County Golf Course in the southern part of Reno) with a heat-exchange system that taps the geothermal heat found in the area. Water at 205°F was found at a depth of 700 ft. (Geo-Heat Center Quarterly Bulletin, Klamath Falls, Ore., Mar 81).

The 1981 Session of the **Nevada State Legislature** passed a bill (SB164) that redefines geothermal resources and the regulations concerning their exploitation in the State. The new law clarifies the definition of geothermal resource as "the natural heat of the earth and the energy associated with that natural heat, pressure and all dissolved or entrained minerals that may be obtained from the medium used to transfer that heat, but excluding hydrocarbons and helium." In addition, the law extends the definition of domestic use of water to include the use of geothermal resources for domestic heating purposes. The use of groundwater for its energy, including heat and pressure, is also considered a beneficial use, whether it is accomplished through an actual diversion of the groundwater (for which a water right must be obtained) or through a process that is not diversionary but extracts heat (for which a water right may be obtained to protect utilization of the energy produced by groundwater).

Additionally, the law established general rules concerning the sale of geothermal energy to the public by public utilities and exempts the wholesaler of geothermal energy (the company or individual who sells to a public utility or other government entity) from regulation by the Nevada Public Service Commission. The new geothermal law is expected to stimulate geothermal development by removing institutional barriers and providing incentives to developers.

The **Fallon Naval Air Station** is soliciting technical proposals for the development of possible geothermal resources on the station. The total project would involve the exploration and evaluation of geothermal resources, and, if suitable resources are located, would include their development and exploitation (including the construction of a generating plant to supply electricity to the station). (Commerce Business Daily, 5 Jun 82).

The **Nevada Department of Energy** published several reports late in 1981 that describe proposed geothermal development plans for various areas of the State. Area development plans for 9 of Nevada's 17 counties outline the geothermal resources as well as the cultural, demographic, and industrial infrastructure. Two additional reports describe preliminary plans for the utilization of geothermal energy (predominantly for space heating) in the communities of Hawthorne and Gabbs.

Lynch Communication Systems, Inc. dropped plans to build a $5.7 million manufacturing plant in Ely. The plant was scheduled to utilize geothermal energy for heating and cooling (Nevada State Journal, Reno, 6 May 81).

Sierra Pacific Power Co. tested a geothermal heat exchanger at several geothermal areas during 1981. The company is one member of a five-utility group (NORNEV) investigating the possible use of geothermal energy to generate electricity in northern Nevada. The test unit was constructed by **NORNEV** and the **Electric Power Research Institute** (EPRI, Palo Alto, CA). It contains the same configurations as a 10 MW portable binary cycle unit now being constructed by **HBA Energy Systems** of Houston, Texas for NORNEV. (Geothermal Resources Council Bulletin, Jul 81).

Sunoco Energy Development Co. (SUNEDCO) began an extended flow test of 5 Dixie Valley geothermal wells in late December 1981. A portion of the steam flow from these wells can be directed through a mobile generating unit. SUNEDCO reportedly has 6 wells capable of production in Dixie Valley. The reservoir is believed to be fractured shale and siltstone below a Jurassic gabbroic lopolith. (Geothermal Resources Council Bulletin, Jul 81).

OIL AND GAS
by Larry J. Garside and Becky S. Weimer

EXPLORATION

During 1981, 28 wells totaling 160,595 ft were drilled in the search for oil and gas in Nevada, representing more than a 10% increase from 1980 and paralleling a nation-wide increase in drilling. At an average cost of $50/ft total drilling costs for 1981 were over $8 million. A corresponding increase was also noted in the acreage and number of federal oil and gas leases in effect for the 1981 fiscal year (see table). The average depth of wells drilled in Nevada decreased from 6928 ft in 1980 to 5736 ft in 1981. Eleven energy companies were involved in this exploration effort, with **Northwest Exploration Co.** (and partners) drilling 42% of the footage; Northwest drilled 10 wells, mostly in Railroad and White River Valleys, Nye County; 5 more wells are scheduled. There were 29 permits issued to drill by the Nevada Division of Mineral Resources in 1981.

Seismic exploration in Nevada continued at a relatively high level in 1981. One service company recently had nearly 2000 line miles of seismic reconnaissance survey information available.

In 1981, **Wexpro Co.** drilled the Jiggs Unit No. 2, a step-out well approximately 1.5 miles north of their Jiggs No. 10-1 well in southern Elko County. The Jiggs No. 10-1 well recovered oil and gas during drill-stem tests in 1980. The Unit No. 2 well

OIL AND GAS WELLS DRILLED AND COMPLETED DURING 1981

Company Name	Well Name	Permit No.	Total Depth	County
Northwest Exploration Company	White River Valley No. 3	290	5974'	Nye
Hunt Oil Company of Nevada	Mary's River Federal No. 1	292	8970'	Elko
Northwest Exploration Company	White River Valley No. 7	293	5000'	Nye
Wexpro Company	Jiggs No. 2	297	10,320'	Elko
Fleetwood Oil and Gas Corp.	Federal Ger No. 1	298	933'	Clark
Fleetwood Oil and Gas Corp.	Eva Garten Federal No. 1	299	2850'	Clark
American Hunter Exploration	Black Jack Springs Federal No. 1	300	8125'	W. Pine
Amoco Production Company	Blackburn No. 2	301	5272'	Eureka
Apache Corp.	Hot Creek Federal No. 24-13	302	11,060'	Nye
Northwest Exploration Company	Trap Spring No. 1-R	303	4200'	Nye
Northwest Exploration Company	Railroad Valley No. 4	304	2100'	Nye
Northwest Exploration Company	Railroad Valley No. 3	305	1530'	Nye
Northwest Exploration Company	Railroad Valley No. 2	306	5150'	Nye
Northwest Exploration Company	White River Valley No. 5	307	4294'	Nye
Northwest Exploration Company	White River Valley No. 6	308	6300'	Nye
Hunt Oil Company of Nevada	Frank W. Hooper No. 1	309	7507'	Elko
Apache Corp.	Warm Springs Federal No. 10-14	310	9180'	Nye
Texaco, Inc.	Crane Springs No. 19-13	312	3497'	Elko
*Texaco, Inc.	Munson Ranch No. 14-23	313	4100'	Nye
Dome Petroleum Corp.	Steptoe Federal No. 1-24	314	6075'	W. Pine
Wexpro Company	Blue Eagle No. 1	315	5954'	Nye
*Northwest Exploration Company	Bacon Flat No. 1 (formerly Railroad Valley No. 8)	316	5450'	Nye
Northwest Exploration Company	Railroad Valley No. 9	317	5351'	Nye
Northwest Exploration Company	Railroad Valley No. 10	318	5753'	Nye
Northwest Exploration Company	White River Valley No. 4	321	2325'	Nye
Depco, Inc.	Silver State Federal No. 33-18	322	9120'	Eureka
Northwest Exploration Company	Bacon Flat No. 5	325	7300'	Nye
Northwest Exploration Company	Bacon Flat No. 2	326	6905'	Nye

*Producing well

NEVADA'S OIL PRODUCTION[1]

Field (discovery data)	1980		1981	
	year	cumulative	year	cumulative
Eagle Springs (1954)	93,677	3,458,975	72,441	3,531,416
Trap Spring (1976)	787,504	3,597,285	599,907	4,197,192
Currant (1972)[2]	---	635	---	635
Bacon Flat (1981)	---	---	27,331	27,332
	881,181	7,056,895	699,679	7,756,574
			20.6% decrease	

[1]Production (in 42-gal. barrels) as reported by oil producers to the Nevada Division of Mineral Resources. All fields are in the Railroad Valley area of Nye County.

[2]The Currant Field produced 635 barrels of oil in 1980 from its single well before it was shut in. The cost of diluting the thick oil to produce it was too high to make production economic.

Northwest Exploration Bacon Flat No. 1 well during drilling in 1981. *John Steubel photo.*

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FEDERAL OIL AND GAS LEASES IN EFFECT BY COUNTY[1]

COUNTY	NUMBER OF LEASES				ACREAGE			
	Non-Competitive		Competitive		Non-Competitive		Competitive	
	FY 80[2]	FY 81	FY 80	FY 81	FY 80[2]	FY 81	FY 80	FY 81
Churchill	213	436	0	0	348,069	913,339	0	0
Clark	1067	1328	0	0	2,000,812	2,485,128	0	0
Elko	1286	1583	0	0	2,422,385	3,496,384	0	0
Esmeralda	8	10	0	0	6906	10,063	0	0
Eureka	561	642	0	0	1,040,969	1,136,547	0	0
Humboldt	44	164	0	0	79,063	632,871	0	0
Lander	238	268	0	0	442,803	537,041	0	0
Lincoln	1077	1601	0	0	2,277,207	3,793,885	0	0
Lyon	5	7	0	0	8384	12,353	0	0
Mineral	11	13	0	0	13,207	16,391	0	0
Nye	1966	2146	0	2	2,246,284	2,564,978	0	400
Pershing	58	120	0	0	107,735	286,127	0	0
Washoe	1	1	0	0	1155	1155	0	0
White Pine	1757	1775	0	0	2,975,763	1,444,761	0	0
	8292	10,094	0	2	13,970,742	17,331,024	0	400
		17.9% increase				24.1% increase		

[1]From the U.S. Bureau of Land Management (FY = fiscal year 1 Oct 80 to 1 Oct 81).
[2]Revised from figures reported in NBMG MI-1980.

recovered gas-cut water from a drill-stem test below 9400 ft in Paleozoic rocks.

Petty-Ray Geophysical Co. performed seismic exploration for a major oil company for several months in the Black Rock Desert and Desert Valley areas of Humboldt County (Humboldt Sun, Winnemucca, 30 Apr 81). It is rumored that the work is being done for Sunmark Exploration Co. (Humboldt Sun, Winnemucca, 5 May 81).

The U.S. Bureau of Land Management reported that 19.3 million acres of Nevada's public domain land was leased for petroleum exploration by the end of 1981. This area represents 27.5% of the State's total area of 70.3 million acres.

DEVELOPMENTS AT EXISTING FIELDS

Wexpro Co. drilled an unsuccessful wildcat in the vicinity of the Eagle Springs Field in Nye County. Continued exploration in the nearby Trap Springs Field resulted in an additional producer for **Texaco, Inc.**

NEW FIELDS DISCOVERED

In late June of 1981, **Northwest Exploration Co.** announced a favorable drill-stem test at their Railroad Valley No. 8 well (S17,T7N,R57E) in Bacon Flat (the discovery well was renamed the Bacon Flat

Field	API gravity	Crude oil type	Pour Point °F	Temperature, °F (depth)	Sulfur content, %	Oil color
Eagle Springs	26–30	highly paraffin	65–85	200 (6000')	1.7	black
Trap Spring	21–28	asphalt	0–40	90 (4500')	0.8	black
Currant	14–15	asphalt	80	195 (7000')	3.9	black
Bacon Flat	30	asphalt	60	220 (5000')	?	black

Comparison of some physical properties of Nevada crude oils (from unpublished data at the Nevada Bureau of Mines and Geology; values approximate).

No. 1). The initial test was in Paleozoic rock in the interval of 5315–5346 ft. The test recovered 1550 ft of free oil (27° gravity-API) and 3280 ft of oil-cut mud. Northwest is the operator for a group which holds oil and gas leases on approximately 144,000 acres in Railroad Valley, including about 28,000 acres in the immediate vicinity of the discovery well. Northwest Exploration owns 34% of the discovery and is the operator for the group owning the remaining interest that includes Husky Oil Company; Trend Exploration, Ltd.; MAPCO; and Aveneg, Inc.

Development drilling in the Bacon Flat Field was started in late 1981. However, the first two wells drilled a few miles southwest of the discovery well are reported to be dry holes. The Bacon Flat No. 1 produced 27,332 barrels of oil in the latter part of 1981. The producing zone is reported to be 5314–5354 ft, and the bottom-hole temperature is approximately 220°F.

PRODUCTION

Nevada's oil production for the calendar year 1981 was 699,680 barrels (see table), a 20.6% decrease from 1980. The oil produced in Railroad Valley is refined at the Nevada Refining Co. in Tonopah, where it is refined into No. 2 diesel oil, No. 4 and No. 6 heating oil, and naptha. These products are marketed throughout the western U.S. (Nevada Division of Mineral Resources).

Pump at the Trap Springs oil field, Nye County. *Laurie Engle photo.*

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DIRECTORY OF NEVADA MINE OPERATIONS ACTIVE DURING 1981 (excluding sand and gravel)

Compiled in part from information supplied by the Office of State Inspector of Mines (Nevada Industrial Commission). UG = underground mine; OP = open-pit mine; ML = mill. The primary mineral commodity produced, the method of processing, and the average number of workers employed during the year are listed to the right of each listing.

CARSON CITY

Heritage Mining Co. — gold & silver
Oristimba Placer (OP) — 2
S14,T15N,R20E
Ray Connors, Owner
No. 4 Kimberly Circle, Carson City, NV 89701

Sierra Rock and Sand, Inc. — volcanic cinder
Cinderlite Aggregate Pit — 5
S21,T16N,R20E
Robert Frybarger, General Manager
P.O. Box 516, Carson City, NV 89701

CHURCHILL COUNTY

Art Wilson Co. — magnetite (iron ore)
Iron Mine (OP) — 2
S4,T24N,R33E
Art Wilson, Owner
P.O. Box 1160, Carson City, NV 89701

Bell Mountain Mining Co. — gold & silver
Bell Mountain Mine (OP,UG) — 9
S10,T15N,R34E
F.E. DuBois, General Manager
P.O. Box 1588, Fallon, NV 89406

Bernice Milling Co. — antimony
Vandenburg Group (UG) — 2
S24,T22N,R37E
Howard Turley, Owner
1221 Settlement Road, Dixie Valley, Fallon, NV 89406

Chalk Mountain Associates — silver
Chalk Mountain Mine (UG, ML) — 3
S25,T17N,R34E
J.L. Green, General Manager
P.O. Box 3232, Reno, NV 89504

Cyprus Mines Corp., United Sierra Div. — diatomite
Brady Mine (OP) — 2
S28,R23N,R27E
Section 17 Mine (OP) — 3
S17,T19N,R26E
Thomas Landels, Plant Manager
P.O. Box 455, Fernley, NV 89408

Dixie Exploration Corp. — gold
Dixie Comstock Mine (OP,ML) — (cyanidation)
S14,T23N,R35E — 2
Anthony Selig, President
707 South 4th Street, Las Vegas, NV 89101

Fisk & Robertson Mining — gold & silver
Gold Hill Mine — (heap leach)
S6,T22N,R34E — 3
Richard Fisk, Owner
3995 Alcorn Road, Fallon, NV 89406

Huck Salt Co. — salt
Huck Salt Plant — (solar evaporation)
S12,T16N,R31E — 2
Elmer Huckaby & John Huckaby, Partners
895 Harrigan Road, Fallon, NV 89406

Jess Wheeler — gold & silver
Shamrock Mine (OP) — 1
S18,T16N,R35E
Wheeler Mill — (gravity concentration)
S28,T19N,R28E — 1
Jess Wheeler, Owner
P.O. Box 218, Fallon NV 89406

John Young — tungsten
John Young Mill — (gravity concentration)
S28,T19N,R28E — 1
John Young, Owner
4740 Alcorn Road, Fallon, NV 89406

Kelrex Gold Corp. — gold & silver
Tungsten Mountain Mine (UG, ML) — 8
S21,T21N,R38E
A.C. Ditto, Mine Manager
P.O. Box 1739, Fallon, NV 89406

Lombardo Turquoise Milling & Mining Co. — turquoise
Shoshone Mine (UG) — 1
S21,T21N,R40E
Al Lombardo, Owner
P.O. Box 148, Austin, NV 89310

Pacific Exploration, Inc. — gold & silver
Fallon Test Facility (ML) — (flotation)
S31,T19N,R29E — 6
Eric Anderson, President
P.O. Box 1418, Fallon, NV 89406

Red Star Gold, Inc. — gold
Red Star Gold Mine (OP) — 1
S33,T16N,R35E
Jack Caramilla, General Manager
100 Vassar Street, Reno, NV 89520

Stage Silver Mining & Smelting — silver
Clan Alpine Mine (UG) — 4
S19,T19N,R37E
Chuck Kinrade & Phil Martin, Partners
1000 Bath Street, Carson City, NV 89701

Standard Slag Co. — barite
Fallon Plant (ML) — (flotation)
S27,T19N,R28E — 14
Cliff McLaughlin, Resident Manager
P.O. Box 10477, Reno, NV 89510

CLARK COUNTY

Crescent Mining, Ltd. — gold & silver
Rest Mine — (heap leach)
S31,T29S, R61E — 6
Dudley Hardin, Manager
P.O. Box 296, Searchlight, NV 89046

DU-ZI Partners, Ltd. — gold & silver
Rand Mine — (heap leach)
S8,T26S,R64E — 3
Andrew J. Zinkl, General Partner
557 California Street, Suite 134,
Boulder City, NV 89005

Eddie Bounsall gold & silver
Treasure Hawk Mine (OP, ML) (gravity concentration)
S34,T19S,R70E 2
Eddie Bounsall, Owner
P.O. Box 37, Logandale, NV 89021

Enoch Resources gold
Moapa Venture (OP, ML) (cyanidation)
S23,T12S,R65E 4
Jim Bourne, General Manager
1515 East Reno Avenue, Las Vegas, NV 89119

Envirochem, Inc. copper, silver & nickel
Envirochem Mill (construction)
S9,T13S,R71E 3
Bob Taylor, Superintendent
660 South 400 East, St. George, UT 84770

Genstar Building Materials Co. gypsum
Blue Diamond Mine & Plant (OP, ML) (crushing,
S32,T21S,R59E screening, calcining)
Fraiser Gillan, Manager 24
Star Route 89031, Box 2900,
Las Vegas, NV 89101

Genstar Cement & Lime Co. limestone
Apex Mine & Mill (OP, ML) (crushing, screening,
S26,T18S,R63E calcining)
Glenn House, Manager 34
107 Water Street, Suite C, Henderson, NV 89015
Henderson Plant (ML) dolomite
S18,T22S,R63E (calcining)
Ken Coaker, Manager 49
107 Water Street, Suite C, Henderson, NV 89015
Sloan Mine & Mill (OP, ML) dolomite
S13,T23S,R60E (crushing, screening)
Earl Gillian, Superintendent 15
Star Route, Box 2300, Las Vegas, NV 89101

Helo Research & Development, Inc. gold & silver
Helo Plant (OP, ML) (gravity concentration,
S3,T15S,R66E cyanidation)
Jerry Henderson, President 6
P.O. Box 199, Moapa, NV 89025

Intermountain Exploration Co. gold & silver
Eldorado Mine (heap leach)
S5,T26S,R64E 6
Richard Wyman, President
P.O. Box 6, Boulder City, NV 89005

Jetco Enterprises, Inc. gold & silver
Jetco Mill (ML) (tank leach)
S21,T30S,R65E 5
James E. Tinnell, President
3121 So. Maryland Pkwy., Bldg. 2, Suite 200,
Las Vegas, NV 89109

Johns-Manville Products Corp. silica sand
West Coast Silica Pit & Mill (OP, ML) 2
S25,T16S,R67E
R.K. Comann, Production Manager
P.O. Box 33, Overton, NV 89040

Micronic Metals, Inc. gold & silver
Micronic Metals Mine (OP, ML) (heap leach)
S32,T13S,R66E 2
Warren Noel, Manager
441 Wilshire Blvd., Las Vegas, NV 89110

Nevada Gold Co. gold & silver
Dolores Mine (OP, ML) (screening)
W & S Materials, Contractor 3
S20,T25S,R64E
Leonard Phillips, President
1919 So. Industrial Road, Las Vegas, NV 89102

Nevada Oil & Mineral Corp. gold, silver & copper
Quartette Mine (ML) (heap leach)
S4,T29S,R63E 6
John Roeder, President
P.O. Box 12931, Las Vegas, NV 89112

Pabco Gypsum gypsum
Las Vegas Gypsum Plant (OP, ML) (calcining)
S5,T20S,R64E 28
Jim Mullins, Plant Manager
P.O. Box 43327, Las Vegas, NV 89104

Patricia Thacke gold & silver
Tiger Lily Mine (UG) 2
S34,T28S,R61E
Patricia Thacke, Owner
P.O. Box 154, Searchlight, NV 89046

P.G. Harrison & James Harris gold & silver
Mockingbird Mill (gravity concentration)
S11,T26S,R64E 2
P.G. Harrison & James Harris, Owners
P.O. Box 9-B, Nelson, NV 89046

Rembrandt Enterprises, Inc. gold & silver
El Diablo Mine & Mill (OP, ML) (gravity concentration)
S13,T26S,R63E 2
Edward L. Bump, Vice President
3601 E. Wyoming, No. 121, Las Vegas, NV 89104

Robert D'Anella, Darrell Claiborne Const. gold
Techatticup Mine (ML) (cyanidation)
S2,T26S,R64E 9
Robert D'Anella & Darrell Claiborne, Owners
P.O. Box 2, Jean, NV 89019

Searchlight Exploration, Inc. gold & silver
Searchlight Mine & Plant (OP, ML) (crushing, screening,
S34,T28S,R63E heap leach)
Virgil Barker, Manager 18
301 South 11th Street, Suite 200, Las Vegas, NV 89101

Simplot Silica Products silica sand
Pit No. 1 (OP) 6
S2,T17S,R67E
Pit No. 2 (OP) 7
S12,T17S,R67E
Red Sand Quarry (OP) 2
S36,T16S,R67E
Mill No. 1 (drying)
S30,T16S,R68E 20
Mill No. 2 (drying)
S11,T16S,R68E 16
W.J. Sandoval, Manager
P.O. Box 308, Overton, NV 89040

Treasure Trove Mining Venture gold
Treasure Trove Mine (OP) 5
S10,T32S,R64E
Darrell Claiborne, Owner
P.O. Box 2, Jean, NV 89019

Tri-Delta Mining & Crushing of Nevada, Inc. — lightweight aggregate (crushing, screening)
Rilite Mine & Plant (OP, ML) — 2
S9,T25S,R61E
James Richards, President
4675 Wynn Road, Las Vegas, NV 89103

DOUGLAS COUNTY

Pacific Silver Corp. — gold & copper
Buckskin Mine (UG) — 12
S13,T13N,R23E
K.L. Stoker, President
P.O. Box 486, Yerington, NV 89447

Veta Grande Companies, Inc. — silver
Veta Grande Mine (OP, ML) — (flotation)
S10,T11N,R21E — 20
Terry Remley, General Superintendent
Route 2, Box 114, Gardnerville, NV 89410

ELKO COUNTY

A.W. Arnold & Associates — barite
Easy Miner Mine (OP, ML) — (gravity concentration)
S12,T40N,R63E — 12
Richard H. Clark, Manager of Nevada Operations
606 Commercial Street, Elko, NV 89801

Barite Mining, Inc. — barite
Heavy Spar Mine (OP) — 6
S10,T35N,R52E
Lakes Mine (OP) — 36
S1,T37N,R51E
Russ Walker, Operations Manager
P.O. Box 1834, Elko, NV 89801

Bourne Creek Mining Co. — gold & silver
Bourne Creek Mine (OP) — 2
S15,T46N,R58E
Clayton Stocks, President
c/o John Williams, Riverside Drive, Jarbidge, NV 89826

Carlin Gold Mining Co. — gold
Bootstrap Mine (OP, ML) — (heap leach)
S8,T36N,R50E — 3
J.D. McBeth, Resident Manager
P.O. Box 979, Carlin, NV 89822

Chromalloy America Corp. — barite
Dry Creek Mill — (gravity concentration)
S11,T42N,R63E — 8
Dennis Duewell, Manager of Nevada Operations
P.O. Box 1003, Elko, NV 89801
Aslett Mill — (gravity concentration)
S11,T42N,R63E — 7
Dale Aslett, President
P.O. Box 802, Twin Falls, ID 83301
Consolation Mine (OP) — 7
S17,T42N,R62E
Jungle Mine (OP) — 10
S8,T42N,R62E
Snoose Creek Mine (OP) — 8
S4,T40N,R62E
John Ala, Mining Contractor
P.O. Box 487, Wells, NV 89835

Day Mines, Inc. — copper
Victoria Mine (UG, ML) — (flotation)
S5,T28N,R66E — 12
Joseph Suveg, Manager
P.O. Box 65, Wendover, UT 84083

Donald S. Mellen — gold & silver
Sleeping Beauty Mine (OP) — 5
S27,T39N,R46E
Donald S. Mellen, Operator
Midas, NV 89414

Duck Valley Ltd. — lead & silver
BFB Enterprises (UG, ML) — (flotation)
S19,T44N,R52E — 2
Cliff Mankin, Contractor
P.O. Box 540, Carson City, NV 89701

Freeport Gold Co. — gold
Freeport Gold Mine (OP) — 62
S34,35,T41N,R53E
Freeport Gold Mill — (cyanidation)
S33,T41N,R54E — 120
Joseph Farrell, President
P.O. Box 1132, Elko, NV 89801
Freeport Gold Mine contracting — 200
Freeport Gold Mill construction — 325

Frontier Mining Co. — tungsten
Wells Tungsten Mine (UG) — 4
S31,T37N,R62E
Gary Lee, Partner
P.O. Box 604, Wells, NV 89835

Gold Creek Silver Mines, Inc. — gold & silver
Diamond Jim Mine (OP) — 2
S29,T45N,R56E
Stephen Carlquist, President
Mountain City Highway, Elko, NV 89801

Henry Cagle — tungsten
Montello Scheelite Mill — (flotation, gravity concentration)
S34,T40N,R69E — 2
Montello, NV 89830

Joe DeFaria — lead & silver
Silver King Mine (UG) — 2
S29,30,T45N,R53E
Joe DeFaria & Frank Hottal, Partners
P.O. Box 80, Mountain City, NV 89831

K & M Mining and Development Co. — gold & silver
Esmeralda Mine (UG, ML) — (gravity concentration)
S34,T39N,R46E — 3
Merrill Nelson, Jim Wilking, & Jack Watterson, Owners
5160 Kuncy Canyon Road, Winnemucca, NV 89445

Minerals Unlimited — barite
76 Creek Mine (OP) — 3
S24,T44N,R57E
John Torok, Superintendent
390 Freeport Blvd., Suite 1, Sparks, NV 89431

Nevada Milling, Inc. — tungsten
Wells Tungsten Mill — (flotation)
S11,T36N,R62E — 12
Sheldon Lee, Manager
P.O. Box 43, Wells, NV 89835

NL Industries Inc., Baroid Div. — barite
Rossi Mine (OP, ML) — (gravity concentration)
S15,T37N,R49E — 15
Queen Lode Mine (OP) — 10
S27,T37N,R49E
Tom Norris, Contractor
P.O. Box 231, Battle Mountain, NV 89820

Old Soldier Minerals barite
Stormy Creek Mine (OP, ML) (gravity concentration)
S27,T42N,R61E
Geo West Services, Inc., Contractor 24
Jeff Long, General Manager
Suite 405, Henderson Bank Bldg., Elko, NV 89801
T & D Barite Milling, Contractor 7
Tom Leno & Dale Aslett, Partners
P.O. Box 162, Wells, NV 89835

Osceola Gold & Silver, Inc. copper
Rio Tinto Mine (heap leach)
S10,T45N,R53E 7
Winn Pierce, President
General Delivery, Mountain City, NV 89831

Petro-Chem, Inc. barite
Longshot Mine (OP, ML) (gravity concentration)
S28,T35N,R52E 8
Fantastic Mine (OP, ML) (gravity concentration)
S14,T39N,R52E 8
Richard K. Mulvaney, Manager
P.O. Box 23, Crescent Valley, NV 89821

Phil Heater gold & silver
Big 4 Mine & Mill (cyanidation)
S25,T44N,R52E 3
Phil Heater, Owner
3445 Alpine View Court, Carson City, NV 89701

Pischel Mining Co., Inc. copper & molybdenum
Vivian Mine (UG) 2
S18,T45N,R64E
Harold Pischel, Contractor
P.O. Box 652, Lone Pine, CA 93545

St. Elmo Gold & Silver, Inc. gold & silver
St. Elmo Mine (UG) 3
S33,T45N,R56E
Harvey R. Hatcher, President
P.O. Box 78, Mountain City, NV 89831

San Rafael Exploration Co. gold & silver
Prunty Mine (UG) 3
S12,T45N,R56E
Louis Koncher, Lessee
P.O. Box 101, Elko, NV 89801

Tuscarora Associates silver
Tuscarora Associates Plant (heap leach)
S34,T40N,R51E 6
Earl Craig, Manager
P.O. Box 44, Tuscarora, NV 89834

Unichem Minerals, Inc. barite
Coyote Mine (OP) 2
S7,T36N,R51E
R.W. Johnson, Contractor
P.O. Box 384, Battle Mountain, NV 89820

Vern Moulton silver
Protection Leach Plant (heap leach)
S10,T45N,R53E 2
Vern Moulton, Owner
P.O. Box 77, Mountain City, NV 89831

ESMERALDA COUNTY

Apex 76 Deep Mines Co. gold & silver
Black Warrior Mine (OP) 2
S29,T1S,R39E
John F. Path, Jr., President/Owner
P.O. Box 170, Dayton, NV 89403

Blackhawk Mines Corp. gold & silver
Goldfield Tailings Project (heap leach)
S26,T2S,R42E 10
Russell E. Manley, President
P.O. Box 469, Tonopah, NV 89049

Bill Matovich & Ray Dennison gold & silver
Penny Mine (OP, ML) (gravity concentration)
S29,T7S,R41E 2
Bill Matovich, Ray Dennison, & Raymond Kurr, Partners
P.O. Box 30J, Star Route, Gold Point, NV 89013

Candelaria Metals, Inc. gold & silver
Indian Queen Mine (OP, UG) 15
S5,T1S,R33E
Paul Spor, General Manager
P.O. Box 958, Benton, CA 93512

Ebco Enterprises gold & silver
Falcon Explorations Mill (crushing, screening)
S29,T1N,R42E 20
Cyrus Behain, General Manager
P.O. Box 847, Tonopah, NV 89049

Falcon Explorations Co. gold & silver
Tonopah Divide Mine (OP) 11
S26,T2N,R42E
Everett Berg, Owner
P.O. Box 847, Tonopah, NV 89049
Modern Exploration Dev. and Mining, Contractor 29
Glenn T. Zook, General Manager
P.O. Box 3569, Tonopah, NV 89049

Foote Mineral Co. lithium
Silver Peak Operation (solar evaporation and processing)
S22,T2S,R39E
Silver Peak, NV 89047

Grefco, Inc. diatomite
Dicalite Div. (OP, ML) (drying, classification)
S20,T2N,R34E 21
Robert Mannon, Plant Manager
P.O. Box 288, Mina, NV 89422

Hobble Creek Mining, Inc. gold & silver
Hobble Creek Mine (OP) (heap leach)
S21,T6S,R39E 2
Ronald James, Project Manager
P.O. Box 55, Dyer, NV 89010

Inspiration Mines, Inc. silver
Sanger Mine (UG) 6
S25,T3S,R37E
John Ellis, Vice President
P.O. Box 2687, Silver Peak, NV 89047

International Precious Metals gold
International Precious Metals (gravity concentration)
Mine (OP, ML) 6
S6,T6S,R39E
Bill Franke, President
P.O. Box 17, Dyer, NV 89010

KEMCO gold
Buster Mine (OP, ML) (cyanidation)
S25,T5S,R39E 3
Fernand Lemieux, President
P.O. Box 464, Goldfield, NV 89013

Margaret Hills, Inc. silver
Tonopah West Mill (cyanidation)
S7,T3N,R31E 10
David Hamilton, Project Manager
P.O. Box 404, Tonopah, NV 89049

Mineco, Inc. turquoise
Blue Jay Mine (OP) 2
S18,T1N,R41E
Ron Schooler, Mine Manager
P.O. Box 1026, Tonopah, NV 89049

Modern Milling gold & silver
Modern Milling Mill (flotation)
S14,T2S,R38E 4
Albert E. Heflin, Jr., Owner
P.O. Box 2634, Silver Peak, NV 89047

Nevada Resources & Development gold & silver
Oremonte Mine (UG) 3
S1,T2S,R38E
Mark E. Gavard, President
P.O. Box 258, Mina, NV 89422

Richfield Resources Inc. gold
Mary Mine (UG) (development)
S1,T2S,R38E 62
William McAlvain, Project Manager
P.O. Box 417, Mina, NV 89422

Sunshine Mining Co. gold & silver
16 to 1 Mine (UG) (development)
S32,T2S,R38E 38
Allan Young, Project Manager
P.O. Box 97, Silver Peak, NV 89047

Trafalgar Mines Partnership gold
Goldfield Project (heap leach)
S35,T2S,R42E 9
W. Bruce Brogoitti, V.P., DBI Engineering Group
P.O. Box 753, Goldfield, NV 89013

Veta Grande Companies, Inc. silver
Mohawk Mine (UG) 29
S26,T2S,R37E
Dan Callaghan, Superintendent
P.O. Box 2707, Silver Peak, NV 89047

Wolff Milling & Mining gold
Cook Mill (gravity concentration)
S1,T7S,R41E 3
Vern Cook, Owner
Star Route, Box 30, Goldfield, NV 89013

EUREKA COUNTY

Barite Mining, Inc. barite
Lakes Mill (gravity concentration)
S3,T34N,R51E 14
Russ Walker, Operations Manager
P.O. Box 1834, Elko, NV 89801

Bethex Corp. gold
Buckhorn Mine (OP, ML) 11
S30,31,T27N,R49E
Don Smith, Mine Superintendent
P.O. Box 976, Carlin, NV 89822

Carlin Gold Mining Co. gold
Blue Star Mine (OP) 2
S4,T35N,R50E
Carlin Mine (OP) 100
S15,T35N,R50E
Carlin Mill (cyanidation)
S15,T35N,R50E 100
Maggie Creek Mine (OP) 37
S29,T34N,R51E
J.D. McBeth, Resident Manager
P.O. Box 979, Carlin, NV 89822
Maggie Creek Mill (construction)
Bechtel, Inc., Contractor 25
Dale Buob, Site Manager
P.O. Box 358, Carlin, NV 89822

General Mineral Development Co. gold & silver
Eureka-Hamburg Mine (OP, ML) (cyanidation)
S22,T19N,R53E 8
Michael Galli, Vice President
P.O. Box 431, Eureka, NV 89316

Gold Creek Corp. gold & silver
Diamond Mine (UG) 21
S3,T18N,R53E
Ronald J. Perry, Superintendent
P.O. Box 303, Eureka, NV 89316

Lander Barite, Inc. barite
Elizondo Mine (OP, ML) (gravity concentration)
S25,T23N,R49E 3
James Johnson, President
P.O. Box 157, Battle Mountain, NV 89820

Lloyd C. Evans Construction Co. gold
Bullion Monarch Mine (OP) 14
S10,T35N,R50E
Lloyd C. Evans, Contractor
P.O. Box 732, Winnemucca, NV 89445

Nevada Barth Corp. magnetite (iron ore)
Nevada Barth Mine (OP, ML) (crushing, screening)
S7,8,T31N,R51E 9
Charles Rowe, Manager
P.O. Box 425, Carlin, NV 89822

NL Industries, Inc., Baroid Div. barite
Dunphy Mill (flotation)
S23,T33N,R48E 42
Jim Kaiser, Superintendent
P.O. Box 414, Battle Mountain, NV 89820

Petro-Chem, Inc. barite
Queen Ann Mine (OP) 6
S12,T34N,R51E
Richard K. Mulvaney, Manager
P.O. Box 23, Crescent Valley, NV 89821

Silver Connor Mines, Inc. silver
Silver Connor Mine (OP, UG) 17
S3,T18N,R53E
Ron Perry, Superintendent
P.O. Box 303, Eureka, NV 89316

TRV Exploration (Nevada), Inc. silver
Geddes Mine (heap leach)
S28,T18N,R53E 5
Robert G. Pate, Mine Manager
P.O. Box 442, Eureka, NV 89316

Unichem Minerals, Inc. barite
Coyote Mill (gravity concentration)
S3,T34N,R51E 3
Greg Richards, Superintendent
P.O. Box 66, Carlin, NV 89822

Universal Gas (Montana), Inc. gold
Bullion Monarch Mine (OP, ML) (cyanidation)
S10,T35N,R50E 17
Joseph Mercier, President
1070 Silver Street, Elko, NV 89801

Western States Minerals Corp. gold
Gold Strike Mine (heap leach)
S30,T36N,R50E 25
A.B. Morrow, District Manager
P.O. Box 29, Elko, NV 89801

Western-Windfall, Ltd. gold
Windfall Mine (OP) (heap leach)
S2,T18N,R53E 50
R.D. Damele, Mine Manager
P.O. Box 326, Eureka, NV 89316

Zane Hunt Mining Co. barite
Sansinena Mine (OP, ML) (gravity concentration)
S12,T31N,R48E 6
Zane Hunt, Owner
P.O. Box 1252, Elko, NV 89801

HUMBOLDT COUNTY

ADDESHA, Inc. lead & silver
Auburn Mine (UG) 6
S1,T33N,R36E
Oscar Adkins, President
P.O. Box 1147, Winnemucca, NV 89445

Barbara S. King gold & silver
Golden Gull Mine (OP) 2
S35,T43N,R30E
Barbara S. King, Owner/Supervisor
General Delivery, Denio, NV 89404

Bar Sand & Gravel Ltd. gold
B & M Mine (OP, ML) (screening)
S7,T32N,R44E 3
Gavin Galceran, Mine Manager
General Delivery, Battle Mountain, NV 89820

C. George Hewitt opal
Cecilie Anne Mine (OP) 1
S8,9,T45N,R26E
Kelley Mine (OP) 1
S30,T45N,R26E
C. George Hewitt, Owner
c/o Virgin Valley Ranch, Denio, NV 89404

Charles Eddie opal
Lorrie Lee Mine (OP) 2
S5,T45N,R26E
Charles Eddie, Owner
P.O. Box 1072, Sunland, CA 91040

Dale Aslett gold
Placer Mine (OP, ML) (gravity concentration)
S17,18,19,20,T34N,R40E 2
Dale Aslett, Owner
P.O. Box 105, Jackpot, NV 89805

G. Keith Hodson opal
Bonanza Opal Mine (OP) 1
S13,T45N,R25E
Rainbow Ridge Mine (OP) 1
S34,T45N,R26E
G. Keith Hodson, Owner
General Delivery, Denio, NV 89404

Harry Wilson opal
Royal Peacock No. 2 Opal Mine (OP) 1
S25,T45N,R25E
Harry Wilson, Owner
P.O. Box 36, Denio, NV 89404

Hobson Construction, Inc. barite
Horton Mine (OP) 4
S36,T36N,R40E
Robert R. Hobson, President
P.O. Box 265, Emmett, ID 83617

K.W. Minerals Corp. bentonite
High Hopes Mine (OP) 2
S34,T37N,R36E
K.W. Snyder, Owner
P.O. Box 1007, Winnemucca, NV 89445

K.W. Snyder & Pete Balison gold
Gold Button Mine (UG) 2
S5,T39N,R36E
K.W. Snyder & Pete Balison, Partners
P.O. Box 1007, Winnemucca, NV 89445

Little Red's Excavation tungsten
Carl Segerstrom Pilot Mill (gravity concentration)
S29,T36N,R41E 2
Gerald Conklin, Owner
P.O. Box 3, Golconda, NV 89414

Lloyd Woolstenhulme & Sons Construction & Mining gold & silver 3
Dyke Springs Mine (UG)
S36,T43N,R36E
Lloyd Woolstenhulme, Owner
Star Route 395, Winnemucca, NV 89445

Looney Jack Enterprises gold
Looney Jack Mine (OP, ML) (cyanidation)
S12,T47N,R30E 1
Jack R. Goucher, Vice President
P.O. Box 91, Denio, NV 89404

Marlon H. Thompson gold
Gold Run Mine (OP, ML) (gravity concentration)
S28,T34N,R40E 1
Marlon H. Thompson, Owner/Operator
745 West 6th Street, Winnemucca, NV 89445

MB Mining Corp. copper, gold, silver
Adelaide Mine (OP) 4
S20,T34N,R40E
R.D. Morris, Manager
P.O. Box 93, Austin, NV 89310

McDermitt Joint Venture mercury
McDermitt Mine (OP, ML) (flotation, distillation)
S33,T47N,R37E 56
Victor V. Botts, Jr., Mine Manager
P.O. Box 497, McDermitt, NV 89421

Milchem, Inc. barite
Redhouse Mine (OP, ML) (gravity concentration)
S12,T37N,R41E 14
Carl A. Brown, Manager Nevada Operations
P.O. Box 272, Battle Mountain, NV 89820
Porter & Meissner, Contractors 11
Duane Porter & Donald Meissner, Partners
P.O. Box 1072, Battle Mountain, NV 89820

Min-Ad, Inc. dolomite
Min-Ad Mill (crushing, screening)
S24,T36N,R37E 3
Dun Glen Mine (OP) 2
S28,T35N,R38E
Charles J. Evans, Superintendent
4210 Jungo Road, Winnemucca, NV 89445

Minerals Unlimited, Inc. and Hobson Construction Co, Inc. barite
Anderson Canyon Mine (OP) 14
S30,T39N,R42E
Golconda Mill (gravity concentration)
S28,T36N,R40E 4
John M. Torok, Vice President
390 Freeport Blvd., Suite 5, Sparks, NV 89431

Morrill & Sons Mining gold
Cowden Mine (UG) 2
S7,T47N,R30E
John I. Morrill, Sr., President
General Delivery, Denio, NV 89404

Nika Leasing Ltd. gold & silver
T Mine (OP) 2
S31,T41N,R28E
Lane Wallace, Manager
Star Route, Box 1G, Winnemucca, NV 89445

Nutritional Additives Corp. dolomite
Sexton Mill (crushing, screening)
S20,T36N,R38E 5
Glen W. Sexton, General Manager
P.O. Box 802, Winnemucca, NV 89445

Pinson Mining Co. gold
Pinson Mine (OP, ML) (cyanidation)
S28,T38N,R42E 117
Donald M. Duncan, General Manager
P.O. Box 587, Winnemucca, NV 89445

Ray Mead copper
Green Mining (OP, ML) (heap leach)
S17,T35N,R41E 2
Ray Mead, Owner
5255 East Winnemucca Blvd., Winnemucca, NV 89445

W.A. Bowes Inc. gold & silver
Silver Cloud Mine (UG) (heap leach)
S9,T36N,R36E 5
Fuller Russell, Mine Superintendent
Winnemucca Arms Apartment No. 9, Winnemucca, NV 89445

Walt Wilson opal
Little Pebble Mine (OP) 1
S18,T45N,R25E
Walt Wilson, Owner
P.O. Box 36, Denio, NV 89404

W.W. Dale & Associates, Inc. gold
Maryann Placer (OP, ML) (gravity concentration)
S25,T37N,R31E 3
W.W. Dale, Owner
P.O. Box 1001, Winnemucca, NV 89445

LANDER COUNTY

Austin Resources, Inc. gold & silver
Slaughterhouse Mine (UG) 9
S32,T19N,R44E
True Blue Mine (UG) 7
S5,T19N,R44E
Argus Mill (gravity concentration)
S5,T19N,R44E 20
W.R. Noack, President
P.O. Box 56, Austin, NV 89310

Brazos Metals, Inc. gold & silver
Klondike Mine (UG) 25
S27,T16N,R43E
Jim Patterson, President
1325 Airmotive Way, Suite 175, Reno, NV 89502

Cascade Silver Associates, Ltd. silver
Betty O'Neal Mine (heap leach)
S22,T30N,R45E 4
Larry Trease, Manager
P.O. Box 786, Battle Mountain, NV 89820

Cortez Gold Mines gold
Cortez Mine (OP, ML) (heap leach)
S13,T27N,R47E 100
Art Walsh, General Manager
Crescent Valley, NV 89821

Del Summers & Terry Summers gold & silver
Valley Gold Mine (OP, ML) (gravity concentration)
S10,11,T28N,R47E 2
Del Summers & Terry Summers, Partners
P.O. Box 29, Crescent Valley, NV 89821

Dresser Minerals, Inc. barite
Greystone Mine (OP, ML) (gravity concentration)
S26,T28N,R45E 101
Dresser Mill (crushing, screening)
S17,T32N,R45E 31
Garry Thielen, General Manager
P.O. Box 375, Battle Mountain, NV 89820

Duval Corp. gold
Copper Canyon Mine (OP) 173
S23,24,T31N,R43E
Copper Canyon Mill (cyanidation)
S23,24,T31N,R43E 289
Copper Basin Mine (OP, ML) copper
S32,T32N,R44E (leaching)
Richard Sumin, Manager 40
P.O. Box 451, Battle Mountain, NV 89820

Edgar & Morgan Mining Co. barite
Jac Mine (OP) 7
S14,T33N,R45E
Rimrock Mine (OP) 10
S24,T33N,R45E
James Edgar, President
P.O. Box 899, Battle Mountain, NV 89820

Elquist Mining, Inc. barite
Slavin Canyon Mine (OP, ML) (gravity concentration)
S11,T30N,R46E 7
James Elquist & William Elquist, Partners
P.O. Box 488, Battle Mountain, NV 89820

FMC Corp. barite
Mountain Springs Mine (OP)) 15
S8,9,T28N,R44E
R. Dale Taylor, Superintendent
P.O. Box 531, Battle Mountain, NV 89820

Grey Eagle Mines Ltd. gold & silver
Grey Eagle Mine (UG, OP, ML) (construction, cyanidation)
S6,T28N,R47E 5
Gary Ryan, Superintendent
495 Idaho Street, Suite 208, Elko, NV 89801

IMCO Services, Inc. barite
Mountain Springs Mill (gravity concentration, flotation)
S4,T28N,R44E 84
Clipper Mine (OP, ML) (gravity concentration)
S31,T28N,R46E 29
Brown & Root, Inc. 40
Mining Contractor, Clipper Mine
Battle Mountain Grinding Plant (grinding, classification)
S27,T32N,R45E 36
Ralph Gronning, General Manager
P.O. Box 861, Battle Mountain, NV 89820

Klondex Gold & Silver Mine Co. gold
Fire Creek Mine (OP) 4
S23,T30N,R47E
Bill Bennett, Foreman
Stampede Motel, 129 Idaho St., Elko, NV 89801

Major Barite Co. barite
Major Barite Mill (gravity concentration)
S8,T29N,R47E 6
John Uhalde, Superintendent
1975 Palisade Drive, Reno, NV 89509

Milchem, Inc. barite
Miller Mine (OP) 7
S25,T31N,R46E
Porter & Meissner, Mining Contractor, Miller Mine 15
Bateman Canyon Mill (gravity concentration)
S6,T30N,R46E 16
Argenta Mine (OP) 18
S19,T32N,R47E
Argenta Mill (gravity concentration)
S12,T32N,R46E 65
Carl Brown, Manager, Nevada Operations
P.O. Box 272, Battle Mountain, NV 89820

Monarch Milling silver
Bullion Monarch Mill (flotation)
S13,T19N,R43E 3
Robert Morris, General Manager
P.O. Box 176, Austin, NV 89310

Morris & Bodam Mining barite
Black Stone Mine (OP) 4
S4,T28,R46E
Wayne Morris & Glen Bodam, Partners
General Delivery, Elko, NV 89801

New Pass Resources, Inc. gold & silver
Thomas W Mine (UG) 3
S9,T20N,R40E
New Pass Mill (amalgamation, heap leach,
S16,T20N,R40E gravity concentration)
Donald Jung, General Manager 3
P.O. Box 69, Austin, NV 89310

Pony Canyon Mining & Milling silver
Pony Canyon Mine (OP) 4
S24,T19N,R43E
A. Conrad Stewart & Kevin Stewart, Owners
P.O. Box 8, Austin, NV 89310

Silver King Mines, Inc. silver
Independence Mine (UG, ML) (cyanidation)
S28,T31N,R43E 24
Max Lenaburg, Mine Superintendent
P.O. Box 829, Battle Mountain, NV 89820

Tom Norris Mining Co. barite
Allen Mine (OP) 3
S32,T21N,R42E
Tom Norris, Owner
P.O. Box 231, Battle Mountain, NV 89820

LINCOLN COUNTY

Delaperlite Partnership Lease perlite
Mackie Perlite Mine (UG) 2
S11,T5S,R62E
Joe Wilkin, Partner
P.O. Box 217, Pioche, NV 89043

Freiberg Mining Corp. silver
Freiberg Mine (heap leach)
S20,T1N,R57E 9
Lynn Shirley, Manager
301 South 11th Street, Las Vegas, NV 89101

Hollingshead Mining Contracting gold & silver
Pioche Mill (flotation, gravity concentration)
S23,T1N,R67E 2
LaVar Hollingshead, Owner
Panaca, NV 89042

Iron Triangle Mines silver & lead
Wide Awake Mine (OP) 2
S23,T1N,R67E
David I. Witts, III, President
5353 First International Bldg., Dallas, TX 75270

R.J. Dalton & Sons soil additive
Agricultural Minerals Mill (flotation)
S33,T1N,R67E 8
Richard Donohue, Superintendent
P.O. Box 131, Star Route, Pioche, NV 89043

Sierra Chemical Co. lime
Sierra Chemical Mine (OP) (calcining)
S25,T1S,R66E
Standard Slag Co., Mining Contractor 3
Sierra Chemical Mill (calcining)
S29,T1N,R67E 17
Kim Lee, Manager
P.O. Box 67, Pioche, NV 89043

Silver Park Ltd. silver
Silver Park Mine (OP,ML) (cyanidation)
S16,T7N,R68E 9
Gary Applegate, Superintendent
1601 Shadow Mountain Place,
Las Vegas, NV 89108

Standard Slag Co. gold & silver
Atlanta Mine (OP, ML) (cyanidation)
S14,T7N,R68E 42
Don Koza, Manager
P.O. Box 97, Pioche, NV 89043

Union Carbide Corp. tungsten
Emerson Mine (UG) 140
S36,T3S,R56E
Emerson Mill (flotation)
S36,T3N,R56E 38
Jerry Schierman, Manager
P.O. Box 307, Alamo, NV 89001

Wilkin Mining & Trucking Co. perlite
Caliente Mill (crushing, screening)
S7,T4S,R67E 2
Robert D. Wilkin, Owner
P.O. Box 217, Pioche, NV 89043

LYON COUNTY

Anaconda Copper Co. zeolite
Pilot Plant (crushing, screening)
S21,T13N,R35E 10
W.C. Norem, Project Manager
P.O. Box 1000, Yerington, NV 89447

Art Wilson Co. gypsum
Adams Claims (OP, ML) (crushing, screening)
S25,T16N,R20E 14
Art Wilson, Owner
P.O. Box 1160, Carson City, NV 89701

C & G Enterprises gold & silver
Nevada Mine (OP) 3
S16,T16N,R21E
Raymond Conner, Lessee/Operator
P.O. Box 173, Dayton, NV 89403

Comstock Gold Exploration Ventures gold & silver
Santiago Mine (OP) 10
S17,T16N,R21E
Steve Russell, Chief Geologist
P.O. Box 526, Virginia City, NV 89440

Cyprus Mines Corp., United Sierra Div. diatomite
Section 8 Mine (OP) 2
S8,T19N,R26E
Cyprus Mill (drying, classification)
S12,T20N,R24E 14
Thomas Landels, Plant Manager
P.O. Box 455, Fernley, NV 89408

Eagle Industries 1000 gold & silver
Carson River Placer (OP, ML) (gravity concentration)
S6,T15N,R21E 2
Walter Kirschenman, General Manager
P.O. Box 1680, Fallon, NV 89406

Eagle-Picher Industries, Inc. diatomite
Hazen Pit (OP) 2
S9,T19N,R25E
M.M. Moezzi, Mine Manager
P.O. Box 959, Lovelock, NV 89419

El Tigre Oro, Inc. gold
Schwartz Mine (OP) 6
S17,T13N,R24E
Dale Rhames, President
P.O. Box 539, Yerington, NV 89447

Gar-Gro, Inc. gold
Hall Placer (OP) 4
S8,T13N,R24E
Jerry Garsky, President
P.O. Box 508, Yerington, NV 89447

Gold Canyon Placers, Inc. gold & silver
Trio Claims (OP, ML) (cyanidation)
S23,T16N,R21E 2
Robert W. Craig & George W. Craig, Managers
P.O. Box 333, Dayton, NV 89403

Ida Mines, Inc. gold
Ida Mine (UG) 4
S9,T16N,R21E
Art Wilson, Vice President/Manager
P.O. Box 1160, Carson City, NV 89701

Marshall Earth Resources, Inc. silver
Shamrock Claims (UG) 5
S22,T13N,R39E
Roy Robinson, Mine Foreman
P.O. Box 113-1, Gabbs, NV 89409

Mastermines Gold Corp. gold & silver
South Comstock Mine (UG, ML) (gravity concentration)
S5,21,T16N,R21E 7
Varga Mining Co., Mine Contractor 4
Bob Boyer, Superintendent
10113 Joerschke Drive, No. 187,
Grass Valley, CA 95945

Minor Mineral Co., Inc. montmorillonite
Minor Mineral Plant (crushing,screening)
S21,T15N,R25E 2
Bill Minor, President
P.O. Box 733, Yerington, NV 89447

Natural Minerals Co. montmorillonite
Billy Boy T & E Mine (OP) 3
S20,T7N,R27E
Stan Klukan, Lessee
P.O. Box 2431, Hawthorne, NV 89415

Nevada Cement Co. cement
Limestone Mine (OP) limestone
S4,T19N,R25E 3
Nevada Cement Plant (crushing, screening, calcining)
S10,T20N,R24E 135
David Dalton, President
P.O. Box 895, Fernley, NV 89408

Nevada Placer Mining Co./ Lucky Chance Mining — gold & silver, 6
Bovie Lew Placer (OP)
S17,T13N,R24E
N.S. Schwartz, President
P.O. Box QQ, Yerington, NV 89447

Poker Flat Mines, Inc. — gold & silver (gravity concentration), 2
Poker Flat Mine (OP, ML)
S21,T16N,R21E
Dave Parkhurst, President
P.O. Box 397, Gardnerville, NV 89410

Silver State Mining, Inc. — gold & silver (heap leach), 7
Como Mine
S15,T15N,R22E
Ken Law, Project Manager
Unit 128, Village Green, Provo, UT 84601

Spring Valley Mining & Milling, Inc. — gold (gravity concentration), 4
Dayton Properties (OP, ML)
S26,T16N,R21E
C.F. Heckman, Manager
P.O. Box 47, Gardnerville, NV 89410

MINERAL COUNTY

Aztec Royalty, Inc. — gold & silver
Corey Mine (heap leach) 4
S7,T7N,R30E
Lakeview Mine (heap leach) 5
S1,3,T10N,R30E
Pamlico Mine (heap leach) 4
S13,T7N,R31E
Rawhide Mine (heap leach) 5
S31,6,T13,14N,R32,31E
Aztec Mill (heap leach) 4
S21,T12N,R32E
Dennis C. Long, General Manager
P.O. Box 2358, Hawthorne, NV 89415

Candelaria Partners — gold & silver (heap leach), 144
Candelaria Mine (OP)
S5,T3N,R35E
Gordon Steele, Manager
P.O. Box 1246, Hawthorne, NV 89415

Canyon Milling, Inc. — gold (gravity concentration), 2
Pamlico Placer Plant (ML)
S13,T8N,R31E
Richard Carlstrom & Donald Carlstrom, Partners
832 Benita Place, Boulder City, NV 89005

C-E Basic — magnesite (screening), 8
Luning Mill
S28,T8N,R34E
Gary Judd, Works Manager
P.O. Box 177, Gabbs, NV 89409

Claude B. Lovestedt — silver, 2
Broken Hills Mine (UG)
S26,T14N,R35E
Claude B. Lovestedt, Operator
P.O. Box 2710, Carson City, NV 89702

Dick Merritt — barite, 5
Bell Mine (UG)
S22,T3N,R34E
Dick Merritt, Owner
P.O. Box 32, Luning, NV 89420

Ednuk Prospecting & Mining — gold, 2
Olympic Mine (UG)
S32,T9N,R37E
Robert L. Kunde, General Manager
4780 Bottom Road, Fallon, NV 89406

Green Ranch Mining Co. — tungsten, 4
Eagle Tungsten Mine (UG)
S9,T8N,R35E
Varga Mining Co., Contractor
P.O. Box 678, Virginia City, NV 89440

Houston International Minerals Corp. — gold & silver, 15
Borealis Mine (OP)
S16,T6N,R29E
Donald E. Hopkins, Staff Advisor
777 E. William, Suite 211, Carson City, NV 89701
Bechtel Civil & Minerals, Contractor — 97
Larry Husman, Superintendent
P.O. Box 2265, Hawthorne, NV 89415

Hugh C. Ingle, Jr. — gold (heap leach), 2
Ashby Mine (OP, ML)
S27,T7N,R32E
Hugh C. Ingle, Jr., Lessee
P.O. Box 2123, Hawthorne, NV 89415

Jesse R. Wilson — gold, 3
Live Yankee Mine (UG)
S20,T5N,R28E
Jesse R. Wilson, Owner
P.O. Box 596, Sparks, NV 89431

Joe C. Morris — gold & silver (heap leach), 5
Isabella Mine (OP)
S34,T9N,R34E
Joe C. Morris, Manager
P.O. Box 138, Mina, NV 89422

Kinkead Mining and Construction — barite
Little Summit Mine (UG) — 3
S4,T3N,R34E
Kinkead Mill (crushing, screening) — 2
S15,T8N,R32E
Dick Merritt, Owner
P.O. Box 32, Mina, NV 89420

Marietta Mines, Inc. — gold & silver, 7
Moho Mine (UG)
S26,T5N,R33E
L.T. Atkinson, President
P.O. Box 105, Dyer, NV 89010

M-J Enterprises, Inc. — gold & silver (gravity concentration, flotation), 6
Aden Mill
S8,T6N,R35E
Mark E. Gavard, President
P.O. Box 258, Mina, NV 89422

Monarch Mining Corp. — gold & silver, 2
Stanmore Mine (OP)
S22,T8N,R28E
Harry O. Nylene, President
P.O. Box HH, Yerington, NV 89447

Mt. Hope Mining Corp. — silver (development), 3
Lucky Boy Mine (UG)
S17,T7N,R30E
Hal Jensen, Manager
P.O. Box 501, Hawthorne, NV 89415

National Resources Development, Inc. tungsten
Nevada Scheelite Mine (UG, ML) (gravity concentration)
S1,12,T13N,R32E 60
Paul Jones, Manager
P.O. Box 1567, Fallon, NV 89406

Nevada Barite & Minerals Corp. tungsten
Aden Mill (gravity concentration, flotation)
S8,T6N,R35E 3
Bob Schofield, President
P.O. Box 408, Mina, NV 89422

Nevada Resources & Development, Inc. gold & silver
Argus Mine (UG) 5
S5,T5N,R36E
Mark E. Gavard, President
P.O. Box 258, Mina, NV 89422

Paul Medlock gold, silver & tungsten
Paul Medlock Mill (gravity concentration)
S15,T8N,R32E 2
Paul Medlock, Operator
P.O. Box 481, Hawthorne, NV 89415

Powder River Mining Co. gold & silver
Golden Pen Mine (OP) 3
S33,T11N,R32E
Dwayne Cross & Vickie Pope, Partners
P.O. Box 1803, Hawthorne, NV 89415

Richfield Resources, Inc. silver
Ladd Mill (flotation)
S9,T6N,R35E 14
Frank Griblin, President
3100 Mill Street, Reno, NV 89502

Siskon Corp. gold
Juniata Mine (UG) 6
S17,T5N,R28E
John G. Stone, Vice President
P.O. Box 2284, Hawthorne, NV 89415

NYE COUNTY

All Minerals, Inc. barite
Northumerland Mine (OP, ML) (gravity concentration)
S9,T12N,R46E 17
S.R. Mahoney, President
5510 South 300 West, Murray, UT 84107

American Borate Corp. colemanite
American Borate Mill (calcining, drying, flotation)
S36,T17S,R49E 98
Landon Lockhart, General Manager
Star Route 15, Box 610, Lathrop Wells, NV 89820

Anaconda Copper Co. molybdenum
Nevada Moly Mine (OP, ML) (development, construction)
S6,T5N,R42E 430
L.E. Wilkes, Project Manager
P.O. Box 1268, Tonopah, NV 89049
Bechtel, Inc., Construction Contractor 640
John Werner, Project Superintendent
P.O. Box 2010, Tonopah, NV 89049

BML Mining Co. silver
Barcelona Mine (UG) 2
S36,T9N,R44E
Fred Masters, President/General Manager
P.O. Box 127, Manhattan, NV 89022

C-E Basic magnesite
Nevada Works Pit 40
S34,T12N,R36E
Nevada Works Plant (ML) (calcining, flotation,
S34,T12N,R36E heavy-media separation)
Gary Judd, Works Manager 228
P.O. Box 177, Gabbs, NV 89409

Cind-R-Lite Block Co. cinder
Cinder Cone Mine (OP) 2
S1,T15S,R48E
Ernest Selman, Superintendent
3333 Cinder Lane, Las Vegas, NV 89103

Cyprus Mines Corp. gold & silver
Northumberland Mine (OP, ML) (heap leach)
S13,T13N,R45E;S31,T14N,R45E 30
Neil Prenn, Resident Manager
P.O. Box 8A, R.R. No. 2, Austin, NV 89310

D & K Exploration gold & silver
Sidewinder Mine (heap leach)
S16,T12S,R46E 2
Brent Kerr, Partner
P.O. Box 521, Beatty, NV 89003

Darryl Reed gold
Alice Mine (OP) 1
S33,T13N,R39E
Darryl Reed, Partner
P.O. Box 1724, Fallon, NV 89406

E.R. Fegert gold & silver
Bullfrog Mine (heap leach)
S20,T12S,R46E 10
E.R. Fegert, President
P.O. Box 32, Beatty, NV 89003

GEO Drilling Fluids, Inc. barite
BAS Claims (OP) 8
S19,T4N,R50E
Roy A. Winder, Superintendent
1150 Lamoille Highway, Elko, NV 89801

Gila Mining Corp. gold & silver
Gila Mine (OP) (heap leach)
S24,T2N,R51½E 23
Bob Nichols, Superintendent
P.O. Box 210, Tonopah, NV 89049

Golden Reef Mining & Development gold & silver
Park Canyon Mine (UG) 5
S34,T14N,R42E
Verl Long & Steven Henline, Partners
889 East 200 South, Spanish Fork, UT 84660

Houston International Minerals Corp. gold
Manhattan Mine (OP,ML) (cyanidation, gravity
S20,T8N,R44E concentration, flotation)
Anthony Sutich, Project Manager 50
P.O. Box 56, Manhattan, NV 89022

Industrial Mineral Ventures, Inc. clay
Amargosa Mine (OP, ML) (crushing, screening)
S27,T17S,R49E 43
Forest Hansen, Resident Manager
RFD Box 549, Lathrop Wells, NV 89020

James Pauley gold
Nellie Gray Patent (UG) 2
S20,T8N,R44E
P.O. Box 111, Manhattan, NV 89022

Jesse R. Wilson gold & silver
Paymaster Mine (OP, ML) (cyanidation)
S14,T14N,R37E 2
P.O. Box 596, Sparks, NV 89431

J. Irving Crowell, Jr. & Son fluorspar
Crowell Mine (UG) 4
S23,T12S,R47E
Jack Crowell, Owner
P.O. Box 96, Beatty, NV 89003

Johnnie Mines, JV gold & silver
Johnnie Mine (OP, ML) (gravity concentration)
S21,T17S,R53E 6
John Ala, Glen Supp, & Albert Supp, Co-owners
P.O. Box U, Pahrump, NV 89041

Lang Electric gold
Georgey Mine (OP, ML) (gravity concentration)
S36,T8N,R43E 2
Jan Manhire, Harry Lang, & Brian Lercher, Partners
P.O. Box 567, Tonopah, NV 89049

Minerals Co. gold & silver
Tramp Mine (heap leach)
S16,T12S,R46E 3
Clifford Ridley, Partner
P.O. Box 501, Beatty, NV 89003

Nevada Mines & Minerals gold & silver
Mayflower Mine (UG) 16
S12,T11S,R46E
Jim Spicer, Owner
P.O. Box 278, Beatty, NV 89003

N.S.E. & RoWeHo Mining Co. gold
N.S.E. & RoWeHo Mine (OP, ML) (gravity concentration)
S9,T6N,R56E 3
B.G. Hoffman, Tom Weber, & Jim Roper, Owners
P.O. Box 1051, Ely, NV 89301

Pacific Silver Corp. silver
Tybo Mine (UG) (rehabilitation)
S24,T6N,R49E 8
Art Schultz, Superintendent
Tybo, via Tonopah, NV 89049

Saga Exploration Co. gold & silver
Sterling Mine (UG) (heap leach)
S6,T13S,R48E 26
Greg Austin, President
P.O. Box 572, Beatty, NV 89003

Seven Cities Mining & Dev. gold & silver
Pioneer Mine (OP) (heap leach)
S1,T11S,R46E 2
Lenard Pritchard, General Manager
6530 N. Scottsdale Rd., Suite L103,
Scottsdale, AZ 85253

Smoky Valley Mining Co. gold
Round Mountain Operation (heap leach)
S18,T10N,R44E 272
Don L. Simpson, General Manager
P.O. Box 480, Round Mountain, NV 89045

South Reveille Mining, Inc. silver
South Reveille Mine (OP) (heap leach)
S23,24,T2N,R51½E 10
Robert D. Johnston, Project Superintendent
301 South 11th Street, Suite 200, Las Vegas, NV 89101

Standard Slag Co. barite
P & S Mine (OP) 3
S14,T13N,R45E
Cliff McLaughlin, Resident Manager
P.O. Box 10477, Reno, NV 89510

Stewart-Kelly Mines gold & silver
Stewart Kelly Mine (OP, ML) (cyanidation)
S15,T12S,R46E 6
Nick Carousso, Mining Engineer
P.O. Box 458, Beatty, NV 89003

Van Brunt & Hadland gold & silver
Daisy Lane Placer (OP) 7
S15,T9N,R39E
Donald W. Van Brunt & Don S. Hadland, Co-owners
P.O. Box 407, Tonopah, NV 89049

Vanderbilt Minerals Co. bentonite
White Caps Mine (UG) 5
S19,T12S,R46E
Jerry Lease, Vice President/General Manager
P.O. Box 398, Beatty, NV 89003

PERSHING COUNTY

Argentum Mining lead & silver
Silver King Mine (UG) 7
S25,T33N,R30E
John W. Pearce, Project Manager
P.O. Box 393, Imlay, NV 89418

Atolia Minerals, Inc. gold
Spring Valley Mill (OP, ML) (gravity concentration)
S35,T29N,R34E 13
Ronald Koch, General Superintendent
P.O. Box 1068, Lovelock, NV 89419

B & H Mining gold
Oreana Mill (gravity concentration)
S31,T29N,R33E 2
Dave Bloyed, Manager
P.O. Box 1051, Lovelock, NV 89419

B & L Reeder Brothers Corp. tungsten
Eagle Group (OP, ML) 2
S14,T25N,R26E
Bill Reeder & Legrand Reeder, Owners
P.O. Box 358, Fernley, NV 89408

Black Cloud Ltd. gold
Horseshoe Mine (OP, ML) (gravity concentration)
S36,T29N,R34E 6
Cecil Cook, Mine Foreman
P.O. Box 1034, Lovelock, NV 89419

Circle A Construction gold
Little Jupiter Mine (UG) 3
S17,T33N,R37E
Jupiter Gold Mill (cyanidation)
S1,T33N,R37E 2
Marvin Aslett, President
Trails End Estates No. 21, Winnemucca, NV 89445

Cooney Mining Co. magnetite (iron ore)
Cooney Iron Mine (OP, ML) (magnetic separation)
S29,T26N,R34E 5
John Cooney, President
P.O. Box 568, Lovelock, NV 89419

Coronado Oil & Minerals Co. silver
Oreana Mill (flotation, gravity concentration)
S36,T29N,R32E 4
Jess Darnell, Superintendent
Oreana Star Route, Lovelock, NV 89419

Doyle Hopkins gold
Imlay Canyon Placer (OP, ML) (gravity concentration)
S30,T32N,R34E 7
J.C. Scott, Superintendent
P.O. Box 3667, Fort Smith, AR 72913

Eagle-Picher Industries, Inc. diatomite
Colado Mine (OP) 18
S8,T28N,R29E
Colado Plant (ML) (calcining)
S6,T27N,R32E 109
V.J. Eisinger, Plant Manager
P.O. Drawer A, Lovelock, NV 89419

Ednuk Prospecting & Mining silver
Silver Smith Mine (UG) 2
S35,T29N,R34E
Robert Kunde, Contractor
4780 Bottom Road, Fallon, NV 89406

F.M. Wright Mining Co. gold
Wright Mill (flotation, gravity concentration)
S6,T28N,R33E 3
F.M. Wright, President
P.O. Box 643, Lovelock, NV 89419

Houston Exploration, Inc. gold
Mellow Mine (OP, ML) (gravity concentration)
S35,T29N,R34E 4
Whitt Trimble, President
P.O. Box 928, Lovelock, NV 89419

Inland Resources gold
Twin Buttes Mine (heap leach)
S1,T30N,R26E 2
Ted Saylor, President
910 South Main, Salt Lake City, UT 84101

Metal Recovery Systems, Inc. gold
Fortune Cookie Mine (OP, ML) (gravity concentration)
S17,T33N,R36E 2
Kenneth A. Pollard, President
P.O. Box 2086, Carson City, NV 89701

Nevada Packard (JV) silver
Nevada Packard Mine (OP, ML) (cyanidation)
S28,29,32,33,T29N,R34E 14
Dale Scholz, Manager
P.O. Box 1007, Lovelock, NV 89419

Nutritional Additives Corp. dolomite
Sexton Mine (OP) 2
S5,T34N,R38E
Glen W. Sexton, General Manager
P.O. Box 802, Winnemucca, NV 89445

Ramhed Mining Co. gold
American Canyon Placer (OP, ML) (gravity concentration)
S18,T28N,R35E 3
William W. Lanning, Engineer
P.O. Box 801, Lovelock, NV 89419

Silver Bell Mining & Developing, Inc. antimony
Fencemaker Mine (UG) 3
S31,T25N,R37E
Walter Gertz, Mine Superintendent
P.O. Box 221, Lovelock, NV 89419

U.S. Gypsum Co. gypsum
Empire Quarry 4
S31,T31N,R24E
Lovelock Plant (ML) perlite
S8,T27N,R32E (screening)
Roger Brown, Works Manager 2
Empire, NV 89405

Utah International, Inc. tungsten
Sutton No. 2 Mine (UG) (development)
S35,T34N,R34E 161
A.F. Metcalfe, Manager
P.O. Box 325, Imlay, NV 89418
Springer Shaft (UG) (shaft sinking)
S35,T34N,R34E 33
Centennial Development Co.
John W. Schear, Superintendent
P.O. Box 1118, Winnemucca, NV 89445
Springer Mill (construction)
S35,T34N,R34E 49
UMC, Inc., Contractor
Aaron Pettis, Superintendent
P.O. Box 354, Imlay, NV 89418

Velvet Mining Co. gold & silver
Magmatic Gold Mine (OP, UG) 3
S6,T27N,R29E
Dave Bloyed, Manager
P.O. Box 1051, Lovelock, NV 89419

Vinnell Mining & Minerals silver
Nevada Packard Mine (OP) 33
S28,29,32,33,T29N,R34E
Mell Dexter, Superintendent
P.O. Box 116, Lovelock, NV 89419

Warner Texas, Inc. gold
Willow Creek Mine (OP, ML) (gravity concentration)
S11,T31N,R36E 5
O.V. Warner, President
46 Hoskins Street, Winnemucca, NV 89445

STOREY COUNTY

Eagle-Picher Industries, Inc. diatomite
Clark Mine (OP) 5
S28,T20N,R23E
M.M. Moezzi, Mine Manager
P.O. Box 959, Lovelock, NV 89419
Clark Plant (ML) drying, classification
S35,T20N,R22E 55
C.A. Chadwell, General Works Manager
P.O. Box 1869, Reno, NV 89505

Glass Mountain Block lightweight aggregate
Lower Naturalite Pit (OP, ML) (crushing, screening)
S16,T17N,R22E 4
Richard Wideriksen, Vice President
355 Greg Street, Sparks, NV 89431

Houston International Minerals Corp. gold & silver
Consolidated Imperial Mine (OP) 8
S31,T17N,R21E
American Flat Mill (cyanidation)
S7,T16N,R21E 90
Ken Wright, Manager
P.O. Box 13, Virginia City, NV 89440

Nash Mining & Exploration gold & silver
Mt. Bullion Mine (UG) 4
S30,T17N,R21E
Harold B. Locke, Manager
P.O. Box 1092, Dayton, NV 89403

United Mining Co. of Nevada, Inc. gold & silver
New Savage Mine (UG) (development)
S27,T17N,R21E 27
Earl Haldeman, General Manager
P.O. Box 320, Virginia City, NV 89440

Westcoast Oil & Gas Corp. gold & silver
Gooseberry Mine (UG, ML) (cyanidation)
S25,T19N,R22E 30
Doug Brown, General Manager
P.O. Box 2267, Sparks, NV 89431

WASHOE COUNTY

Art Wilson Co. clay
Clay Mine (OP) 4
S14,T27N,R19E
Art Wilson, Owner
P.O. Box 1160, Carson City, NV 89701

H & J Minerals copper & silver
Blue Bird Mine (UG) 2
S15,T23N,R21E
Larry Whitton, General Manager
820 Stoker Avenue, Reno, NV 89503

Jack Wilcox gold
Babe Mine (UG, ML) (gravity concentration)
S29,T21N,R23E 3
Jack Wilcox, Manager
P.O. Box 1928, Grass Valley, CA 95945

Ma-Gar Mining & Exploration gold
Sloppy Weather Mine (OP, ML) (electrostatic recovery)
S22,T21N,R22E 6
Thurman Overfelt, Owner
P.O. Box 3085, Carson City, NV 89701

ORACO gold
Olinghouse Placer (OP) 6
S23,T21N,R23E
Ted V. Smith, President
555 Crummer Lane, Reno, NV 89511

Rilite Aggregate Co. lightweight aggregate
Rilite Aggregate Pit (OP, ML) (crushing, screening)
S12,T18N,R20E 9
Bruno Benna, Owner
P.O. Box 11767, Reno, NV 89510

U.S. Gypsum Co. gypsum
Empire Mill (crushing, screening)
S11,T31N,R23E 9
Roger Brown, Works Manager
Empire, NV 89405

WHITE PINE COUNTY

Amselco Minerals, Inc. gold
Alligator Ridge Mine (OP) (heap leach)
S2,T22N,R57E 156
Gene Clayton, Manager
P.O. Box 511, Ely, NV 89301
Beacon Construction Co., Contractor 230

Egan Milling Co., Inc. lead, zinc, gold, silver
Egan Mill (flotation, cyanidation)
S2,T16N,R63E 16
E.C. Erickson, President
P.O. Box 628, Ely, NV 89301

Gold Creek Corp. gold & silver
Silverado Mill (heap leach)
S19,T18N,R55E 10
Ronald J. Perry, Superintendent
P.O. Box 303, Eureka, NV 89316

Hardrock Development, Inc. gold & silver
Grub Gulch Placer (OP, ML) (gravity concentration)
S12,T14N,R67E 8
Chad Evans, President
9468 Union Square, No. 103, Sandy, UT 84070

Harrison & Lawrence, Lessees gold
Joanna Mine (UG) 4
S23,T23N,R62E
c/o J. MacKenzie, Owner
901 South 1100 West, Provo, UT 84601

IBEX Mining Corp. silver
Taylor Shaft (UG) 16
S16,T14E,R65E
E.C. Erickson, President
P.O. Box 628, Ely, NV 89301

John Bebek Co. gold & silver
(JV Myriad Mineral Resources) (heap leach)
White Pine Mine (OP) 6
S13,T16N,R62E
John Bebek, Manager
614 High Street, East Ely, NV 89301

Kennecott Minerals Co. copper
Sunshine-Puritan Precipitation Plant (precipitation)
S10,T16N,R62E 3
George Allen, General Manager
Ruth, NV 89319

Nevada Resources & Development, Inc. gold & silver
Egan Mine (UG) 5
S15,T24N,R63E
Mark E. Gavard, President
P.O. Box 258, Mina, NV 89422

Normac Exploration, Mining & Milling silver
Exchequer Mine (UG) 2
S19,T24N,R63E
Cherry Creek Mill (heap leach)
S36,T24N,R62E 9
James R. McColl, Manager
P.O. Box 343, Ely, NV 89301

Ronald Jordan gold & silver
Aultman Mine (OP) 2
S12,T16N,R62E
Ronald Jordan, Owner
P.O. Box 937, Ely, NV 89301

Silver King Mines, Inc. silver
Taylor Mine (OP, ML) (cyanidation)
S16,T14N,R65E 65
K.L. Stoker, President
P.O. Box 324, East Ely, NV 89315

Silver West, Inc. silver
Carrie Ann Mine (OP) 6
S27,T16N,R64E
Thomas J. Burrows, President
301 South 11th Street, Suite 200, Las Vegas, NV 89101

Treasure Hill Exploration, Inc. silver
Treasure Hill Mine (OP) (heap leach)
S19,T16N,R58E 23
Virgil Barker, General Superintendent
301 South 11th Street, Las Vegas, NV 89101

For more information contact:
Nevada Bureau of Mines and Geology
Email: nbmg@unr.edu
Web: http://www.nbmg.unr.edu/

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