

NEVADA BUREAU OF
MINES & GEOLOGY
SPECIAL PUBLICATION
MI-1986

THE NEVADA
MINERAL INDUSTRY
1986

Minerals
Geothermal
Oil and Gas

Exploration
Development
Mining
Processing

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UNIVERSITY OF NEVADA-RENO
MACKAY SCHOOL OF MINES

GOLD

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This One



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INTRODUCTION

This report is the eighth of an annual series. It describes 1986 activities: mineral exploration and development programs; discovery of orebodies; new mines opened; production statistics; expansion, cut-backs, closings, and other activities of existing mines; oil and gas drilling and production; and geothermal drilling and utilization.



EXPLORATION

Exploration remained at a much higher level in Nevada than elsewhere in the United States because of the great interest in, and excellent potential for, finding bulk-mineable gold deposits in Nevada. In 1986, over twice as many claims were filed in Nevada than in any other state. However, Nevada must continue to encourage exploration if mining is to be economically important in the State in the years ahead.

Exploration by its nature is a rather secretive undertaking; for this reason much of the activity is confidential and either not mentioned in this report or mentioned only in brief, tabular form.

Canyon Resources, a Colorado-based mining company, has discovered gold mineralization at the Cedar Mountains property, near the junction of Nye, Mineral, and Esmeralda Counties. Eleven holes were drilled, nine of which contained some gold. Gold values were encountered at depths ranging from 105–120 ft with reported values of 0.24–0.01 oz gold per ton over intervals of 10–25 ft. (Reno Gazette-Journal, 1 Dec 86)

Chevron Resources Co., a division of Chevron Industries, Inc., opened a regional minerals exploration office in Reno in October 1986; the office covers the western states and will concentrate mainly on gold and silver.

Coeur Explorations Inc., a wholly owned subsidiary of Coeur d'Alene Mines Corp., opened an office in Reno. During 1986, over a million dollars were spent to evaluate some 60 properties mostly in Nevada and Idaho; the work included more than 8,000 ft of drilling.

Exxon Minerals USA closed its Reno exploration office in June 1986. Twenty persons (including 11 geologists) were laid off, and all domestic exploration ceased.

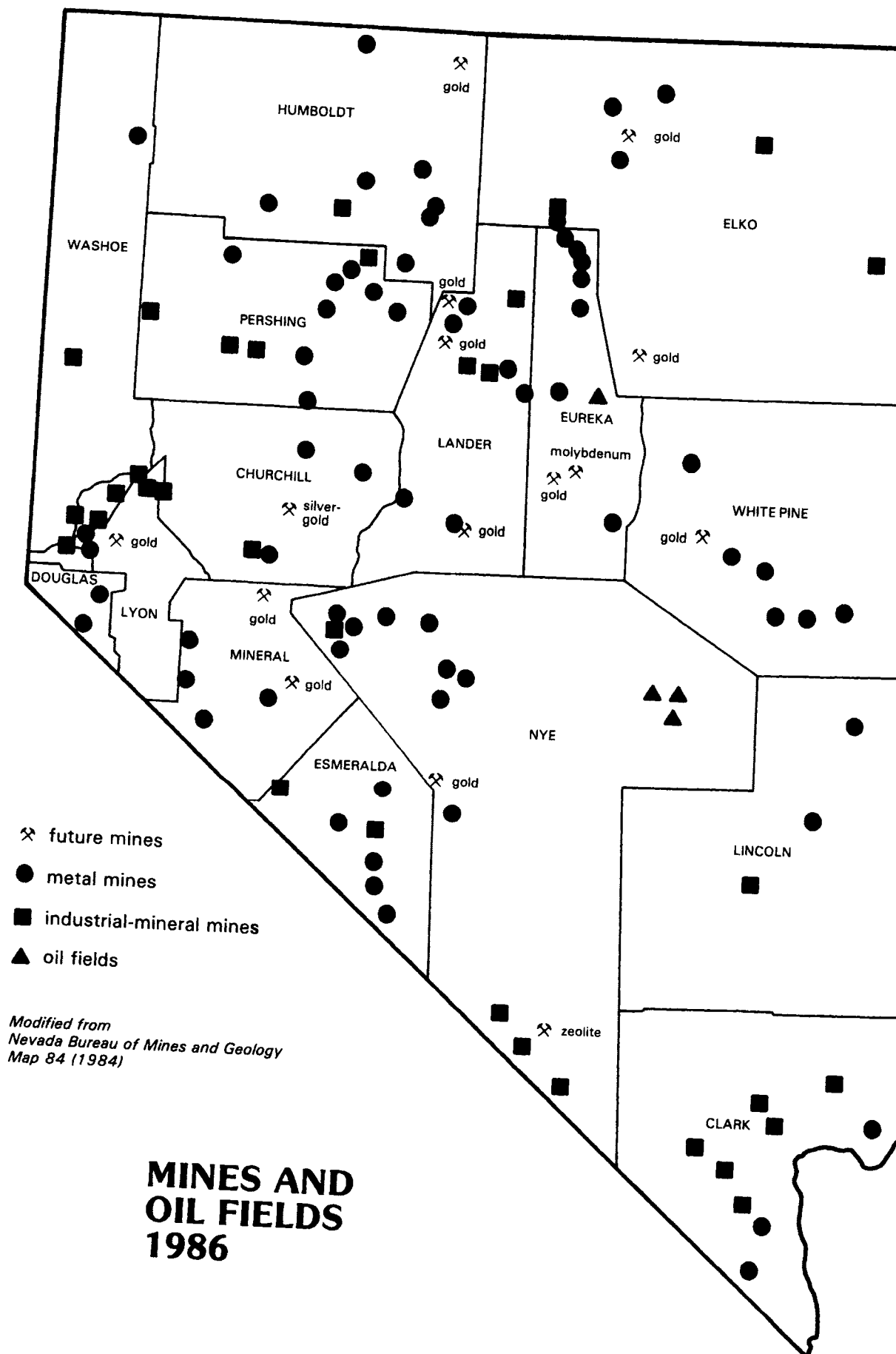
FMC Corp. continued exploration around its Paradise Peak Mine in a search for other gold/silver deposits (FMC Corp. press release).

Geotemp Inc. was formed to supply temporary employees to mineral-exploration and mining companies; an office has been opened in Reno to provide the service.

U.S. Minerals Exploration Co. did "extensive drilling" during 1986 for heap-leachable gold at Green Springs, south of Hamilton in central White Pine County (Reno Gazette-Journal, 19 Jan 87).

Inland Gold Corp. reported that drilling at Westgate in eastern Churchill County encountered gold-silver mineralization having an "early-on potential of 500,000 tons . . . containing an estimated 0.04 ounces of gold per ton" (Reno Gazette-Journal, 25 Aug 86).

Inspiration Resources Corp. is continuing precious-metals exploration in the area around the Austin Gold



Venture gold deposit, southeast of Austin in Lander County (American Mining Congress Journal, 13 Jun 86).

Nippon Mining Co. Ltd. opened an exploration office in Reno.

Phelps Dodge Corp. opened an exploration office in Sparks.

Quartz Mountain Gold Corp. opened an exploration/development office in Sparks late in 1986; emphasis will be on gold in the western U.S. The office presently is overseeing development drilling for gold at Quartz Mountain, Oregon.

Queenstake Resources and **Bolero Resources**, as a joint venture, plan to do extensive exploration for precious metals at the Buckskin National Mine in the National mining district, Humboldt County (Nevada Mining Association Bulletin, May-Jun 86).

Royal Apex Silver, Inc. acquired all the outstanding shares of **Galli Exploration Associates**, a Nevada company with extensive precious-metal holdings, and will expand gold exploration in Nevada and elsewhere in the West (American Mining Congress Journal, 23 Apr 86). Galli Exploration "will remain under the direction of Peter Galli, an eminent geologist, who has participated in the discovery of several Nevada mines" (Royal Apex Silver 1985 Annual Report).

Silver King Mines, Inc. continued to explore for gold in the Robinson mining district, White Pine County, in a search for more gold ore to feed the Lone Tree mill. As of 1 May 86, drilling had located six ore zones: the "Twin Peak" (100,000 tons averaging .06 oz gold per ton) in the Permian Rib Hill Formation; the "Northwest" (500,000 tons, 0.07 oz gold per ton), in Permian Riepe Spring Formation; the "Ada Hill" (300,000 tons, 0.07 oz gold per ton) and "Saxton" (200,000 tons, 0.08 oz gold per ton) in the Mississippian Chainman Formation; and the "Aultman" (30,000 tons, 0.09 oz gold and 2.0 oz silver per ton) and "Blackspot" (100,000 tons, 0.1 oz gold and 5.0 oz silver per ton) in the Mississippian Joana Formation. Drilling is continuing. (Information from visit, 30 Jun 86)

Westley Mines Ltd. announced that drilling during 1986 in the Independence Range, adjacent to the Jerritt Canyon open-pit gold mine, Elko County, indicates "good potential" for gold (Reno Gazette-Journal, 2 Feb 87).

FUTURE MINES AND PLANTS

Alhambra Mines, Inc. was given a special use permit (by a unanimous vote of the Storey County Commissioners) to operate a open-pit, heap-leach gold mine in Sixmile Canyon, east of Virginia City. Start-up is planned for 1987; some 500,000 tons of gold-silver ore will be mined over a two year period. More drilling is planned in the hopes of finding additional ore. (Nevada Mining Association Bulletin, Sep-Oct, 1986)

Atlas Corp. plans to spend \$20 million developing its Gold Bar gold property on the south side of the Roberts Mountains, 37 miles northwest of Eureka,

CLAIMS RECORDED BY BLM* NEVADA

Year	New claims	Total active claims
1980	43,175	—
1981	49,284	—
1982	30,531	241,158
1983	35,127	245,576
1984	36,698	275,022
1985	26,883	287,748
1986	34,002	296,022

*U.S. Bureau of Land Management.

TOTAL CLAIMS FILED WITH BLM*

	1976-1985	1986	Total active claims
Nevada	357,120	34,002	296,022
Utah	287,769	4,353	185,363
Arizona	247,175	16,492	152,717
Wyoming	229,459	1,930	73,954
Colorado	213,323	3,755	88,519
California	173,746	12,482	135,848
New Mexico	136,209	3,967	42,702
Montana	124,524	4,628	67,395
Idaho	106,680	10,896	73,978
Oregon/Wash	85,750	4,176	49,167

*U.S. Bureau of Land Management.

Eureka County. Reserves are 285,000 oz recoverable gold; the ore has an average grade of 0.10 oz gold per ton. Costs are estimated to be about \$250 per ounce. (Nevada Mining Association Bulletin, May-Jun 86)

Battle Mountain Gold Co. plans to develop its Surprise gold deposit, located 6 miles from its Fortitude open-pit gold mine near Battle Mountain, Lander County, as a satellite to the Fortitude operation. Drilling of a 90-hole pattern indicates reserves containing 125,000 oz recoverable gold. (Nevada Mining Association Bulletin, Feb-Mar 86). Mining began in 1987.

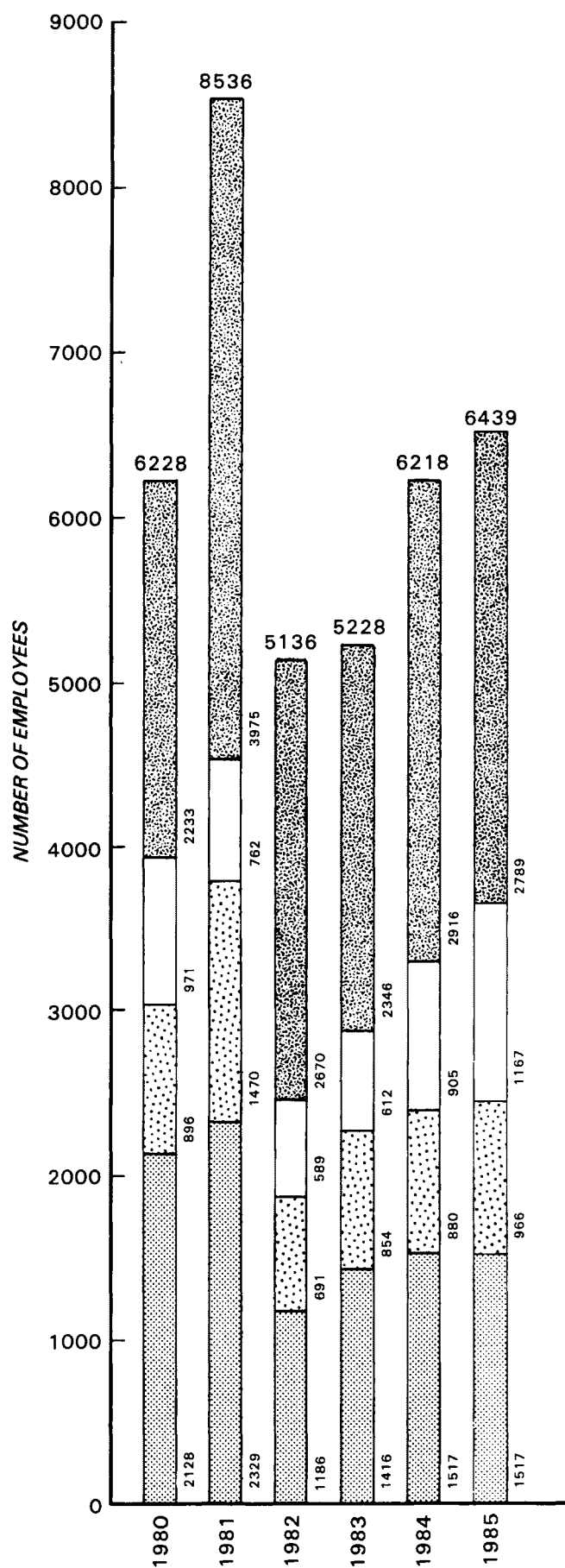
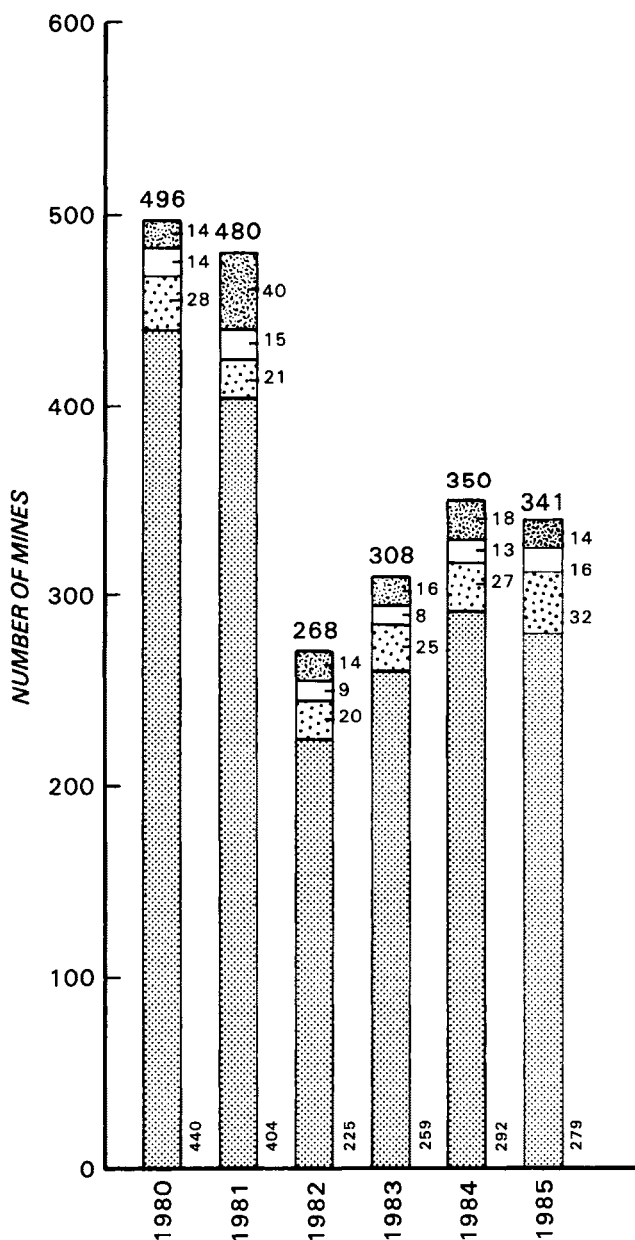
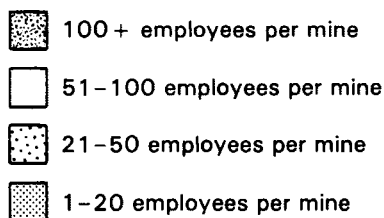
East West Minerals acquired the Ash Meadows and Eastgate zeolite deposits, and plans to develop the Ash Meadows property at an initial rate of 50,000 tons of processed clinoptilolite per year (Mining Engineering, May 1986).

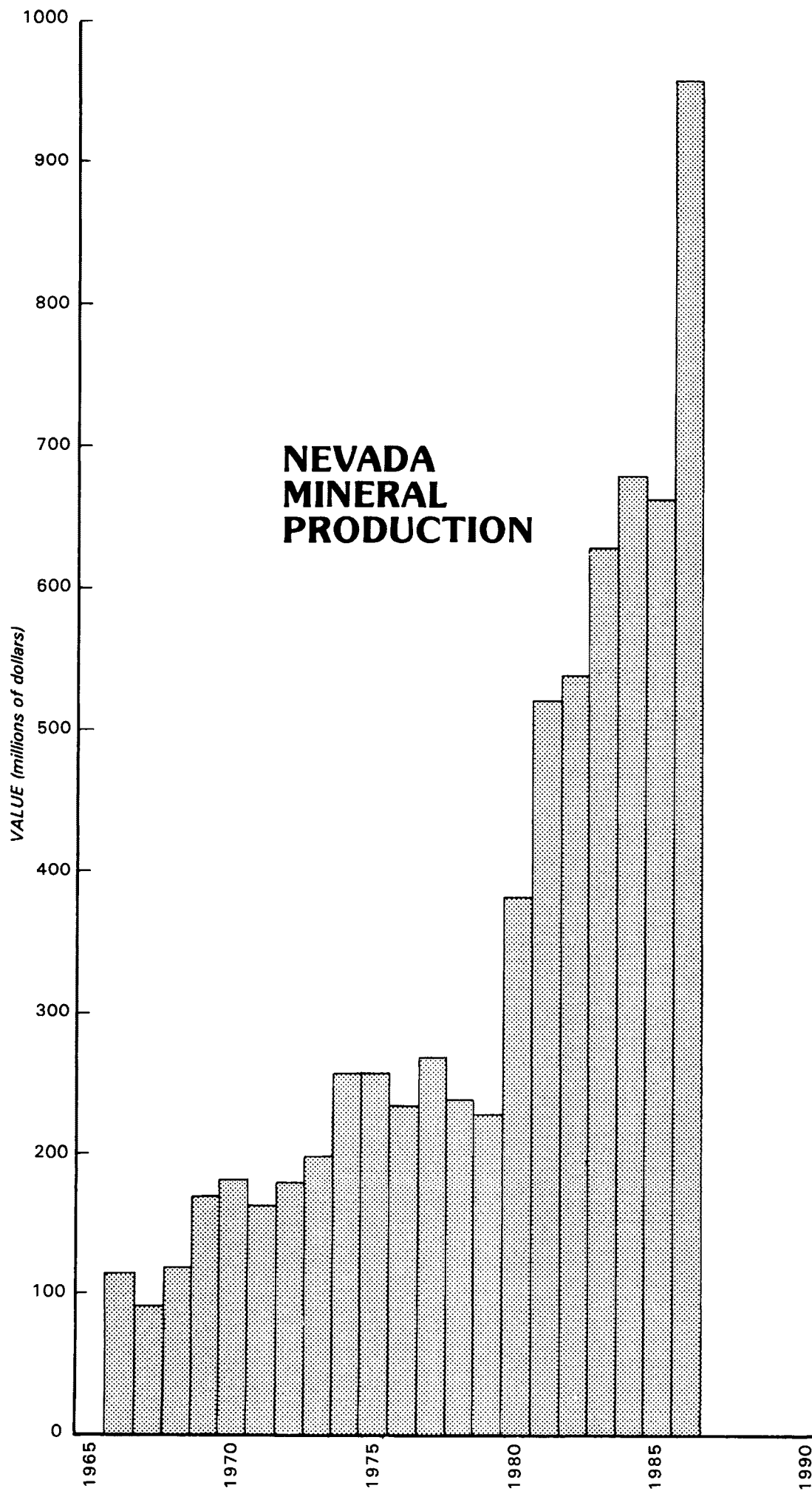
Echo Bay Mines, Ltd.'s Illipah gold property in west-central White Pine County has a good possibility of becoming a mine; over 400 holes have been drilled on the property (information from Richard Jones).

Freeport-McMoRan Gold Co. announced that drilling at its Big Springs gold deposit, 10 miles north of the Jerritt Canyon Mine in Elko County, had found 1 million tons of ore, increasing proven reserves to 2 million tons containing 0.17 oz recoverable gold per ton (Reno Gazette-Journal, 7 Jul 86). Three million shares of Freeport Gold stock will be sold to provide funds to complete development (American Mining Congress Journal, Dec 86).

NUMBER OF MINES AND EMPLOYEES IN NEVADA'S MINERAL INDUSTRY

(from Mine Inspector's Report)





OTHER 1986 EXPLORATION ACTIVITY IN NEVADA

by Richard B. Jones

Name	Location	Metal	Remarks
CHURCHILL COUNTY			
Jessup	S22,T24N,R27E	Au	Bullion Mountain Mining , exploring 100 × 7,000 ft zone. Values up to 0.27 oz Au/ton.
Summit King Mine	S11,12,T15N,R32E	Au, Ag	Westfield evaluating with option to acquire 70% interest.
ELKO COUNTY			
Millionaria claims	?T44N,R52E	Au	Franco-Nevada scheduled drilling on two large geochemical anomalies with visible gold.
Poker Flats	T32N,R53E	Au	Franco-Nevada drilled five holes. Assays of up to 0.1 oz/ton Au taken from rock outcrop.
Independence property	~S17,T40N,R53E	Au	Westley Mines & Redcliffe Resources drilled 10 holes in an area 1,700 × 1,100 ft, obtaining significant values. Surface samples contained up to 0.19 oz Au/ton.
EUREKA COUNTY			
Goldstrike Mine	S19,T36N,R50E	Au	Franco-Nevada and American Barrick Resources each bought 50% interests from IntraAmerican Oil & Minerals and Western States Minerals, respectively.
Bullion-Monarch Venture	~S4,T35N,R50E	Au	United Mining purchased El Dorado Gold's share of the joint venture.
HUMBOLDT COUNTY			
Bottle Creek project	S7,T40N,R33E	Au	Placer U.S. entered into agreement with Nassau Ltd. and Cimarron Exploration Inc. Project covers 5,800 acres. Significant mineralization has been identified.
West Coast (Pansy Lee) Mine	S1,T36N,R36E	Au, Ag	Greatwest Gold & Silver , is still exploring. Underground sampling complete. Feasibility study to be completed by spring 1987.
LANDER COUNTY			
Frank W. Lewis project	~S9,T31N,R43E	Au, Ag	American Barrick Resources optioned 5,200 acre claim block adjacent to the Fortitude Mine from Frank Lewis; did 30,000 ft of drilling.
unnamed	~S15,T31N,R43E	Au, Ag	NCA Minerals acquired 25 claims adjoining Fortitude Mine. Widespread values. Dumps and workings range up to 0.38 oz Au/ton and 16.0 oz Ag/ton.
Buffalo Mountain property	~S31,T34N,R42E	Au	Cinnabar Resources made agreement with Santa Fe Mining to explore/develop. To date possible reserves are 600,000 tons at 0.07 oz Au/ton.
Fire Creek project	~S15,T30N,R47E	Au	Klondex Mines and Alma American Mining entered into agreement to further evaluate the Fire Creek property. Current reserves are 400,000 tons grading 0.06 oz Au/ton. More than 300 oz Au were recovered from heap-leach tests.
Hilltop gold property	~S4,T29N,R46E	Au	U.S. Precious Metals and Ruskin Development continued exploration/development.
Sumich Mine	S28,T16N,R43E	Au	Nevada Goldfields is re-evaluating and constructing a mill. Current reserves are 1.04 million tons grading 0.26 oz Au/ton as New Beginnings partner.
Fisher gold project	~S29,T30N,R46E	Au	St. George Minerals is exploring/developing underground property. Inferred reserves are 200,000 tons grading 0.4 oz Au/ton.
LINCOLN COUNTY			
Gold Springs	~S30,T1N,R71E	Au	Energex Minerals plans drilling. Has been exploring since 1981.
LYON COUNTY			
Talapoosa	~S3,T18N,R24E	Au, Ag	Athena Gold plans additional drilling. Potential heap-leach. Reserves 1.2 million tons at 0.039 oz Au/ton and 0.57 oz Ag/ton.

OTHER 1986 EXPLORATION ACTIVITY IN NEVADA (continued)

Name	Location	Metal	Remarks
MINERAL COUNTY			
Bovard-Rand	~S29,T11N,R32E	Au	Pioneer Metals made agreement with Fischer-Watt to earn 51% interest. Indication of 3 million tons grading 0.04-0.10 oz Au/ton. Additional 3,000 ft of drilling scheduled.
NYE COUNTY			
Golden King	~S36,T4S,R55E	Au, Ag	Exxon drilled 21 holes; encountered mineralization, but dropped option they had from Royal Minerals.
Gold Bar Mine	S36,T11S,R45E	Au	Columbus Mines exploring/developing.
PERSHING COUNTY			
Majuba-Rye Patch placer	?T32N,R32E	Au	New Gold and Planet Resources testing/developing 7 sq mi area, leased from Southern Pacific RR. Nuggets occur in "patches" close to surface and grade \$10 to \$30/cu. yd.
Relief Canyon Mine	~S21,T27N,R34E	Au, Ag	Pegasus Gold acquired option to purchase from Lacana Mining Corp. Reserves are 9 million tons grading 0.032 oz Au/ton.
STOREY COUNTY			
Washington Hill area	~S34,T19N,R21E	Au, Ag	Westley Mines acquired 24 sq mi property. Has geochemical & geological work underway.
Comstock Gold	?T17N,R21E	Au, Ag	Westley Mines , Baroque Resources and joint venture Franco-Nevada is drilling a series of 2,000-ft holes exploring for offset of Big Bonanza orebody.
WHITE PINE COUNTY			
Mt. Wheeler Mine	S15,T12N,R68E	Be, W, Sn, F, Pb, Zn, Ag, Au	National Treasure Mines completed feasibility study of "multi-mineral" deposit. Plans to build mill.
Green Springs project	~S33,T15N,R57E	Au	U.S. Minerals Exploration controls 7,400 acres. Completed first-phase drilling; found mineralization, and plan additional drilling. Mineralization is oxidized, 45 ft thick and 80 ft deep.

Georgia Pacific Corp. is building a gypsum plant north of Las Vegas, capable of producing 600 million sq ft of wallboard per year. As many as 250 people are expected to be employed. (Nevada Business Review, May 86)

Gold Fields Mining Corp. plans to mine the Chimney Creek gold deposit in northeasternmost Humboldt County as the result of a feasibility study by the **Davy McKee Co.** Mining would be by open-pit methods; recovery by cyanide milling and heap leaching (information from Richard Jones).

Granges Exploration/Hycroft expects to begin heap leaching at their Crofoot gold property located near the Lewis Mine in southernmost Humboldt County; feasibility studies are underway to see whether the two mines can be operated more economically as a unit (Reno Gazette-Journal, 22 Dec 86).

Homestake Mining Co. has leased from **Minex Resources, Inc.**, and plans development drilling, the M-ACE claims which are located less than 4 miles from the Round Mountain gold mine in northern Nye County. Minex acquired the 27 claims from **Cordex Exploration Co.** in 1983. Drilling by both Minex and Cordex found "low grade gold mineralization". (Nevada Mining Association Bulletin, Sep-Oct 86)

Kennecott Corp. has entered into a joint-venture with **Plexus, Inc.** and **Kiewit Mining Group Inc.** to develop and operate an open-pit gold-silver mine and heap-leaching operation at Rawhide in northern Mineral County. Reserves are 24 million tons of ore averaging 0.045 oz gold and 0.47 oz silver per ton. Bullion production is scheduled to start during the first half of 1987; annual production is projected at 87,000 oz gold and 277,000 oz silver for 12 years. The construction work force will be about 220, with a permanent staff of 135. Some \$20 million will be spent to bring the mine into production. (Nevada Mining Association Bulletin, May-Jun 86)

Nevevex Gold Co. was denied a zone change and special-use permit to open-pit mine gold at Silver City by the Lyon County Planning Commission; the company plans to appeal the denial (Mason Valley News, 20 Jun 86).

Newmont Gold Co. will begin open-pit mining the Rain gold deposit 8 miles southeast of Carlin in late 1988; reserves are estimated at 14.2 million tons averaging 0.071 oz gold per ton (Reno Gazette-Journal, 17 Nov 86). Construction of facilities and stripping of waste will begin in 1987.

Northern Dynasty Exploration Ltd. plans to do 16,000 ft of development drilling to define reserves

below 260 ft in the "Zone 1" gold deposits at the Little Bald Mountain open-pit/heap-leach mine in northwest White Pine County; drilling during 1985 found 400,000 tons of ore averaging over 0.1 oz gold per ton at depths to 260 ft, 200,000 tons of which are in one body mineable by sublevel caving (Ely Daily Times, 19 Mar 86).

Sunshine Mining Co. has entered into a joint venture with **Freeport-McMoRan Gold Co.** to develop FMG's Manhattan gold property, northern Nye County. Sunshine will manage the project and can earn a 45% interest by completing a program of surface and underground exploration. Previous drilling by FMG had "established the presence of high-grade ore that might be mined underground". (Reno Gazette-Journal, 17 Nov 86)

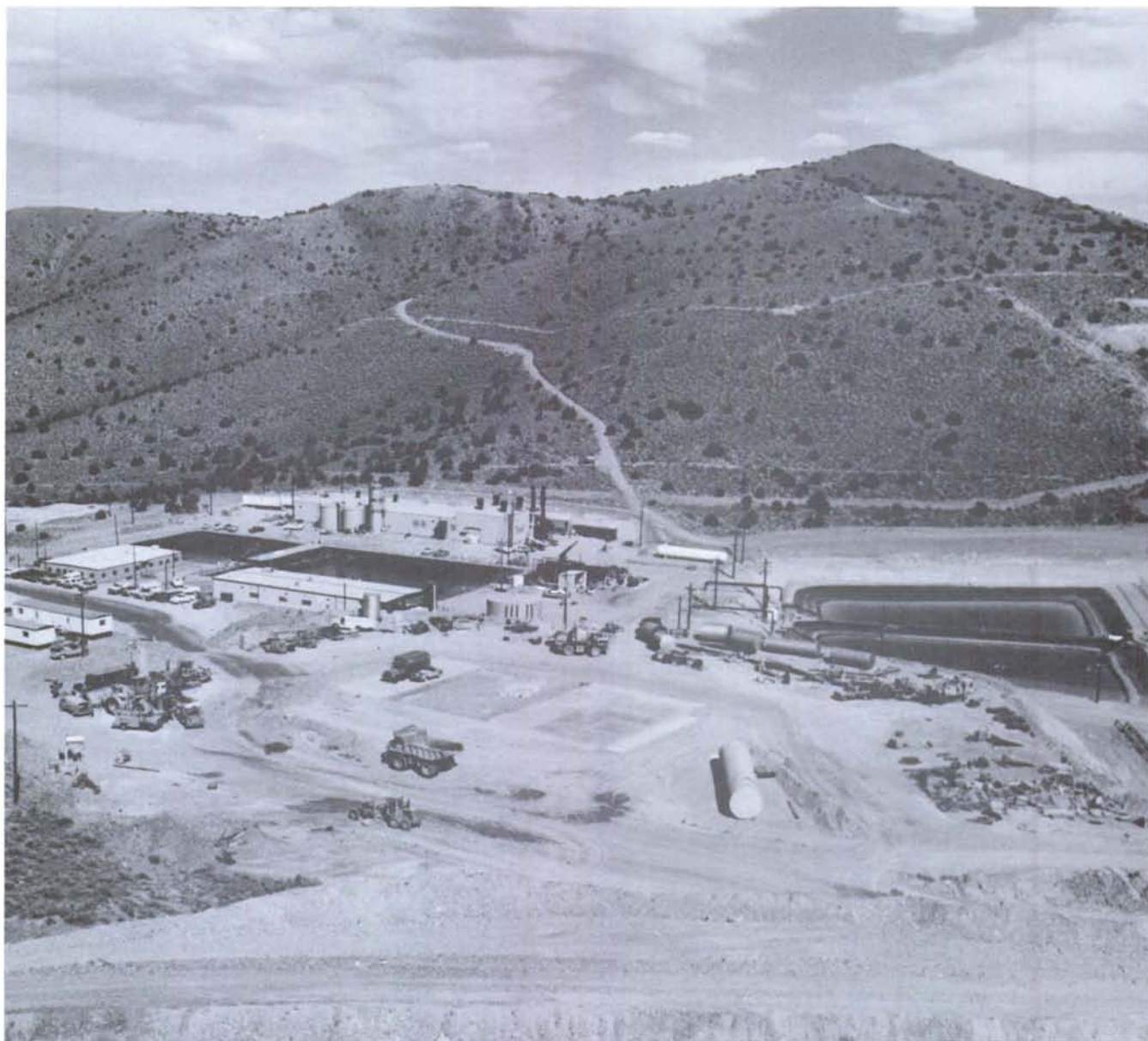
MINING/PROCESSING

The preliminary estimated value of Nevada's 1986 mineral production was \$939 million—final figures are expected to exceed \$970 million. Nevada ranked 8th in the Nation in the value of its 1986 nonfuel production, up from 12th in 1985.

New Mines/Plants

Basin Resources Corp. announced that it had begun mining lode-gold ore at the Desparado Mine north of Gabbs in western Nye County. Production is projected at 50,000 oz gold per year for 15 years.

Coeur-Rochester, Inc., a unit of Coeur d'Alene Mines Corp., brought its Rochester open-pit silver-



Above and on facing page: Coeur d'Alene Mines Corporation's heap-leaching installation at the Rochester Mine, northeast of Lovelock, Nevada. Coeur d'Alene Mines Corporation photos.

gold mine into production in August 1986; Larry Hartzog is project manager. Plant construction and stripping of overburden at the mine began in April 1986. **Morrison-Knudsen Co.** will provide mining and material handling (haulage, crushing, agglomeration, and stacking on the heap-leach pad) services. Coeur will operate the heap-leach and processing facilities. Production is expected to be 3.7 million oz silver and 43,000 oz gold a year, for the 13 year life of the initial pit. Proven and probable reserves total 102 million tons; the initial pit project contains 63 million tons of ore averaging 1.55 oz silver and 0.011 oz gold per ton. **Royal Apex Silver, Inc.** owns the Rochester property. In 1972, the property was leased to **ASARCO** who sold its interest to Coeur d'Alene for \$10 million in 1983;

ASARCO retains a royalty interest ranging from 1% (at a silver price of \$12 per oz) to 5% (at \$18 or more), beginning 2 years after commercial production commences. Royal Apex has a 5% net-operating-profits royalty which increases to 15% after Coeur d'Alene recovers its development costs. (Coeur d'Alene Mines 1985 Annual Report). Development costs are expected to be \$22 million; about \$3.5 million will be spent yearly for supplies, "mainly from Nevada businessmen". Some 150 persons are employed. Mining is planned at a rate of 15,000 tons of ore per day. Recovery is by cyanide heap-leaching; the leach pad will ultimately cover 10 million sq ft, the largest leach pad in mining history. Zinc powder will be used to recover the gold-silver bullion from the leach solution. The smelter at the



mine will produce dore which will be shipped elsewhere for refining. ("Rochester", published by Coeur d'Alene Mines, 1986)

FMC Paradise Peak Corp., a wholly-owned subsidiary of FMC Corp., poured the first dore bars at the Paradise Peak Mine 8 miles south of Gabbs on April 24, 1986. The deposit, with known reserves of 1.1 million oz recoverable gold and 30 million oz recoverable silver, was discovered in 1983. Development began in early 1984, when **Davy McKee Corp.** was selected to design and construct the mill; construction began in January 1985 and was completed in 18 months at a cost of nearly \$100 million. The open-pit mine is 1 mile to the northeast; it operates 2 shifts, 5 days a week. The mill processes 4,000 tons per day; the ore is crushed and ground, cyanide-leached, and smelted, and the dore bullion sold to foreign refineries. The operation employs 185 people. Production is expected to average 100,000 oz gold and 3.5 million oz silver per year, and to run through 1996. (Mining Record, 7 May 86)

Golden Shield Resources and Morgan Minerals began heap-leaching gold in the Goldfield district, Esmeralda County. Reserves are estimated at 1.9 million tons averaging 0.07 oz gold per ton (information from Richard Jones).

Inspiration Resources Corp. finished construction at the Austin Gold Venture gold deposit southeast of Austin, Lander County, and poured its first gold bars on December 6, 1986. The Austin Gold Venture is a joint project of **FMC Minerals Corp.** and **Inspiration Gold Inc.**; Inspiration owns 51% of the mine, the remaining interest is held by FMC. The mine is an open-pit, and is expected to yield 55,000 oz gold per year for 5 years. **Morrison-Knudsen Co.** was awarded a 4-year contract for mine development, stripping overburden, mining, and delivery of ore to the mill. Production will be from two pits at a rate of 400,000 tons per year. Ore will be hauled 8 miles to the mill; waste will be dumped adjacent to the mine and will average 5.6 million tons per year. The mill will use flotation methods to produce a sulfide concentrate which will be smelted elsewhere; the tailings will be cyanide leached in the mill, and dore bullion produced at the site. Reserves are 1.75 million tons having an average grade of 0.188 oz gold per ton. Some 200 workers were employed during construction/development; with a staff of 114 once mining/milling began. (American Mining Congress Journal, 13 Jun 86; Nevada Mining Association Bulletin, May-Jun 86; Elko Daily Free Press, 6 Dec 86; Morrison-Knudsen Co., "Qualification for Total Mine Development")

Nevada Gold Mining Inc., a wholly-owned subsidiary of **AMAX Inc.**, began production at its Sleeper open-pit mine and mill in Humboldt County; the first shipment of gold-silver dore (containing 3,000 oz gold) was made March 26, and a second shipment (containing 18,000 oz gold) was shipped in April. (American Mining Congress Journal, 29 May 86). The mine "completely paid for itself in the

first six months of operation" (Elko Daily Free Press, 28 Nov 86) due to the mining of a pocket of unusually high-grade ore. Production for 1986 was 128,000 oz gold and 94,000 oz silver from ore averaging 0.6 oz gold and 0.44 oz silver per ton; 1987 production of gold is expected to be more than 120,000 oz. Heap-leaching of low grade ore began in September. (Nevada Mining Association Bulletin, Jan-Feb 87).

Pegasus Gold Inc. began construction at the Florida Canyon project, at the north end of the Humboldt Range, Pershing County. Production began in September, 1986 (Mining Engineering, Nov 86). Eighty people will be employed. Exploratory drilling began in 1983; over 100,000 ft of hole has been drilled. Reserves are 17.8 million tons averaging 0.027 oz gold per ton. Plans are to mill and heap-leach 3 million tons of ore per year, producing 52,500 oz gold per year. Operating costs are estimated at \$220 per oz of gold produced (Ely Daily Times, 2 May 86).

Silver King Mines, Inc. and joint venture partner **Pacific Silver Corp.**, began processing gold-silver ore at their new Lone Tree cyanide mill at Ruth six miles west of Ely in September; the mill is expected to produce 4,000 oz gold and 8,000 oz silver per month. The ore is mined from the Star Pointer open-pit mine at a rate of over 3,000 tons per day. Sixty persons are employed in the mining-milling operations. (Rocky Mountain Pay Dirt, Oct 86)

Sunshine Mining Co. began open-pit mining gold ore at Weepah, Mineral County, in October; the ore is hauled 14 miles to Sunshine's 16-to-1 mill east of Silverpeak. Mining is at the rate of about 1,000 tons per day; some 200,000 tons of ore will be mined during this initial phase which is expected to last into January 1987. The ore grade is "slightly higher than 0.1 oz gold and about 0.4 oz silver per ton". Once the initial phase of mining is completed further development drilling will be done to establish additional reserves. (Rocky Mountain Pay Dirt, Oct 86)

Tenneco Minerals Co. poured its first gold dore bullion from the McCoy open-pit mine and heap-leaching operation south of Battle Mountain in Lander County in May; production is expected at a rate of 75,000 oz gold per year for at least 4 years (Ely Daily Times, 13 May 86). The first month's production was 3,000 oz gold (Nevada Mining Assoc. Bulletin, Nov-Dec 86). Tenneco recently sold the mine to Echo Bay Ltd. (see Echo Bay under Operating Mines, below).

Western Goldfields Co. began production at the Hog Ranch gold deposit 30 miles north of Gerlach in Washoe County in 1986; leaching began August 15, the first dore bullion was poured September 14th. Drilling had found 5 million tons of ore containing 400,000 oz gold. Mining is by open-pit methods; extraction by cyanide heap-leaching with carbon recovery; production is planned at a rate of 55,000 oz gold per year for at least 5 years. There are 70 employees (Nevada Mining Association Bulletin, Nov-Dec 86).

Operating Mines/Plants

Battle Mountain Gold Co.'s Fortitude gold-silver mine, at Copper Canyon south of Battle Mountain in Lander County, was processing ore at a rate of 3,000-3,500 tons per day early in 1986 (Mining Engineering, Jul 86). The mine began production in December 1984. Mining is by conventional open-pit methods; processing is in a carbon-in-pulp mill. Reserves have been recalculated to contain 1,610,000 oz recoverable gold as of January 1, 1986 (Nevada Mining Association Bulletin, Feb-Mar 86). Operating costs have fallen to \$153 per oz gold produced (Elko Daily Free Press, 23 May 86). The mine produced 259,000 oz gold and 902,000 oz silver in 1986.

Carlin Gold Mining Co. produced 94,400 oz gold from its Nevada mines in the first quarter of 1986, up from 34,400 oz in the first quarter of 1985; the increased production resulted from the opening of the Gold Quarry Mine and improved recoveries at the Carlin mill (Newmont Mining Corp. First Quarter 1986 Report). CGM's name was changed to **Newmont Gold Co.**, and 5 million shares in the new company were sold to the public; Newmont Mining Company retained the remaining 95% of the stock (Newmont Mining Corp. Second Quarter 1986 Report). Newmont Gold is traded on the New York Stock Exchange under the symbol NGC.

Dresser Minerals, IMCO, NL Industries, and Milpark—the four major barite mining operations in Nevada—all laid off workers as mining and processing continued to decline (Elko Daily Free Press).

Echo Bay Mines Ltd. reached an agreement to acquire **Tenneco Inc.'s** Nevada gold-mining properties (Borealis, Manhattan, and McCoy Mines) for \$130 million (Reno Gazette-Journal, 15 Sep 86). The Borealis gold mine, 20 miles south of Hawthorne in Mineral County, produced its 250,000th ounce of gold in October; additional ore has been found at Freedom Flat near the mine, extending its life for at least 2 more years (Nevada Mining Association Bulletin, Nov-Dec 86). Echo Bay also plans to greatly expand its open-pit, heap-leach operations at Round Mountain, Nye County, including building a new village for the additional workers needed (Public Scoping Document, Bureau of Land Management, Jan 87).

Freeport-McMoRan Gold Co. produced its millionth ounce of gold at its Jerritt Canyon Mine in Elko County in January 1986; the first ounce of gold was poured on July 4, 1981. The mine employs 375 workers. (Elko Daily Free Press, 27 Jan 86)

Freeport-McMoRan Gold Co. began production of gold from the new heap-leach facilities at the Jerritt Canyon Mine 50 miles north of Elko; leaching began on 7 Aug 86, and the first gold bar was poured on the 18th. Some 400,000 tons of ore averaging 0.05 oz gold per ton will be treated yearly. Construction had begun in the fall of 1985. (Elko Daily Free Press, 6 Sep 86)

FRM Minerals Inc., a subsidiary of **First Mississippi**

Corp., completed its first full year of gold production at the Gatchell Mine in eastern Humboldt County; heap leaching of dumps and an open-pit produced 10,100 oz gold. Feasibility studies are underway to see if unleachable ores can be processed. Reserves are estimated at 1.3 million oz gold in ore averaging 0.17 oz gold per ton. (American Mining Congress Journal, Dec 86)

Genstar Gypsum Products plant at Blue Diamond, west of Las Vegas, is operating at full capacity, running 7 days a week, 24 hours a day, and producing 300 million sq ft of wallboard per year. The gypsum mine and wallboard plant together employ 130 persons. (Nevada Business Journal, May 1986)

Granges Exploration Ltd. has agreed to buy the Lewis gold mine west of Winnemucca in southern Humboldt County from **Standard Slag Co.** for \$4 million (Reno Gazette-Journal, 22 Dec 86).

Northern Dynasty Exploration Ltd. reported that its Little Bald Mountain open-pit gold mine in northwest White Pine County had produced more than 4,000 oz gold in 1985. Mining began in the spring of 1985. About 50,000 tons of ore averaging 0.12 oz gold per ton were mined in 1985; mining for 1986 is projected at 61,000 tons of ore averaging 0.085 oz gold per ton. Mining is expected to last at least 5 years. Thirty persons are employed during the summer when mining is in full swing; the staff is cut to 5 persons in the winter. (Ely Daily Times, 17 Apr 86) Underground mining is being planned: a 300-ft decline is being driven to give access to 40,000 tons of ore averaging 0.16 oz gold per ton plus an additional 10,000 tons averaging 0.10 oz gold per ton; two declines are planned for 1987 giving access to 225,000 tons of ore averaging 0.16 oz gold per ton (Reno Gazette-Journal, 29 Sep 86).

Pabco Gypsum, a wholly-owned subsidiary of **Pacific Coast Building Products, Inc.**, plans to increase production at its plant in Henderson, Clark County, to 600 million sq ft of wallboard. Presently 125 workers are employed. (Nevada Business Journal, May 86)

Tonkin Springs Gold Mining Corp. produced 5,500 oz gold from the Tonkin Springs open-pit gold mine and heap-leaching operation in central Eureka County during the first 3 months of 1986; 7,500 oz have been produced since the first bar was poured October 31, 1985 (Ely Daily Times, 29 Apr 86). Production is expected to be 25,000 oz in 1986 (Reno Gazette-Journal, 25 Aug 86). Costs are \$120 per oz of gold produced (Wallace [ID] Miner, 20 Feb 86).

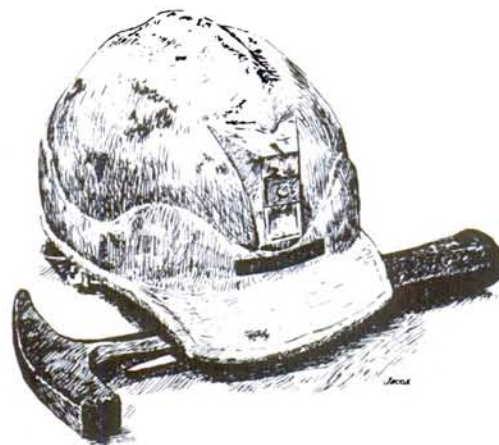
Closings

Pacific Silver closed the Buckskin Mine, Douglas County, in October.

Sunshine Mining Co. closed the 16-to-1 silver mine, near Silver Peak, Esmeralda County, in June; 26 employees were laid off. The mill continued to provide custom milling of gold and silver ores, stockpiled ore from the mine, and gold ore from the new Weepah Mine.

NEVADA'S ROLE IN U.S. MINERAL SUPPLY IN 1986

Commodity	Share of U.S. output (percent)	Rank in Nation
Barite	68	1
Diatomite	32	2
Fluorspar	1	3
Gemstones	30	1
Gold	53	1
Lithium	32	2
Magnesite	100	1
Mercury	100	1
Silver	21	2



STATE OF NEVADA'S REVENUE FROM MINERAL INDUSTRY*

Source	1982	1983	1984	1985	1986
Federal mineral leases ¹	\$12,595,501	\$12,184,106	\$14,412,423	\$ 9,903,122	\$ 7,413,502
Net proceeds tax ²	1,799,735	4,156,623	3,223,986	3,534,176	NA
Geothermal leases ³	944,305	642,256	491,302	310,000	367,002
Mining claim fee ⁴	0	157,978	158,023	160,392	NA
Oil production tax ⁵	55,000	60,596	134,440	156,657	NA
Total	\$15,394,541	\$17,201,559	\$18,420,174	\$14,064,347	—

¹Royalties and rentals paid to State under Section 35 of the Mineral Leasing Act of 1920.

²On gross yield of mines less specified allowable deductions.

³Bonus bid payments and royalties from geothermal leases sales.

⁴On transaction related to active claims.

⁵Includes drilling permit fees.

⁶Does not include sales taxes.

NEVADA'S MINERAL PRODUCTION¹

Mineral	Unit	1985		1985 ^P		1986 ^P	
		Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)
Barite	thousand short tons	590	\$10,904	731	\$14,431	260	\$6,500
Cement	W	W	W	W	W	W	W
Clays	thousand short tons	80	3,776	20	1,201	23	1,370
Copper	W	W	W	W	W	W	W
Diatomite	W	W	W	W	W	W	W
Fluorspar	W	W	W	W	W	W	W
Gemstones	—	1,300	—	1,300	—	—	W
Gold	troy ounces	1,276,114	405,369	1,121,113	364,362	1,897,235	700,088
Gypsum	thousand short tons	1,207	8,942	1,200	9,960	1,336	10,421
Iron ore	thousand long tons	W	W	W	W	W	W
Lead	pounds	800	W	0	0	0	0
Lime	W	W	W	W	W	W	W
Lithium	thousand pounds lithium carbonate	11,959	W	11,959	W	6,500	W
Magnesite	W	W	W	W	W	0	0
Mercury	76-pound flasks	16,530	W	15,100	W	W	W
Petroleum	thousand 42-gallon barrels	3,060	56,600	3,060	56,600	2,906	34,884
Perlite	W	W	W	W	W	W	W
Salt	W	W	W	W	W	W	W
Sand and gravel	thousand short tons	9,979	30,744	10,800	24,800	7,800	21,600
Silica sand	thousand short tons	479	5,944	470	W	W	W
Silver	thousand troy ounces	4,947	30,383	6,250	38,750	7,677	41,454
Stone, crushed	thousand short tons	1,334	6,218	1,100	4,100	1,500	4,900
Combined values indicated by symbol W			133,247		142,406		118,168
TOTAL			\$693,427		\$657,910		\$939,385

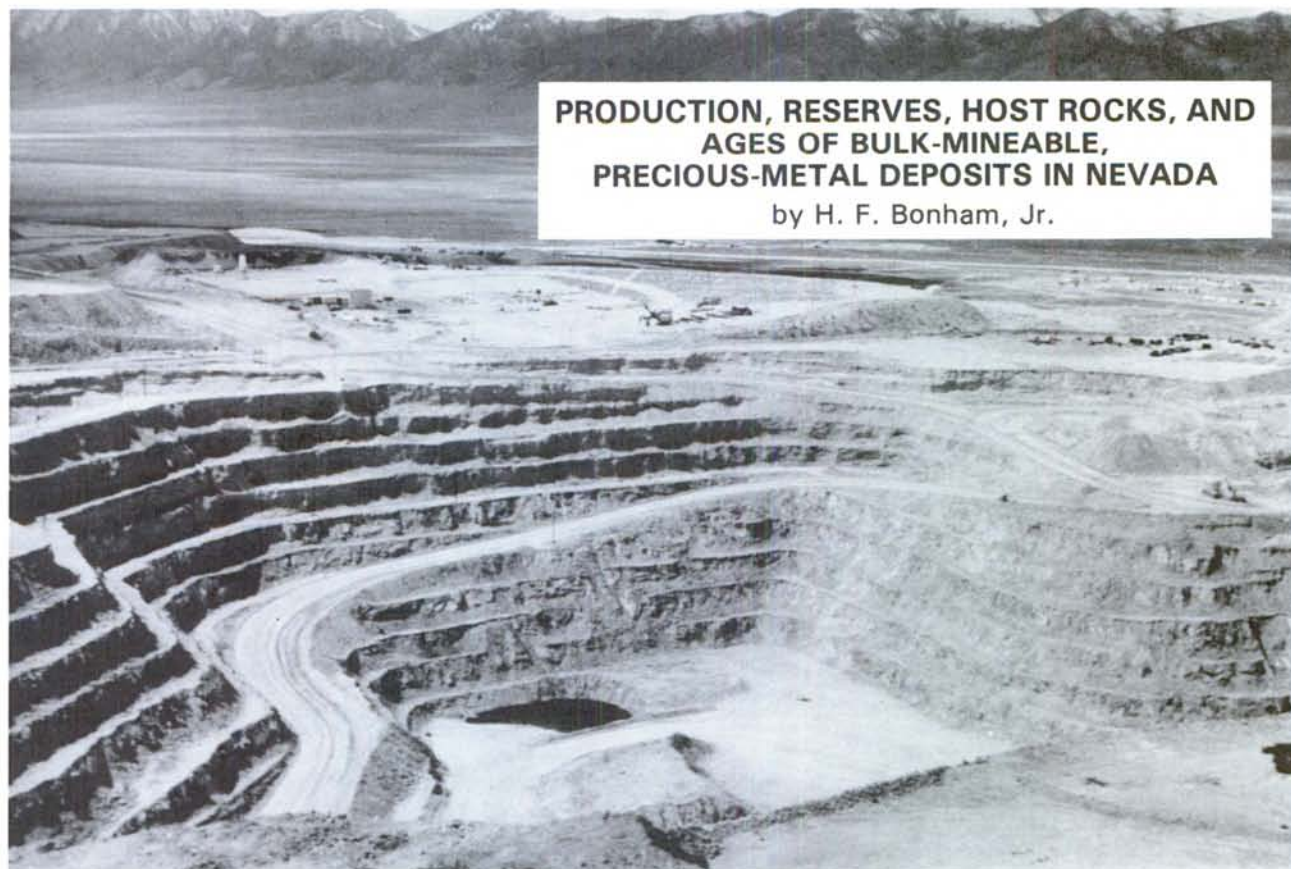
¹Production as measured by mine shipments, sales, or marketable production (including consumption by producers), as compiled by U.S. Bureau of Mines except for lithium and petroleum.

^PPreliminary.

W Withheld by U.S. Bureau of Mines to avoid company proprietary data; value included with "combined values" figure.

PRODUCTION, RESERVES, HOST ROCKS, AND AGES OF BULK-MINEABLE, PRECIOUS-METAL DEPOSITS IN NEVADA

by H. F. Bonham, Jr.



Southwest pit of the Round Mountain gold mine (Smoky Valley Mining Company). H. F. Bonham, Jr. photo.

NOTE: see NBMG Map 91 for locations.

Deposit name	Announcement date	Reserves (estimated or announced)	Production period	Production	Host rock	Mineralization age
Alligator Ridge	Jan 83	5 million tons 0.09 oz Au/ton	1981-83	2 million tons 0.11 oz Au/ton to 1 Jan 83; 60,000 oz Au, 14,000 oz Ag/year	Pilot Shale	early Oligocene?
	1986	1.79 million ton 0.064 oz Au/ton				
Ashdown	1987	1.16 million tons 0.125 oz Au/ton		exploration	Mesozoic granitic rocks	Mesozoic
Atlanta	1980	1.1 million tons 0.08 oz Au, 1.6 oz Ag/ton	1980-84	88,000 oz Au, 1,710,000 oz Ag to Oct 80	Pogonip Group, Ely Springs and Laketown Dolomites, Oligocene silicic tuff, dacite dikes	early Miocene?
Austin Gold Venture	1986	1.75 million tons 0.16 oz Au/ton		55,000 oz Au/year	Antelope Valley Limestone	Cretaceous or Tertiary
Aurora	1983	1.5 million tons 0.129 oz Au, 0.3 oz Ag/ton	1930's 1983	500,000 tons 0.2 oz Au/ton 85,000 tons 10,000 oz Au	andesite, rhyolite	10 m.y.
Bell Mtn.	1982	1 million tons 0.055 oz Au, 1.4 oz Ag/ton (possible additional 1 million tons 0.022 oz Au, 1.0 oz Ag/ton Sphinx zone: 50,000 tons 0.14 oz Au, 3.3 oz Ag/ton)		no production	rhyolitic tuff	Miocene
Big Springs (Sammy Creek)	1987	3.3 million tons 0.18 oz Au/ton		60,000 oz Au/year proposed	Mississippian to Permian overlap assemblage	Cretaceous or Tertiary

continued

PRODUCTION, RESERVES, HOST ROCKS, AND AGES OF BULK-MINEABLE, PRECIOUS-METAL DEPOSITS IN NEVADA (continued)

Deposit name	Announcement date	Reserves (estimated or announced)	Production period	Production	Host rock	Mineralization age
Borealis	1981	2.1 million tons 0.08 oz Au, 0.5 oz Ag/ton	1981-84	2.1 million tons 170,000 oz Au	rhyolite flow dome, andesite flows, breccias, volcaniclastic rocks	5 m.y.
	1984	2.5 million tons 0.07 oz Au/ton	1986	40,000 oz Au/year		
Blue Star			1974-84	intermittent	lower Paleozoic sandy siltstone and carbonate rocks, granodiorite	37.5 m.y.
	Mar 87	1.95 million tons 0.066 oz Au/ton				
Bootstrap		300,000 tons 0.15 oz Au/ton; 900,000 tons 0.028 oz Au/ton	1974-84	heap leaching low-grade ore	dacitic dikes, Paleozoic siltstone and laminated limestone and chert	~ 37 m.y.
			1987	exploration		
Buckhorn	1984	Cominco: 5 million tons 0.044 oz Au, 0.585 oz Ag/ton Northern Dynasty: 2 million tons 0.056 oz Au, 0.224 oz Ag/ton		30,000 oz Au, 270,000 oz Ag/year (projected by Cominco)	basaltic andesite, sinter, and silicified sediments	14.6 m.y.
	1986	3.215 million tons 0.048 oz Au, 0.58 oz Ag/ton				
Buffalo Valley	1986	333,000 tons 0.09 oz Au/ton		10,000 oz Au/year	Havallah Formation	Eocene
Burns Basin	1986	3.2 million tons 0.177 oz Au/tons 804,000 tons 0.038 oz Au/ton		pre-production	Roberts Mountains and Hanson Creek Formations	Cretaceous or Tertiary
Candelaria	1982	18.5 million tons 1.09 oz Ag, 0.009 oz Au/ton		1.7 million oz Ag, 9,000 oz Au/year	Candelaria Formation serpentinite, granitic dikes	Cretaceous
Carlin	1984	4.5 million tons 0.16 oz Au/ton	1965-84	14 million tons 4,300,000 oz Au	Roberts Mountains Formation	~ 37 m.y.
	1987	1.5 million tons 0.127 oz Au/ton				
Carlin Trend	Prospects with significant mineralization: Bobcat, near Genesis, 25 ore-grade holes, 1986; Capstone, north of Post, 60 ore-grade holes, 1986; Gold Quarry (Deep West), 15 deep ore-grade holes, 1986; Gnome, near Rain, 3 million tons ore-grade, 1986; Lantern, between Carlin and Blue Star, four ore-grade holes, 1986; North Star, north of Genesis, feasibility studies to determine total ore reserves, 1986; Tusc, eight ore-grade holes, 1986.					
Chimney Creek	1987	20.5 million tons 0.065 oz Au/ton		~ 150,000 oz Au/year	Etchart Limestone	Cretaceous or Tertiary
Cortez		mined out	1968-82	3,562,100 tons 0.279 oz Au/ton	Roberts Mountains Formation	34 m.y.
Crofoot	1987	15 million tons 0.032 oz Au/ton		pre-production	Camel conglomerate, rhyolite dikes	1-2 m.y.
Dee	1982	2.5 million tons 0.12 oz Au/ton; 1.1 million tons 0.028 oz Au/ton heap-leach		30,000 oz Au/year	Vinini Formation, Devonian carbonates, dacitic dikes	Cretaceous or Tertiary
	1985	2.14 million tons 0.133 oz Au/ton mill-grade 1.5 million tons 0.027 oz Au/ton heap-leach				
Dexter	1987	2 million tons 0.04 oz Au, 1.9 oz Ag/ton	1896-1902	29,940 oz Au 28,543 oz Ag	Eocene rhyolitic ignimbrite and andesite	38 m.y.
Fire Creek	1982	350,000 tons 0.06 oz Au/ton	1983-84	767 oz Au	basaltic andesite	Miocene
Florida Canyon	1987	24 million tons 0.024 oz Au/ton	1987	60,000 oz Au/year	Grass Valley Formation	Cretaceous or Tertiary
Flowery	1986	500,000 tons 36,000 oz Au, 428,000 oz Ag		production scheduled for mid-1987	Alta Formation	12 m.y.
Fondaway Canyon	1986	4.4 million tons 0.134 oz Au/tons	1987	exploration	Triassic slate and phyllite	Cretaceous

PRODUCTION, RESERVES, HOST ROCKS, AND AGES OF BULK-MINEABLE, PRECIOUS-METAL DEPOSITS IN NEVADA (continued)

Deposit name	Announcement date	Reserves (estimated or announced)	Production period	Production	Host rock	Mineralization age
Fortitude (Copper Canyon) (Battle Mtn.)	1984	16 million tons 0.15 oz Au, 0.57 oz Ag/ton	1978-84	<i>Tomboy-Minnie deposits:</i> 3.9 million tons 0.09 oz Au 0.28 oz Ag/ton	Battle Formation, Antler Peak Limestone, Pumpernickel Formation	37 m.y.
	1986	7 million tons 0.23 oz Au, 0.57 oz Ag/ton	1986	259,000 oz Au/year 902,000 oz Ag/year		
Genesis	1987	14 million tons 0.097 oz Au/ton	1986	production commenced in 1986	Silurian-Devonian carbonate rocks	~36-37 m.y.
Getchell	1983	3.25 million tons 0.18 oz Au/ton (possible 10 million tons 0.16 oz Au/ton)	1938-50, 62-67	788,875 oz Au 2,113,030 tons 0.37 oz Au/ton	Comus Formation, Preble Formation, granodiorite dikes, granodiorite	90 m.y.
	1987	8 million tons 0.175 oz Au/ton				
Gold Acres and Little Gold Acres	1987	4.8 million tons 0.105 oz Au/ton	1942-84	2.4 million tons 0.13 oz Au/ton; 2 million tons 0.041 oz Au/ton leached <i>Little Gold Acres:</i> 800,000 tons 0.124 oz Au/ton	Roberts Mountains Formation, Wenban Limestone, Valmy Formation, quartz porphyry dikes	92.8-94 m.y. and 36 m.y.
Gold Bar	1984	2.8 million tons 0.09 oz Au/ton	1987	45,000 oz Au/year	Nevada Formation	Eocene
	1987	2.8 million tons 0.109 oz Au/ton				
Goldfield	1983	1.75 million tons 0.087 oz Au/ton	1903-45	4.19 million oz Au 1.45 million oz Ag	andesite, rhyodacite, rhyolite	21 m.y.
Gold Quarry	1984	183 million tons 0.043 oz Au/ton (of this, 45 million tons 0.078 oz Au/ton)	1985	170,000 oz Au/year	Ordovician to Devonian chert, shale, siltstone, and impure carbonates, in part, Vinini Formation	~36-37 m.y.
	1987	198 million tons 0.042 oz Au/ton				
Gold Strike (Bazza, Post)	1983	250,000 tons 0.1 oz Au/ton; 3 million tons 0.04 oz Au/ton	1980-86 1986	221,000 oz Au 48,000 oz Au/year	Vinini Formation, granodiorite, latite, skarn	~36-37 m.y.
	1987	12 million tons 0.05 oz Au/ton				
Hasbrouck	1982	5 million tons 0.06 oz Au, 1.5 oz Ag/ton		no production	Siebert Formation tuff and volcaniclastic rocks	16 m.y.
	1986	12.9 million tons 0.0291 oz Au, 0.59 oz Ag/ton				
Hilltop	1984	10.3 million tons 0.073 oz Au/ton (of which 800,000 tons 0.055 oz Au/ton is oxide and 5.7 million tons, 0.079 oz Au/ton is mineable by open-pit methods)		no production	Valmy Formation	Oligocene?
Hog Ranch	1984	2.5 million tons 0.085 oz Au/ton	1986	50,000 oz Au/year	rhyolite, explosion breccia, sinter	15-16 m.y.
	1986	5 million tons 0.08 oz Au/ton				
Horse Canyon	1984	3.94 million tons 0.055 oz Au/ton	1984	40,000 oz Au/year	Vinini Formation, Wenban Limestone	34 m.y.?
Ivanhoe	1986	8 million tons 0.045 oz Au/ton		exploration	rhyolitic tuff, flows, volcaniclastic rocks	Miocene
Jerritt Canyon	1981	12.5 million tons 0.231 oz Au/ton	1981-84	962,500 tons/year	Hanson Creek and Roberts Mountains Formations	Cretaceous or Tertiary
	1985	4.5 million tons 0.14 oz Au/ton (additional reserves)	1986	~270,000 oz Au/year		
	1986	16 million tons 0.174 oz Au/ton				

continued

PRODUCTION, RESERVES, HOST ROCKS, AND AGES OF BULK-MINEABLE, PRECIOUS-METAL DEPOSITS IN NEVADA (continued)

Deposit name	Announcement date	Reserves (estimated or announced)	Production period	Production	Host rock	Mineralization age
Lewis	1984	10 million tons 0.04 oz Au/ton	1984	3,500 tons/day	Camel conglomerate rhyolite dikes	1-2 m.y.
	1987	6 million tons 0.032 oz Au/ton				
Little Bald Mtn.	1986	1 million tons 0.10 oz Au/ton	1985-86	140,000 tons 0.08 oz Au/ton	Antelope Valley Formation	Eocene
Maggie Creek	1984	3.6 million tons 0.079 oz Au/ton	1984	1,250,000 tons/year	Ordovician to Devonian siltstone, chert, sand- stone, impure limestone	Cretaceous or Tertiary
	1986	6.7 million tons 0.045 oz Au/ton	1986	intermittent production		
Manhattan	1983	5 million tons 0.036 oz Au/ton	1905-59 1983	500,000 oz Au 26-27,000 oz Au/year	Gold Hill Formation	16 m.y.
	1986	1 million tons 0.036 oz Au/ton, <i>east pit</i> 2.5 million tons 0.08 oz Au/ton, <i>west pit</i>	1986	3,000 tons/day		
Marigold	1987	5 million tons 0.078 oz Au/ton	1986	exploration	Battle Formation	37 m.y.?
McCoy	1981	2.5 million tons 0.08 oz Au, 1 oz Ag/ton			Augusta Mountain Formation, granodiorite	36 m.y.
	1986	6 million tons 0.055 oz Au/ton	1986	50,000 oz Au/year		
Northumberland	1981	17 million tons 0.045 oz Au/ton	1939-42	220,284 tons 327,000 oz Au	Roberts Mountains and Hanson Creek Formations, granodiorite, tonalite, quartz porphyry dikes	85 m.y.
	1986	773,000 tons 0.07 oz Au/ton	1981-84 1986	950,000 tons/year leaching existing heaps only		
Paradise Peak (Goose)	1984	10 million tons 0.1 oz Au, 3 oz Ag/ton			rhyolite flows, ash-flow and air-fall tuffs, and andesite flows	Miocene
	1986	12 million tons 0.097 oz Au, 3.52 oz Ag/ton	1986	143,000 oz Au 1,088,000 oz Ag		
Pete	1987	572,000 tons 0.198 oz Au/ton		exploration	Roberts Mountains Formation	36-37 m.y.
Pinson	1980	3.245 million tons 0.119 oz Au/ton		1,500 tons/day 56,000 oz Au/year	Comus Formation	90 m.y.
	1984	<i>CX zone</i> : 490,000 tons 0.106 oz Au/ton; 500,000 tons leach ore				
	1985	1.049 million tons 0.09 oz Au/ton	1986	67,000 oz Au/year		
	1986	4.835 million tons 0.086 oz Au/ton mill-grade 1.064 million tons 0.027 oz Au/ton heap-leach				
Post	1987	Newmont Gold Co. holdings only 21.9 million tons 0.052 oz Au/ton	1987	pre-production	Vinini Formation	36-37 m.y.
Preble	1985	1.8 million tons 0.062 oz Au/ton	1985	360,000 tons/year 17,000 oz Au/year	Preble Formation	90 m.y.?
	1986	3.16 million tons 0.093 oz Au/ton heap-leach 80,000 tons 0.242 oz Au/ton mill-grade				
Rain	1984	8.3 million tons 0.083 oz Au/ton		no production	Webb Formation	36-37 m.y.
	1986	10 million tons 0.08 oz Au/ton		production scheduled for 1987-88		
Ratto Canyon	1984	~200,000 oz Au		exploration phase	Dunderberg Shale, Hamburg Dolomite	Oligocene
Rawhide	1986	24.1 million tons 0.045 oz Au, 0.47 oz Ag/ton (additional 15 million tons 0.014 oz Au/ton possible)		pre-production	rhyolite plugs, flows, tuffs, breccias	16 m.y.

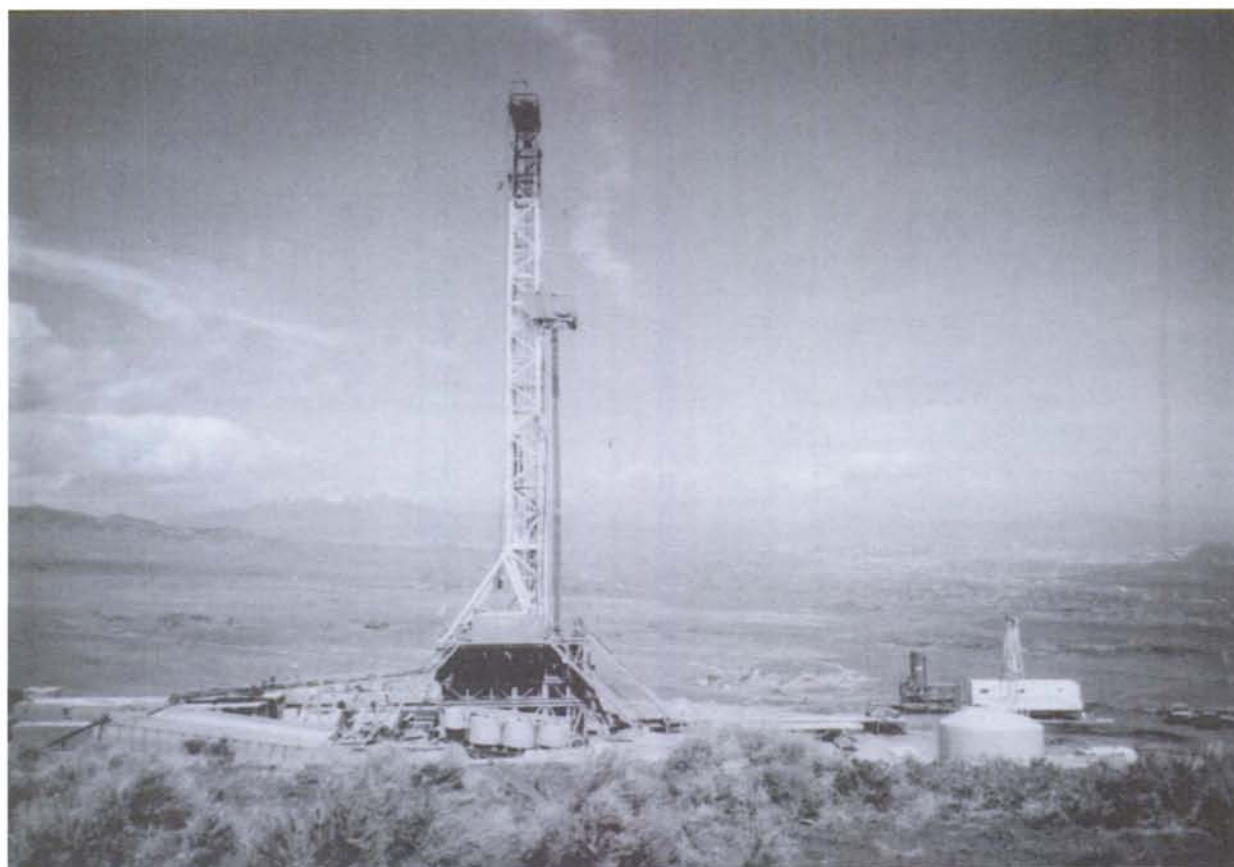
PRODUCTION, RESERVES, HOST ROCKS, AND AGES OF BULK-MINEABLE, PRECIOUS-METAL DEPOSITS IN NEVADA (continued)

Deposit name	Announcement date	Reserves (estimated or announced)	Production period	Production	Host rock	Mineralization age
Relief Canyon	1983	9 million tons 0.032 oz Au/ton	1984	24,500 oz Au/year 1 million tons/year	Natchez Pass Limestone, Grass Valley Formation	Cretaceous
	1986	5.3 million tons 0.03 oz Au/ton	1986	30,000 oz Au/year		
Rochester	1981	75 million tons 1.5 oz Ag/ton			Koipato Group, Weaver Rhyolite	Late Cretaceous
	1987	103 million tons 0.011 oz Au, 1.5 oz Ag/ton	1986	4 million oz Ag/year 43,000 oz Au/year		
Round Mtn.	1977	12 million tons 0.061 oz Au, 0.07 oz Ag/ton	1977-84	313,480 oz Au 160,419 oz Ag	rhyolite ignimbrite	25 m.y.
	1984	195 million tons 0.043 oz Au, 0.08 oz Ag/ton	1984	70,000 oz Au/year		
	1987	194 million tons 0.035 oz Au/ton (geologic reserve 406 million tons 0.030 oz Au/ton)				
Saval Canyon	1986	2.5 million tons 0.121 oz Au/ton		evaluation	lower Paleozoic carbonate rocks	Cretaceous or Tertiary
Santa Fe	1984	8 million tons 0.032 oz Au, 0.26 oz Ag/ton		evaluation phase	Luning Formation	Miocene
Sleeper	1985	4.2 million tons 0.13 oz Au, 0.73 oz Ag/ton (of which 1.4 million tons contains 0.35 oz Au, 1.0 oz Ag/ton)				
	1987	2.47 million tons 0.24 oz Au, 0.5 oz Ag/ton 38.3 million tons 0.025 oz Au, 0.24 oz Ag/ton	1986	128,000 oz Au 94,000 oz Ag	Miocene "latite" flows and dikes Triassic slate and phyllite	Miocene
Standard		mined out	1932-51	884,000 tons 46,602 oz Au 102,721 oz Ag	Natchez Pass Limestone, Grass Valley Formation	73 m.y.
Star Pointer	1986	1.5 million tons 0.14 oz Au, 0.3 oz Ag/ton (approximately 1.3 million tons averaging 0.08 oz Au/ton are present in district)	1986	48,000 oz Au/year 96,000 oz Ag/year	Rib Hill Sandstone Riepe Spring Limestone	Cretaceous
Sterling	1983	200,000 tons 0.20 oz Au/ton (possible 300,000 tons additional reserves of similar grade)	1984	58,000 tons 9,000 oz Au/year	Wood Canyon and Bonanza King Formations	14 m.y.
Sullivan	1987	10.2 million tons 0.039 oz Au, 0.086 oz Ag/ton and 0.37% Cu		exploration	Mesozoic granodiorite	Mesozoic
Surprise	1987	225,000 oz Au	1987	15,000-18,000 oz Au/year	skarn	37 m.y.
Taylor	1980	10 million tons 3 oz Ag/ton	1980	1,200 tons/day	Guilmette and Joana Limestones, rhyolite dikes	Eocene or Oligocene
Tonkin Springs	1983	1.84 million tons 0.089 oz Au, 0.204 oz Ag/ton		exploration phase	Vinini Formation, dacitic dikes	Oligocene?
	1987	1.5 million tons 0.05 oz Au/ton 2.5 million tons 0.09 oz Au/ton	1987	30,000 oz Au/year		
Top	1986	2.5 million tons 0.10 oz Au/ton, <i>proven</i> 2.65 million tons 0.087 oz Au/ton, <i>possible</i>	1986	50,000 oz Au/year	granite porphyry Cambrian shale and limestone	35-38 m.y.
Trinity	1987	10 million tons 3.0 oz Ag/ton		production 1988	rhyolite plugs	Miocene

continued

PRODUCTION, RESERVES, HOST ROCKS, AND AGES OF BULK-MINEABLE, PRECIOUS-METAL DEPOSITS IN NEVADA (continued)

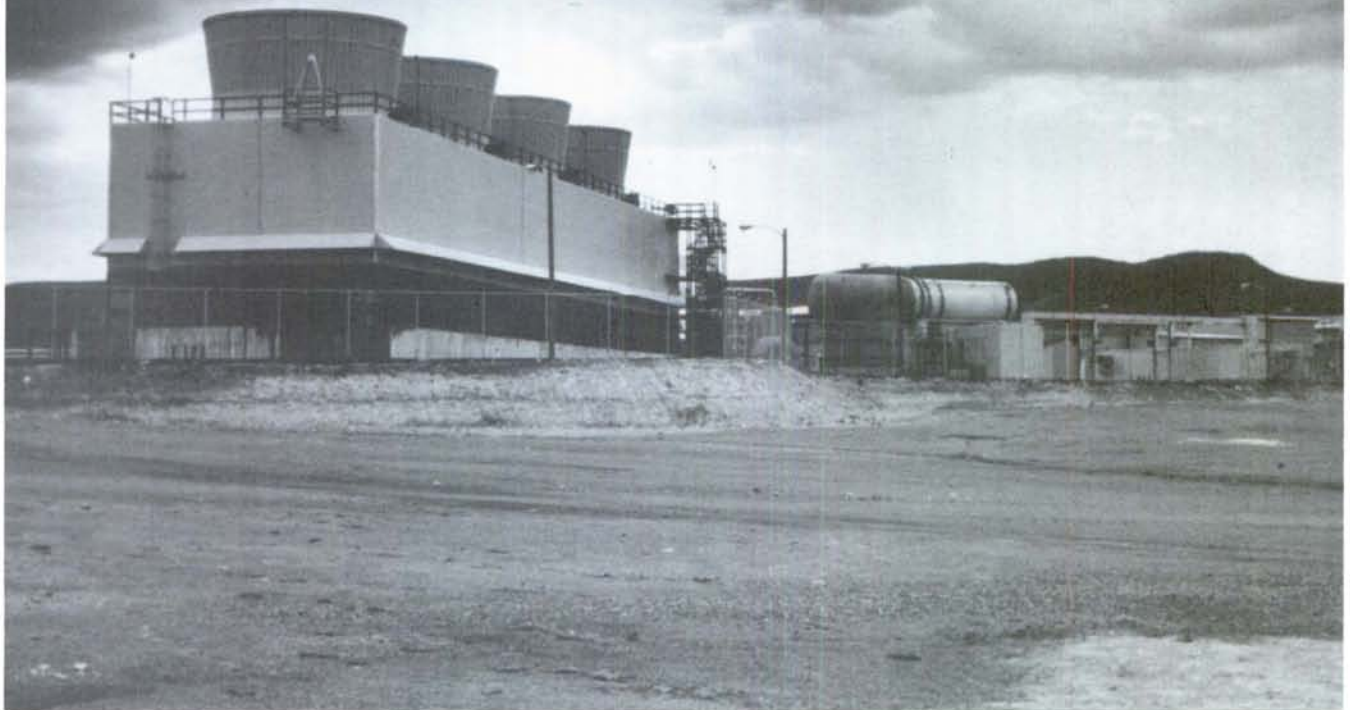
Deposit name	Announcement date	Reserves (estimated or announced)	Production period	Production	Host rock	Mineralization age
Weepah	1986	200,000 tons 0.1 oz Au, 0.4 oz Ag/ton	1986-87	2,500 oz Au/month	Wyman Formation	Cretaceous
Windfall		3 million tons 0.03 oz Au/ton	1908-16 1975-84	65,000 tons 0.365 oz Au/ton 3 million tons 0.03 oz Au/ton	Hamburg Dolomite	Eocene or Oligocene
Winters Creek	1986	1.4 million tons 0.146 oz Au/ton		evaluation, exploration	lower Paleozoic carbonate rocks	Cretaceous or Tertiary
Wright Window	1986	1.3 million tons 0.095 oz Au/ton		evaluation, exploration	lower Paleozoic carbonate rocks	Cretaceous or Tertiary



Western States Geothermal Company well No. 28-32 during drilling at Steamboat Springs in April, 1986. *Larry Garside photo.*

GEOHERMAL ENERGY

by Larry J. Garside



Chevron Geothermal Company Beowawe generating plant. *H. F. Bonham, Jr. photo.*

EXPLORATION

Over 60,000 ft (11 wells) of industrial-class geothermal well drilling was done in 1986. Much of this drilling, although exploratory in nature, was done to develop reserves in existing fields. The exact footage drilled is unknown, because of confidentiality requirements on information submitted for State regulatory purposes. The well depth reported in the list of wells may be for just one of several directionally drilled holes from the same well bore. The list does not include commercial or domestic wells (non-electric geothermal uses) or injection wells.

The amount of Federal land that can be held under lease by any one person or corporation was raised from 20,480 acres to 51,200 acres by the Secretary of the Interior in December 1985.

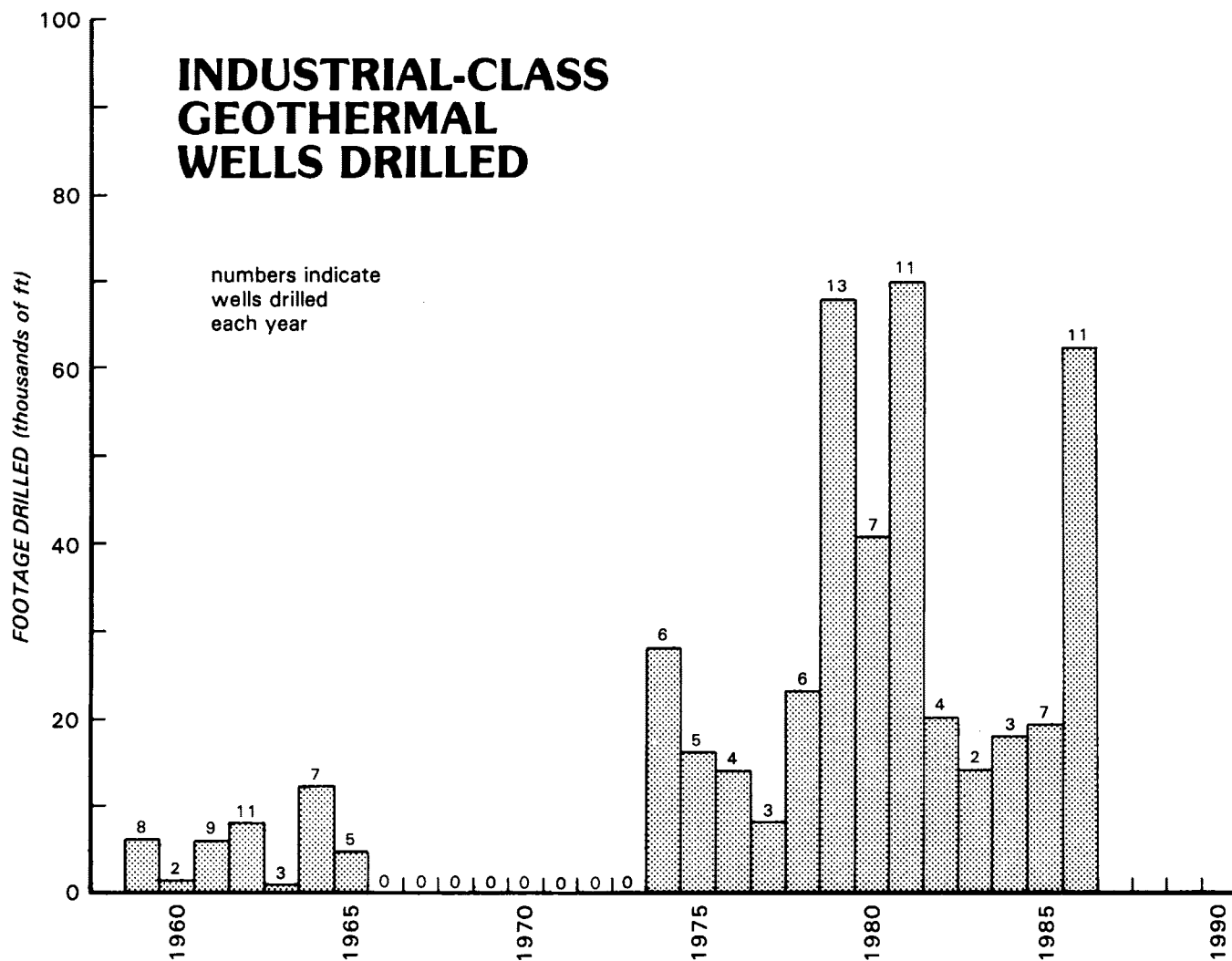
The classification of several Known Geothermal Resource Areas (KGRA's) in Nevada was revoked in 1986. Competitive bids are required for geothermal leases within KGRA's. The areas were declassified after being unsuccessfully offered for bids two or more times. The declassified KGRA's are: Fly Ranch

Northeast, Gerlach Northeast, Monte Neva Hot Springs, and Salt Wells Basin.

The proposal for a Nevada State Prison just east of Lovelock includes consideration of the use of geothermal waters from wells to supply heat and energy (Reno Gazette-Journal, 11 Aug 86).

A videocassette on Nevada's geothermal resources was recently prepared by the Division of Earth Sciences, Environmental Research Center, **University of Nevada-Las Vegas**. The video is aimed at the general public and describes various aspects of the geology of the State's abundant geothermal resources. Production was supported by the Nevada Office of Community Services, Department of Minerals, and Commission on Economic Development.

In February 1986, **Chevron Resources Co.** acquired all the geothermal resources of **Phillips Petroleum** in Nevada, Utah, and Oregon for \$27 million. In Nevada, these resources include a geothermal field and 9-megawatt plant at Desert Peak in Churchill County, as well as leases and interests in several other geothermal properties in the northwestern part of the State.



DEVELOPMENT

Although no new geothermal generating plants went on line in 1986, progress was made at several geothermal areas. Most of the industrial-class wells drilled in the State (see table) are development wells for planned power plants.

Construction work continued at the **Munson Geothermal, Inc.** geothermal generating facility at Brady's Hot Springs in Churchill County. The development plans to utilize binary generating technology to produce about 10 megawatts. One shallow production well was drilled in 1986.

Chevron Resources Co. as agent for **Western States Geothermal Co.** and **Yankee-Caithness Joint Venture** have proposed to build a 12.5-megawatt (net) geothermal powerplant near Steamboat Springs, 9 miles south of Reno. The facility plans to produce electricity by mid-1987; Western States would be the unit operator. All of the project facilities would be located on privately owned land with the exception of one or two production wells and some pipeline. Electricity would be sold to Sierra Pacific Power Co. Geothermal fluids would be obtained from four or five wells (three of which have already been drilled) and injected into another existing well. The power plant is proposed to utilize a

single-flash condensing turbine requiring 2.6 million pounds of steam per hour. Flash condensate would provide make-up water for the power plant cooling tower. The electricity purchase price is reported to be 6.3 cents per kilowatt-hour (World Investment News, v. 1, no. 1, p. 44-45).

Trans-Pacific Geothermal Corp. of Oakland, CA, acquired the geothermal leases of **Union Oil Co.** in the Stillwater geothermal area of Churchill County in March of 1986. Trans-Pacific announced that it plans to develop an electric-generating facility on the site in 1987 (Geothermal Resources Council Bulletin, Apr 86).

Chevron Geothermal Development Co. is investigating the possibility of establishing a geothermal generating plant of up to 2.5 megawatts near Soda Lake, 5 miles northwest of Fallon. An environmental impact report was being prepared in late 1986, but no final decision had been made, and the company had not yet applied to Churchill County for a special-use permit (Western Nevada Dispatch, 19 Nov 86).

The **Geothermal Resources Council** sponsored a meeting in Reno in February 1986 on small-scale geothermal power plants and geothermal power plant projects. Several Nevada geothermal projects were discussed and visited during the meeting.

INDUSTRIAL-CLASS GEOTHERMAL WELLS DRILLED IN NEVADA IN 1986

Company name	Well name	Depth (ft)	Location	County
Munson Geothermal, Inc.	MGI No. 2	< 500	S1,T22N,R26E	Churchill
Oxbow Geothermal Corp.	MGI No. 27(28)-33	~9,000?	S33,T25N,R37E	Churchill
Oxbow Geothermal Corp.	MGI No. 32(32)-18	~7,500	S18,T24N,R37E	Churchill
Oxbow Geothermal Corp.	MGI No. 73-7	10,400	S7,T24N,R37E	Churchill
Oxbow Geothermal Corp.	MGI No. 74(85)-7	8,900	S7,T24N,R37E	Churchill
Oxbow Geothermal Corp.	MGI No. 76-7	7,500	S7,T24N,R37E	Churchill
Oxbow Geothermal Corp.	MGI No. 82-5	~9,800	S5,T24N,R37E	Churchill
South Central Nevada Holdings, Inc.	MGI No. 52-24	~3,300	S24,T3N,R53E	Nye
Geothermal Development Associates	Production Well No. 2	520	S29,T18N,R20E	Washoe
Michael B. Stewart	(Permit No. 107)	~300	S21,T29N,R23E	Washoe
Western States Geothermal Co.	MGI No. 28-32	3,031	S32,T18N,R20E	Washoe

Oxbow Geothermal Corp. received approval in mid-1986 from the U.S. Bureau of Land Management to construct and test a 62.5-megawatt (50 megawatt net) double-flash power plant in Dixie Valley of northeastern Churchill County. Approval for commercial operation will be granted when environmental and operational testing of the plant is complete. Oxbow will utilize eight geothermal production wells in their Dixie Valley Unit. The unit consists of 66,000 acres of land in Churchill and Pershing Counties. Except for a 320-acre parcel, all of the unit is on public land (Geothermal Resources Council Bulletin, Dec 86).

The Oxbow geothermal production wells range in depth from approximately 7,500 to 10,000 ft, and are capable of producing 600,000 to 1.2 million pounds per hour of fluid each. Temperatures are as high as 480°F during flow. A full field flow test was conducted in August 1986.

Electrical power from the proposed Dixie Valley plant will be transmitted to Bishop, California, by a power line now under construction by Oxbow. The power will be sold to Southern California Edison Co. Approval for the power line route was granted by the Bureau of Land Management in May 1986.

Commissioning tests began in November 1986 for the 7.4-megawatt geothermal power plant of **Geothermal Development Associates** and **Ormat Systems** at Steamboat Springs, 9 miles south of Reno. The plant began limited operation in late 1985. Three production wells provide fluid at about 340°F to the plant; after heat extraction, 100% of the fluid is reinjected. Because no cooling water is available in the area, an air to organic fluid condenser is being used for condensing. The net output, reported to be 5.5 megawatts, is sold to Sierra Pacific Power Co. The project cost about \$14.8 million (EG&G Idaho, Regional Geothermal Progress Monitor, Oct and Nov 86).

The **Nevada Public Service Commission** established short- and long-term rates for electricity generated by non-utility small power producers who wish to sell their power to Nevada utilities. The establishment of these rates is authorized by the Federal Public Utilities Regulatory Act of 1978



Steam rising from muffler at the Phillips Petroleum Company's Steamboat No. 1 well in 1986. Larry Garside photo.

(PURPA). In northern Nevada, certain geothermal generating facilities would be categorized as qualifying power producers. The average annual long-term rates for Sierra Pacific Power Co. in northern Nevada range from 5.5 to 6.3 cents per kilowatt-hour for contract periods of 10 to 30 years.

On October 14, 1986, a dedication ceremony was held in Elko for a new geothermal district heating system. The system serves the city hall, a pool, eight school buildings, a hospital, medical clinics, and a convention center. A 1,970-ft well produces 300 gallons of 190°F water per minute; after heat extraction, the water is rejected to the sewer system. Funding for the development was provided by the U.S. Department of Health and Human Services.

Robert Taylor of the **University of Nevada-Reno** College of Veterinary Medicine recently received a grant of \$11,000 to study aquaculture in geothermal water.

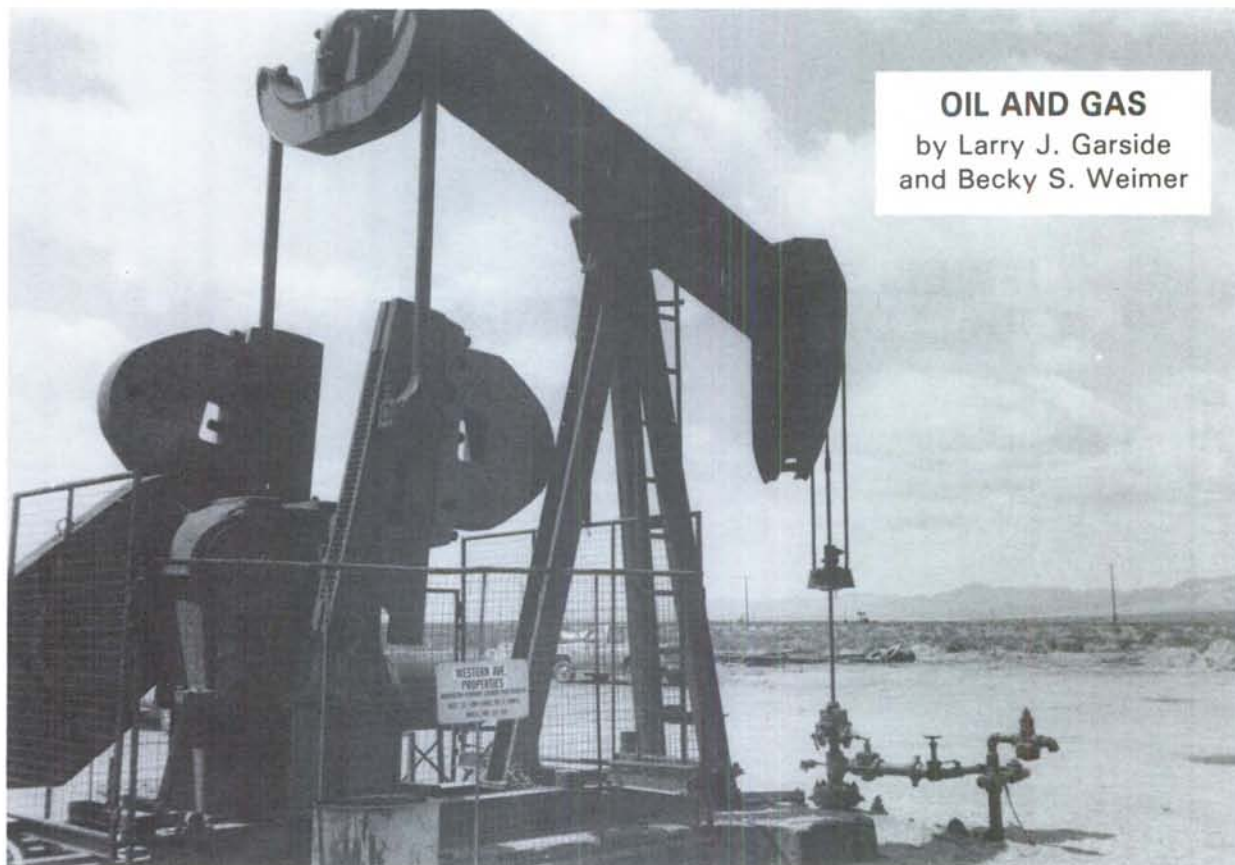
At **Hobo Hot Springs** in Douglas County, Gourmet Pranz raises Malaysian prawns in geothermal pools.

Plans for a hot springs spa near Gerlach were put on hold this spring when the Washoe County Health Department found that the construction that had been completed and was contemplated did not comply with county rules for public bathing facilities. The local residents had raised about \$22,000 to construct an inexpensive facility to replace the original natural pools which were closed about four years ago because of legal liability problems. An additional \$30,000 may be required to complete the project to county standards; Washoe County park and community development funds may be available for the project (Reno Gazette-Journal, 19 Oct 86).

The **Peppermill Inn and Casino** in the Moana geothermal area is Reno's largest user of geothermal heat. The casino and hotel, including its new 15-story addition, use geothermal energy for space heating. About 2 million gallons of 127°F water are pumped through the system annually. The use of geothermal heating is estimated to save the Peppermill about \$20,000 per month (Reno Gazette-Journal, 8 Mar 87).



Steamboat well No. 1 (Phillips Petroleum Company) in foreground; drilling of Western States Geothermal No. 28-32 in background; Steamboat Springs, NV. *Larry Garside photo.*



OIL AND GAS

by Larry J. Garside
and Becky S. Weimer

25

EXPLORATION

Twenty petroleum exploration wells, totaling 102,469 ft, were drilled in Nevada during 1986. This footage is a considerable reduction from two previous high years, but about equal to the average of the late 1970's and early 1980's (see bar graph). The depressed state of the petroleum industry is expected to continue into 1987, although world oil prices may increase somewhat. Well-head prices in Nevada were below \$6.00 per barrel in part of 1986, making residual refined products locally competitive with coal for some applications.

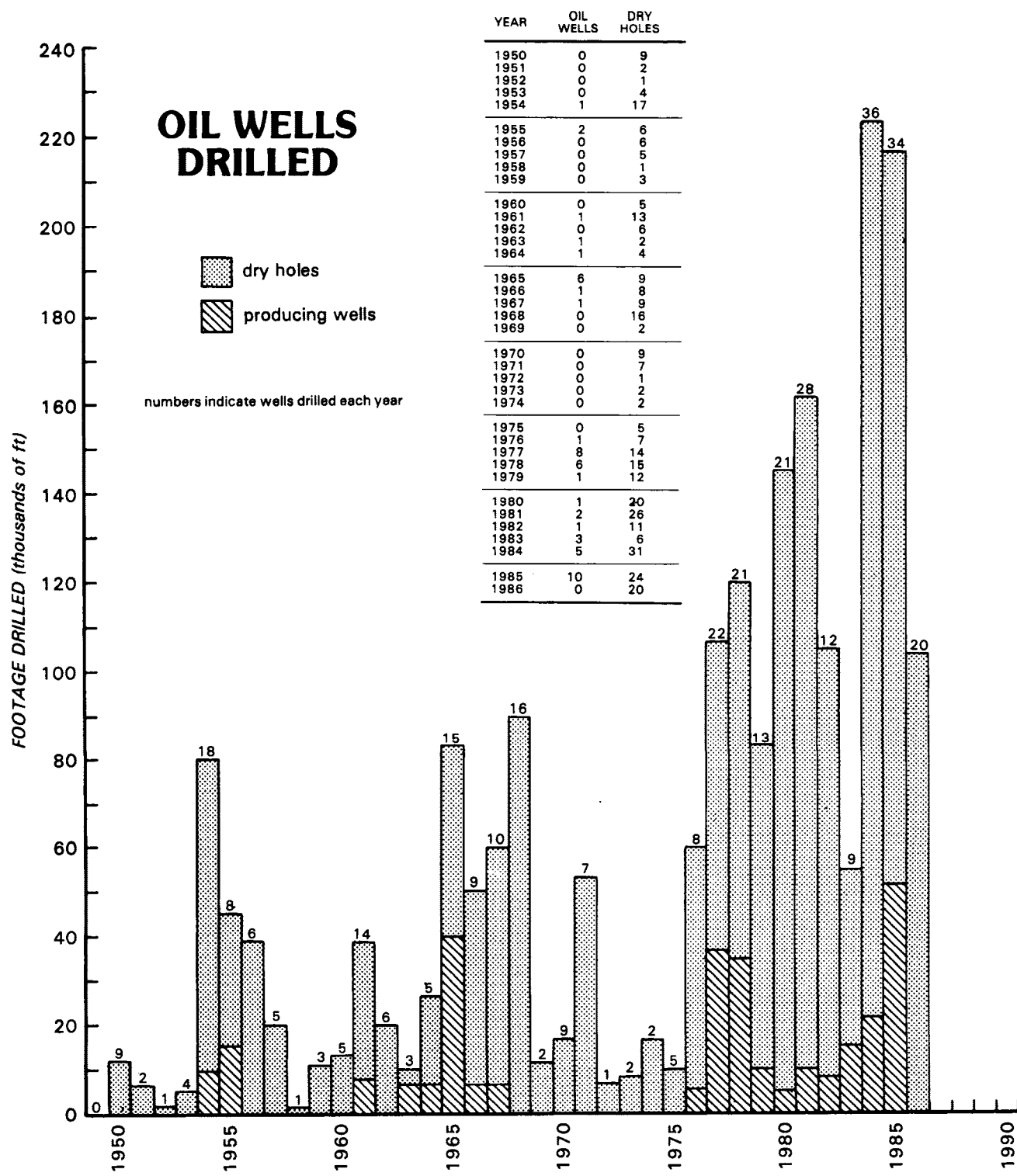
As many as nine rotary drill rigs were at work during the early part of 1986, but this number dropped off sharply in the later part of the year, for an average of only three rigs working at any one time (Petroleum Information, 1986 Annual Review).

There were, however, indications late in the year that drilling would pick up somewhat in 1987. Three companies, **Pioneer Oil and Gas**, **Kearn Field Petroleum Corp.**, and **Lacy and Byrd, Inc.**, are reported to have plans for several wells in Railroad Valley. And **Ram Resources** reportedly is going to drill several wells in Long Valley, White Pine County (Petroleum Information, 1986 Annual Review).

NEVADA'S OIL PRODUCTION¹

Field (discovery date)	1984		1985		1986	
	year	cumulative	year	cumulative	year	cumulative
Eagle Springs (1954)	69,673	3,721,833	58,807	3,780,640	28,408	3,809,048
Trap Spring (1976)	522,830	5,710,219	582,822	6,293,041	500,517	6,793,558
Currant (1979)	0	641	0	641	0	641
Bacon Flat (1981)	10,855	89,064	47,942	137,006	72,643	209,649
Blackburn (1982)	135,541	238,074	284,013	522,087	441,163	963,250
Grant Canyon (1983)	1,168,711	1,331,900	2,065,747	3,397,647	1,862,784	5,260,431
	1,907,610	11,091,731	3,039,564	14,131,062	2,905,515	17,036,577
			59% increase		4.4% decrease	

¹Production (in 42-gal. barrels) as reported by the Nevada Department of Minerals.

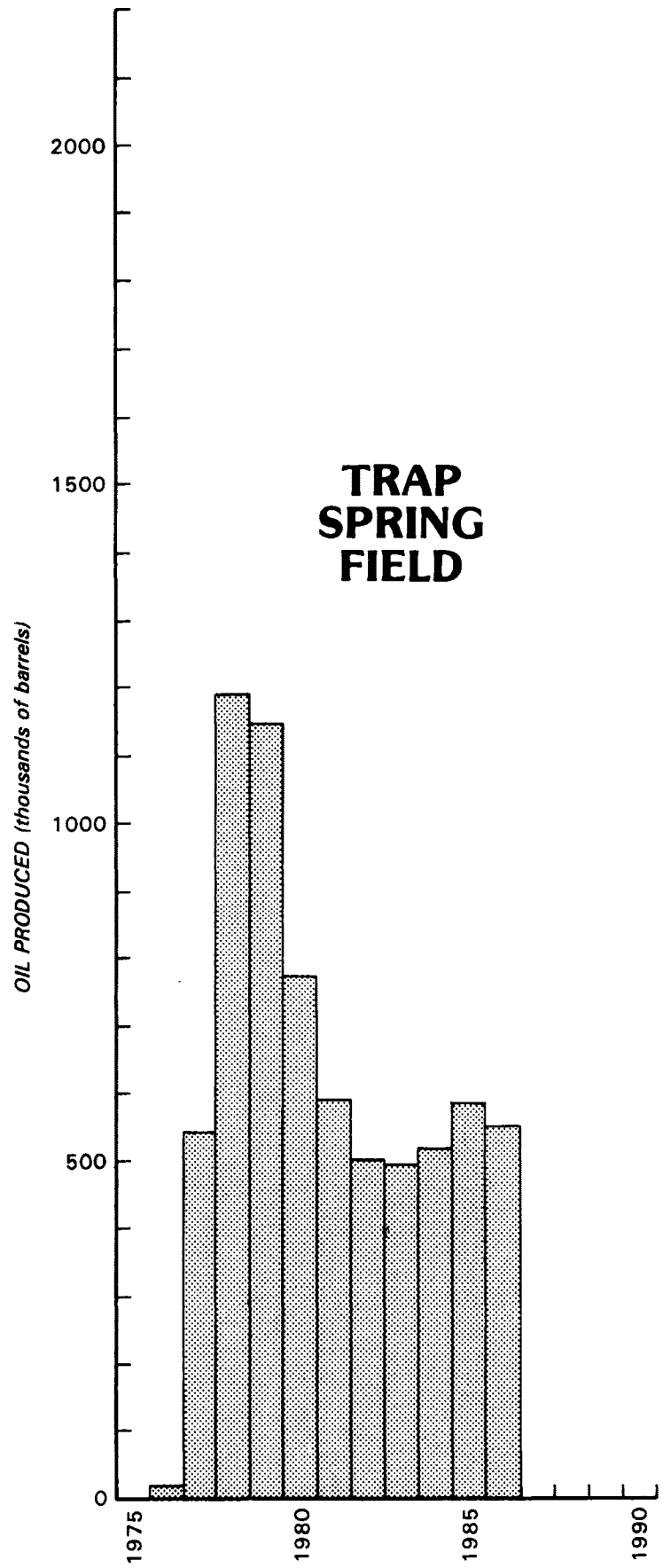
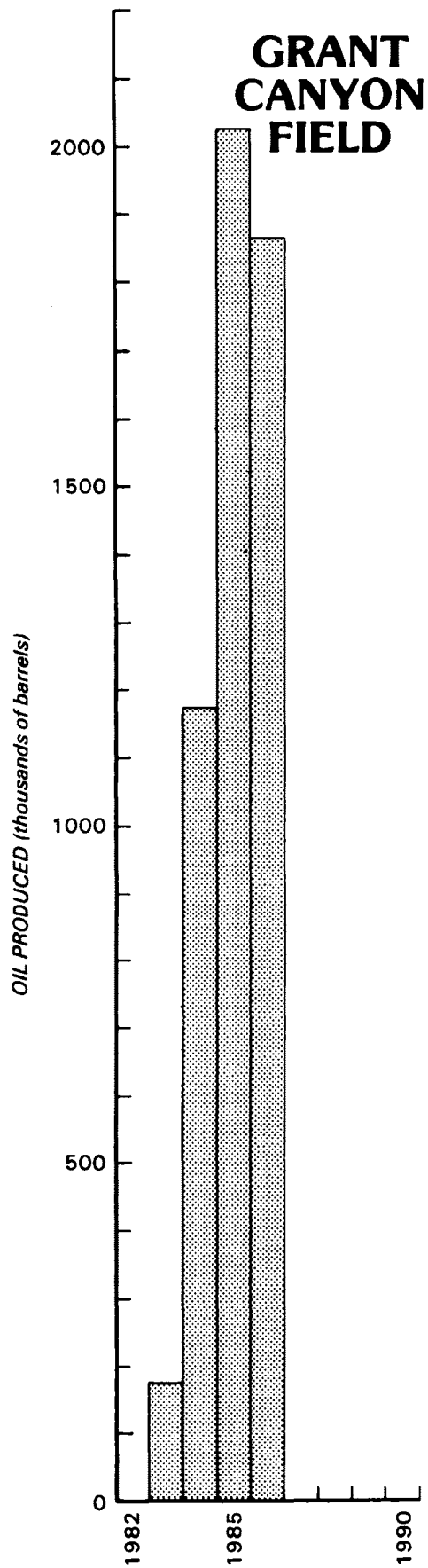


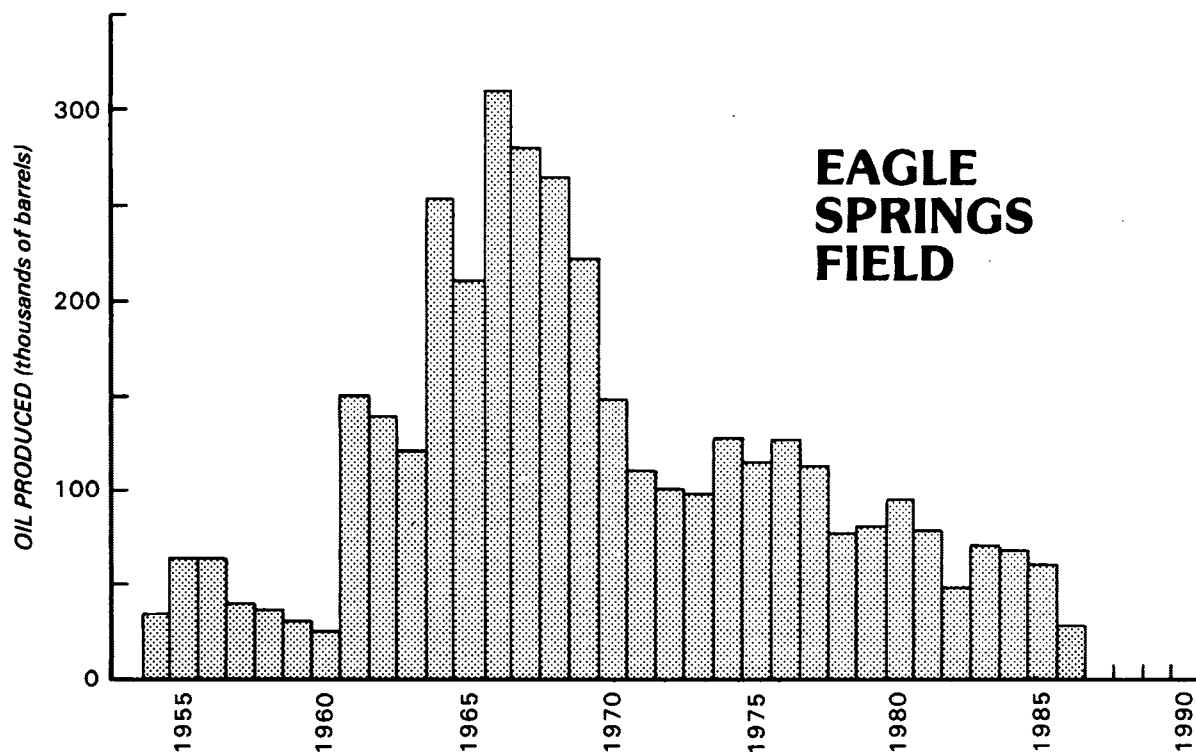
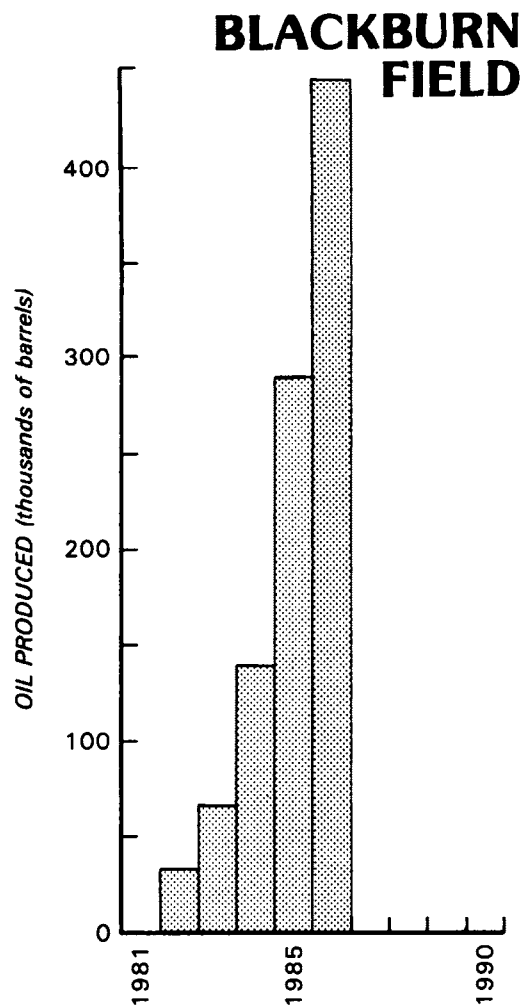
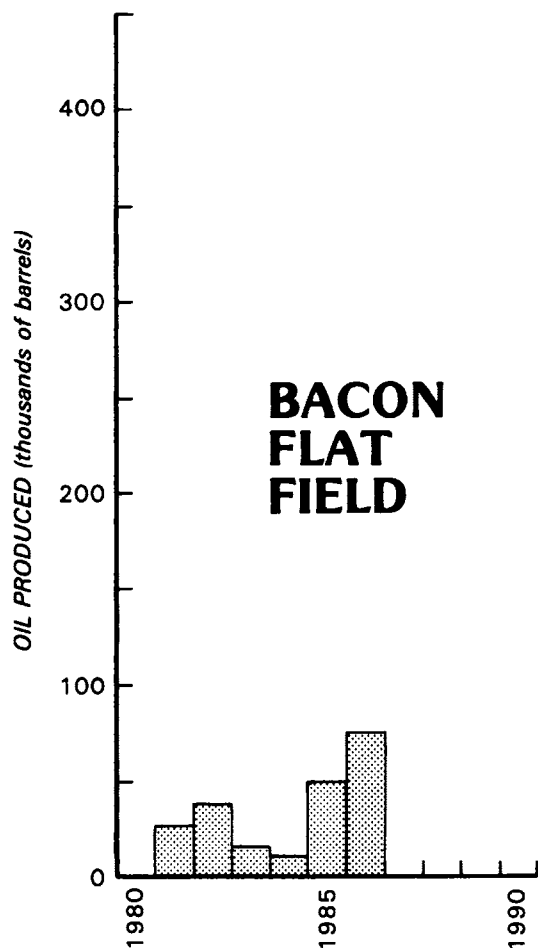


Tank battery at the Bacon Flat oil field, Nye County. *Scott McDaniel photo.*

OIL AND GAS WELLS DRILLED AND COMPLETED DURING 1986

Company	Well	Permit no.	Depth (ft)	County
Brent Energy, Inc.	Shogrin Federal No. 1	424	9,180	Lincoln
Redi Corp.	Gold Butte KPS Federal No. 1	426	2,030	Clark
BTA Oil Producers	Stone Cabin No. 1	456	9,815	Nye
BTA Oil Producers	Stone Cabin No. 2	457	1,184	Nye
C. H. Fletcher	Fletcher Federal No. 1	459	7,481	Lincoln
True Oil Co.	Shields Federal No. 13-22	460	9,125	White Pine
Wil-O Exploration/Texxon Industries, Inc.	Texxon No. 1	461	1,060	Elko
Sun Exploration & Production Co.	Blue Diamond Federal No. 1	462	6,220	Clark
Marathon Oil Co.	Shoreline No. 1	463	2,846	Nye
Harper Oil Co.	Nyala No. 6-22-5-55	464	8,306	Nye
Harper Oil Co.	North Munson Ranch No. 14-6	465	4,423	Nye
Texxon Investments, Inc.	Texxon No. 2	467	1,020	Elko
Wil-O Exploration				
Marathon Oil Co.	Reynolds Spring No. 1	468	4,500	Nye
Amoco Production Co.	Garden Valley No. 1	470	6,401	Lincoln
Pioneer Oil & Gas	Crow's Nest No. 23-11	473	5,586	Nye
True Oil Co.	Roark Federal No. 12-10	474	2,600	White Pine
True Oil Co.	Roark Federal No. 13-11	475	2,400	White Pine
Marathon Oil Co.	Silver Spring No. 1	476	5,929	Nye
Amoco Production Co.	Sunnyside No. 1	478	6,550	Nye
Diversified Operating Corp.	D.O.C. No. 5-18	480	5,813	Nye
Total feet drilled			102,469	





News reports of oil discoveries in shallow exploration wells drilled on the ranch of Farnes Egbert near Wells in late 1985 and early 1986 generated considerable interest by the local residents and the petroleum industry. The wells were drilled by **Texxon Investments, Inc.** Although early news reports described production from the wells, the land owner has been quoted as saying that not a drop of oil was pumped. The principals in Texxon, Charlie Phelps and Danny Sartor, are reported to have left the state, leaving behind numerous unpaid bills and bad checks. Ranch owner Egbert has described the Texxon operation as an elaborate oil exploration swindle. Knowledgeable sources in the petroleum industry disagree as to whether there actually were oil shows in the wells (see *The Wells Progress*, 5 Feb 86 and 8 Aug 86; and the *High Desert Advocate*, 19 Mar 86 and 23 Jul 86).

The **Nevada Bureau of Mines and Geology** released an open-file report on Nevada petroleum statistics, 1954–1985. The report lists the amount of oil production for each producing well for each month of production. Yearly, field, and cumulative totals are provided. NBMG also released a computer data base on dry holes and producing oil wells in the state. The Nevada oil and gas well catalog (NVOILWEL) has information on all wells drilled for oil and gas in Nevada, including locations, API number, operator, logs run, cuttings availability, and oil shows.

In early 1986, the **Nevada Petroleum Society** was formed in Reno. The objective of the society is to provide for discussions and publications on the geology and technology of Nevada's petroleum industry. The society had monthly meetings through 1986, and had over 50 members by the end of the year.

PRODUCTION

Nevada's oil production for the calendar year 1986 was 2,905,515 barrels (see table), a 4.4% decrease from 1985. Forty-four wells in five producing fields were operated during the year. No new producing wells were completed in 1986, and at the end of the year about 40% of the producers were shut in, due to low crude oil prices.

In March of 1986, **Marathon Oil Co.** plugged and abandoned the Currant No. 1 well in the Currant field of Nye County's Railroad Valley. The well was the discovery well and only well in the field; it was drilled in 1979 to a total depth of 7,800 ft. The initial production of the well in 1979 was 4 barrels of oil per day. The oil was heavy and viscous (API gravity = 12.9°, pour point = 80°F). A total of 635 barrels was produced in 1979 and the well was shut in until 1983 when 11 barrels were produced during testing. The well has not produced since 1983. The well would reportedly flow a small amount of oil in summer months, and some production was facilitated by the circulation of diesel fuel between the tubing and the casing.

In late 1986, **Apache Corp.** took over the operation of 14 producing oil wells in Railroad Valley, Nye County. These wells, located in the Trap Spring and Grant Canyon fields, were formerly operated by Harper Oil Co.

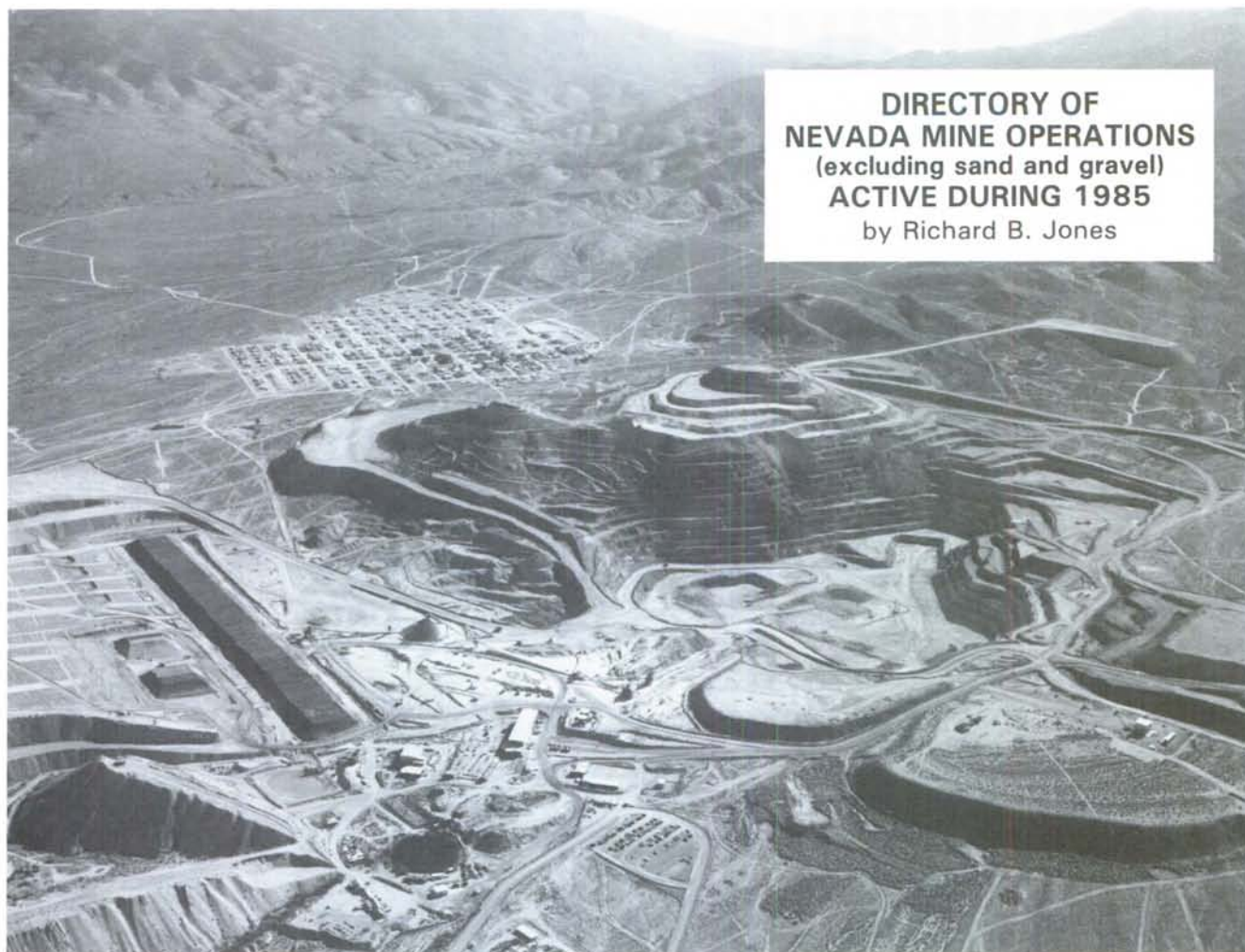
The **Petro-Source** refinery in Railroad Valley, constructed in 1985, has processed nearly 5.5 million barrels of crude oil to date. The average oil cost during that time has dropped from \$18 to \$7.60 per barrel (*Reno Gazette-Journal*, 2 Mar 87).



Nye County oil exploration in 1920. *Nevada Historical Society photo.*

**DIRECTORY OF
NEVADA MINE OPERATIONS**
(excluding sand and gravel)
ACTIVE DURING 1985

by Richard B. Jones



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Round Mountain gold mine, Nye County (Smoky Valley Mining Company).

Compiled from 1985 information supplied by the Division of Mine Inspection, Department of Industrial Relations. For 1986 information please contact the office of the State Mine Inspector in Carson City—(702) 885-5243. UG = underground mine; OP = open-pit mine; OS = other surface; ML = mill; EX = exploration. 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

Savage Construction Co. volcanic cinder
Cinderlite Aggregate Pit (OS,ML) 2
S21,T16N,R20E
Kent DeForest, Pit Supervisor
2689 North Carson Street, Carson City, NV 89701

CHURCHILL COUNTY

Adroit Mining Co. gold
Adroit Mining Co. Mine (OP) (development) 1
S35,36,T16N,R37E
V. Malcolm Cipar & Fred Molitar, Partners
P.O. Box 1919, Fallon, NV 89406

All American Aggregates aggregate
20 Mile Pit (OP) 0
S35,T19N,R28E
Jack Stone, President
P.O. Box 1647, Fallon, NV 89406

Art Wilson Co. magnetite
Iron Mine (stockpile) (OP) (iron ore)
S16,T24N,R34E 2
Art Wilson, Owner
P.O. Box 1160, Carson City, NV 89701

Belmont Resources (U.S.), Inc. gold & silver
Wonder Mine (OP) (heap leach)
S5,T18N,R35E 12
Stan Reamsbottom, Project Manager
675 South Russell Street, Fallon, NV 89406

Brutoco Engineering & Construction, Inc. aggregate
Navy Pit (OS) 4
S35,T19N,R28E
Dennis Glassburn, Superintendent
P.O. Box 1015, Fallon, NV 89406

Churchill Mines, Inc. gold & silver
Churchill Mill Site (development) 2
S18,T21N,R33E
Joe Williams, President
935 McLean Road, Fallon, NV 89406

Claude B. Lovestedt gold & silver
Florence Canyon Mine (UG) (development) 3
S13,18,19,24,T19N,R35E
Claude B. Lovestedt, Leasee

Lovestedt Mill gold & silver
S32,T17N,R36E (flotation-concentration)
Claude B. Lovestedt, Owner 2
P.O. Box 2710, Carson City, NV 89702

Huck Salt Co. salt
Huck Salt Plant (OP,ML) (scalping & screening)
S12,T16N,R31E 3
Elmer Huckaby, Owner
895 Harrigan Road, Fallon, NV 89406

Joe Williams gold & silver
Oasis Mine & Mill (OP,ML) (cyanidation)
S18,T21N,R33E heap leach)
Joe Williams, President 4
935 McLean Road, Fallon, NV 89406

Kenneth C. Jones gold & silver
Desert Rat Mine (OP) (heap leach)
S10,11,12,13,14,T22N,R33E 3
Kenneth C. Jones, Owner
P.O. Box 1162, Fallon, NV 89406

Lombardo Turquoise Milling & Mining Co. turquoise
Shoshone Mine (UG) 0
S21,T21N,R40E
Allan E. Lombardo, President
1300 East Main Street, Austin, NV 89310

M.A.C. Milling & Adroit Mining Co. gold
Gold Trail Mine & Mill (OP,ML) (washing & screening)
S1,T15N,R37E 3
Fred Molitar & Malcolm Cipar, Partners
P.O. Box 1919, Fallon, NV 89406

Millcreek Mining, Inc. gold & silver
Fondaway Canyon Mine (OP,ML) (heap leach)
S2,T22N,R33E 20
Elmer Richter, President
P.O. Box 1710, Fallon, NV 89406

Minerals Exploration & Development, Inc. silver
Hoyt Mine (OP) (development)
S13,T22N,R37E 6
Lee P. Hepfler, President
P.O. Box AJ, Sparks, NV 89432

Montezuma Mining, Inc. gold & silver
Fondaway Canyon Mine (OP,ML) (cyanidation)
S2,T22N,R33E 0
James Bosley, Manager
100 East Center Street, Fallon, NV 89406

Tulsa Mine Development Co. gold & silver
Tulsa Mine (OP) 0
Location unknown
William Walker, President
P.O. Box 1526, Fallon, NV 89406

CLARK COUNTY

British American Mining Corp. gold & silver
Capitol Mine (OP) 3
S20,T26S,R65E
Capitol Mill gold & silver
S13,T26S,R64E (gravity concentration)
Angus Robb, Manager 10
1000 Nevada Highway, Suite 206, Boulder City, NV 89005

Capital Trading Corp. International gold & silver
Pioneer Mine & Mill (UG,ML) (gravity concentration)
S33,T28S,R64E flotation)
Virgil Barker, Manager 0
P.O. Box 236, Searchlight, NV 89046

Coates & Smith Mining gold & silver
Explorer Mine & Mill (OP,ML) 3
S35,T13S,R69E
Thomas X. Smith, III, Operations Manager
P.O. Box 669, Mesquite, NV 89024

Douglas Mining Company, Inc. gold
Sally Jane Mine (UG) 3
S34,T28S,R63E
William L. Douglas, President
6025 South Procyon Avenue, Las Vegas, NV 89118

Eddie Bounsall gold & silver
Treasure Hawk Mine & Mill (OP,ML) (gravity concentration,
S34,T19S,R70E cyanidation)
Eddie & Billy Bounsall, Owners 2
P.O. Box 357, Logandale, NV 89021

Genstar Gypsum Products Co. gypsum
Genstar Quarry & Mill (OP,ML) (crushing
S32,T21S,R59E screening
Fraser Gillan, Manager calcining)
Star Route 89031, Box 2900, Las Vegas, NV 89124 18

Genstar Lime Co. limestone
S26,T18S,R63E (OP,ML) (calcining)
Jerry Young, Manager 25
P.O. Box 3598, North Las Vegas, NV 89030

Dolomite Plant (ML) lime
S18,T22S,R63E (calcining)
Dave Johnson, Vice President 31
2551 N. Green Valley Parkway, Suite 201-B, Henderson, NV 89015

Sloan Quarry & Mill (OP,ML) limestone
S13,T23S,R60E (crushing & screening)
Jim Stevens, Foreman 8
Star Route 70, Box 2300, Las Vegas, NV 89124

Goldenrod Mining, Inc. gold & silver
Goldenrod Mine (UG) 0
S28,T30S,R65E
T. W. Anderson, Partner
General Delivery, Cal-Nev-Ari, NV 89046

Hi-Tech Corp. gold & silver
Hi-Tech Mill (ML) (heap leach
S18,T13S,R66E cyanidation)
L. Cad Havard, President 5
3993 Boulder Highway, Las Vegas, NV 89121

Pabco Gypsum gypsum
Las Vegas Gypsum Plant (OP,ML) (crushing
S5,T20S,R64E screening
Stan Asbell, Manager calcining)
P.O. Box 43327, Las Vegas, NV 89104 14

Southern Nevada Mining & Milling gold & silver
Coyote Mine & Mill (OP,ML) (gravity concentration)
S20,T28S,R63E 2
Robert J. Smith, Owner
General Delivery, Searchlight, NV 89046

Tomi-Gee Mining Company, Inc. gold & silver
Tomi-Gee Mine & Mill (heap leach)
S28,T24S,R58E 0
Sam Gangemi, President
3540 Swenson Street, #148, Las Vegas, NV 89109-9319

Treasure Trove Mining, Inc. gold & silver
Treasure Trove Mine & Mill (OP,ML) (tank leach)
S10,T32S,R64E 0
Chuck Johnson, President
P.O. Box 431, Cal-Nev-Ari, NV 89046

Western Arlington Resources, Inc. gold & silver
Wall Street Mine (heap leach)
S4,5,T26S,R64E 2
Bob Darrah, Partner
1307 Darlene Way, #B-16, Boulder City, NV 89005

Whiting Bros. Construction Co. stone
Whiting Bros. Mill (crushing, screening)
S11,T21S,R62E 3
Mark & Phil Whiting, Owners
6418 East Vegas Valley Drive, Las Vegas, NV 89122

DOUGLAS COUNTY

Digger Duck Mining tungsten
Jackson Group (OP) 3
S27,T9N,R23E
Wayne R. Monahan, Owner
P.O. Box 132, Yerington, NV 89447

Pacific Silver Corp. gold, silver & copper
Buckskin Mine & Mill (UG,ML) (flotation)
S13,T13N,R23E 64
K. L. Stoker, President
P.O. Box 486, Yerington, NV 89447

ELKO COUNTY

Birco Development & Joe Stock gold & silver
Bluster Mill Site (ML) (heap leach)
S28,T46N,R58E 0
Joe Stock & Marion Birch, Partners
P.O. Box 81, Jarbidge, NV 89826

BMEX Corp. gold & silver
Pav Lak Mill (ML) (flotation)
S28,T46N,R58E 7
Gordan Bird, President
General Delivery, Jarbidge, NV 89826

Circle A Construction Co. barite
Big Ledge Mine (OP) 26
S26,35,T42N,R61E
Tom G. Schmidt, Superintendent
Star Route, Jackpot, NV 89825

Dale Aslett, Contractor for Circle A Construction barite
Dry Creek Mill (gravity
S16,T42N,R62E concentration)
Dale Aslett, Owner 7
P.O. Box 105, Jackpot, NV 89825

Clayton Stock gold
Success Mine (UG) 3
S21,T46N,R58E
Clayton Stock, Owner
General Delivery, Jarbidge, NV 89826

Croesus Mining Co. gold & silver
Pav Lak Mine (UG) 3
S28,T46N,R58E
Jerry Stock, Partner
Jerry Stock, % Croesus Mining Co., Bellevue, ID 83313

Dee Gold Mining Co. gold
Dee Gold Mine (OP,ML) (heap leach)
S6,T37N,R50E 92
Art Schwandt, General Manager
P.O. Box 1193, Elko, NV 89801

Freeport Gold Co. gold
Freeport Gold Mine (OP) 129
S34,35,T41N,R53E

Freeport Gold Mill gold
S33,T41N,R53E (cyanidation)
Joseph Farrell, President 166
P.O. Box 1132, Elko, NV 89801

Lang Drilling, Contractor gold
Big Springs Exploration Project (EX) (rotary drilling)
S10,T42N,R53E 6
Jim Collard, Project Manager
439 West Commercial, Elko, NV 89801

George Delong Construction gold
Contractor, Burns Basin (EX) (rotary drilling)
S16,T40N,R53E 6
George Delong, Owner
833 East 4th Street, Winnemucca, NV 89445

Hackworth Drilling gold
Contractor, Burns Basin (EX) (rotary drilling)
S21,T53E,R33N 3
Royce Hackworth, President
850 West Main Street, Elko, NV 89801

Frehner Construction Company, Inc. bituminous
Pit EL 16-5 (OP,ML) aggregates
Location unknown (gravity concentration)
Donald D. Crock, General Manager 3
124 West Brooks Avenue, North Las Vegas, NV 89030

GeoWest Services, Inc. barite
Stormy Creek Mine & Plant (OP,ML) (screening &
S22,T42N,R61E gravity concentration)
Jeff Long, General Manager 4
P.O. Box 3228, Sparks, NV 89432

Jarbidge Joint Venture gold & silver
Bourne Creek Mine (OP,ML) (gravity concentration)
S15,16,21,22,T46N,R58E 0
Clayton Stock, President
%John Williams, Riverside Drive, Jarbidge, NV 89826

Jerry Stock gold
4M Mine (UG) 2
S28,T46N,R58E
Jerry Stock, Owner
General Delivery, Jarbidge, NV 89826

Newmont Exploration, Ltd. gold
Scraper Springs Project (EX) (rotary drilling)
S15,T40N,R47E 6
Borden R. Putnam, Project Geologist
327 Freeport Boulevard, Sparks, NV 89431

Phil Heater gold & silver
Big Four Mine & Mill (OP,ML) (cyanidation)
S25,T44N,R52E 2
Phil Heater, Owner
P.O. Box 187, Mountain City, NV 89831

Priet Joint Venture Cornucopia Mine (OP,ML) S18,19,T42N,R51E <i>Bill Schultz, Manager</i> <i>P.O. Box 254, Elko, NV 89801</i>	gold & silver (heap leach screening)	2
Bud Burrows Mining Contractor, Priet Joint Venture S18,19,T42N,R51E <i>Bud Burrows, Owner</i> <i>P.O. Box 334, Carlin, NV 89822</i>		5
Tom Norris, Inc. Rossi Mine (OP,ML) S15,T37N,R49E <i>Tom Norris, Owner</i> <i>P.O. Box 231, Battle Mountain, NV 89820</i>	barite (crushing gravity concentration)	2
Universal Gas (Montana), Inc. Elko Refinery Location unknown <i>Sid Lindauer, Chemist</i> <i>1070 Silver Street, Elko, NV 89801</i>	gold	2
U.S. Borax Bar Gold Mine (EX,OP) S2,T40N,R51E <i>Robert C. Munro, Vice President</i> <i>East 5603 3rd Avenue, Spokane, WA 99212</i>	gold (drilling)	4
Utah Marblehead Lime Co. Wendover Quarry (OP,ML) S13,14,T38N,R70E <i>Ernest E. Burgh, Vice President</i> <i>P.O. Box 596, Grantsville, UT 84029</i>	limestone (crushing & screening)	18
Victoria Mining & Milling Victoria Mill S5,T28N,R66E <i>Don Sullivan, Manager</i> <i>P.O. Box 65, Wendover, UT 84083</i>	tungsten & copper (flotation)	26
ESMERALDA COUNTY		
B & I, Ltd. Sanger Mine & Mill (UG,ML) S25,T3S,R37E <i>John Ellis, Vice President</i> <i>General Delivery, Silver Peak, NV 89047</i>	silver	6
Blackhawk Mines Corp. Goldfield Tailings Project (ML) S26,T2S,R42E <i>Russell E. Manley, President</i> <i>P.O. Box 469, Tonopah, NV 89049</i>	gold & silver (heap leach)	7
Combined Metals Reduction Co. Ohio & Great Western Mine (UG) S7,T7S,R41E <i>G. T. "Lupe" Arrey, Superintendent</i> <i>Route 264, Fish Lake Valley, via Tonopah, NV 89049</i>	gold & silver	0
Mill Maintenance Shop (OS) S4,T1S,R36E <i>L. T. Atkinson, President</i> <i>Route 264, Fish Lake Valley, via Tonopah, NV 89049</i>		30
Craig Buel Silver Bowl Extension, MC-30696 (EX) S26,T8S,R40E <i>Richard C. Davis, Owner</i> <i>General Delivery, Goldfield, NV 89013</i>	gold & silver	0
Dale A. Rhames & Master Milling, Inc. Coyote Mine (UG) <i>Dale A. Rhames, Cecil Ogden & Walter Thomas, Owners</i> <i>P.O. Box AJ, Sparks, NV 89432</i>	gold & silver	0
Falcon Mining & Exploration Co. Falcon Exploration Mine & Mill (OP,ML) S20,26,T2N,R42E <i>Stephen Eakle, General Manager</i> <i>P.O. Box 847, Tonopah, NV 89049</i>	gold & silver (heap leach crushing & screening)	39
Footo Minerals Co. Silver Peak Lithium Mine & Mill (OS,ML) S14,T2S,R39E <i>Dean Garner, General Manager</i> <i>Silver Peak, NV 89047</i>	lithium (pumping brine)	59
Grefco, Inc. Dicalite Division (OP,ML) S20,T2N,R34E <i>Robert Mannon, Plant Manager</i> <i>P.O. Box 288, Mina, NV 89422</i>	diatomite (air separation)	19
H, C & C Mining, Inc. H, C & C Mining Mill (ML) S20,T5S,R43E <i>Loran Hubbard, James Cain & Riley Camden, Owners</i> <i>P.O. Box 245, Goldfield, NV 89013</i>	gold (heap leach)	4
Midway Mining Midway Mine (OP,ML) S34,T6S,R39E <i>Roger Graham & Roger Hinger, Partners</i> <i>Lida Star Route, Box 54, via Goldfield, NV 89013</i>	gold & silver (gravity concentration)	3
Sunshine Mining Co. 16-to-1 Mine & Mill (UG,ML) S15,32,T2S,R38E <i>Allan Young, Project Manager</i> <i>P.O. Box 97, Silver Peak, NV 89047</i>	gold & silver (tank leach)	66
S. W. Mining Gold Bug Claims #1-8 (OP,ML) S26,T7S,R41E <i>Ray Whisenant, President</i> <i>4537 East Lake Mead, #29A, Las Vegas, NV 89115</i>	gold & silver (heap leach)	7
Vector Exploration, Inc. Goldfield Project (ML) S26,T2N,R48E <i>W. A. Armstrong, President</i> <i>695 East Patriot Boulevard, #73, Reno, NV 89511-1235</i> <i>Dick Merritt</i> Contractor, Vector Exploration, Inc. (OP) S26,T2N,R48E <i>Dick Merritt, Owner</i> <i>P.O. Box 46, Luning, NV 89420</i>	gold & silver (heap leach)	4
EUREKA COUNTY		
American International Resources Eureka Diamond Mine (UG) S33,T19,R53E <i>Roger Learch, Vice President</i> <i>P.O. Box 319, Eureka, NV 89316</i>	gold, silver, zinc	3
Carlin Gold Mining Co. Carlin Operations (OP,ML) S4,8,15,29,35,T33-36N,R50-51E <i>J. D. McBeth, Resident Manager</i> <i>P.O. Box 979, Carlin, NV 89822</i>	gold (heap leach cyanidation)	575

Bechtel Civil & Minerals, Inc. gold
Contractor, Maggie Creek Gold Mine (ML) 30
S29,35,T34N,R51E
Ron Jenkins, Project Manager
P.O. Box 621, Carlin, NV 89822

Transystems, Inc. gold
Contractor, Maggie Creek Mine (OP) 10
S29,35,T34N,R51E
Mike Hughes, Term Manager
P.O. Box 457, Carlin, NV 89822

Cominco American, Inc. gold & silver
Buckhorn Mine (OP,ML) (heap leach & cyanidation)
S30,31,T36N,R45E 65
Art Schweizer, General Manager
P.O. Box 976, Carlin, NV 89822

Cortez Gold Mines gold
Horse Canyon Mine (OP) 106
S3,T27N,R48E
A. L. Walsh, Mine Manager
Cortez, NV 89821

Eisenman Chemical Co. barite
Lakes Barite Mill (ML) (gravity concentration)
S3,T34N,R51E 3
Bruce Templeton, Project Manager
P.O. Box 2043, Elko, NV 89801

Nevada Barth Corp. magnetite
Nevada Barth Iron Mine & Mill (OP,ML) (crushing & screening)
S7,8,T31N,R51E 3
Charles Rowe, Mine Manager
P.O. Box 425, Carlin, NV 89822

N. L. Industries, Bariod Division barite
Dunphy Mill (gravity concentration)
S23,T33N,R48E 22
B. C. Baldwin, Manager
P.O. Box 430, Battle Mountain, NV 89820

Tonkin Springs Gold Mining Co. gold
Tonkin Springs Project (OP) (heap leach
S2,3,T23N,R49E cyanidation)
Bill Reid, President 24
P.O. Box 671, Elko, NV 89801

Panhandle Drilling & Blasting, Inc. (drilling)
Contractor, Tonkin Springs Project (OP,EX) 3
S3,T23N,R49E
Glen Cox, Supervisor
P.O. Box 896, Coeur d'Alene, ID 83814

Vaughn Construction 5
Contractor, Tonkin Springs Project
S2,3,T23N,R49E
Otis Vaughn, President
P.O. Box 679, Fernley, NV 89408

Universal Gas (Montana), Inc. gold
Bullion Monarch Mine & Mill (OP,ML) (cyanidation)
S10,T35N,R50E 20
Joseph Mercier, President
1070 Silver Street, Elko, NV 89801

Western States Minerals Corp. gold
Gold Strike Mine & Mill (OP,ML) (heap leach
S30,T36N,R50E cyanidation)
Larry Simpson, Mine Foreman 83
P.O. Box 29, Elko, NV 89801

Windfall Venture gold
Windfall Mine (OP,ML) (heap leach
Marvin Rasmussen, Mine Manager cyanidation)
P.O. Box 326, Eureka, NV 89316 35

HUMBOLDT COUNTY

AMAX Engineering & Mgmt. Services Co. gold
Sleeper Mine (EX) (core drilling)
S16,17,20,21,T40N,R35E 8
Neville Morley, Project Manager
136 West Second Street, P.O. Box 1820, Winnemucca,
NV 89445

Gilbert Western Corp. 57
Contractor, Sleeper Mine (OP)
S16,17,20,21,T40N,R35E
Rance Hinnewinkel, Project Manager
P.O. Box 1710, Winnemucca, NV 89445

The Industrial Co. of Steamboat Springs 70
Contractor, Sleeper Project (OP)
S16,17,20,21,T40N,R35E
Ray Dix, Project Manager
P.O. Box 366, Winnemucca, NV 89445

Bora Bora Mining & Milling, Inc. gold & silver
Haggai Mill (OP,ML) (gravity concentration)
S35,T39N,R35E 6
J. Wayne Tatman, President
P.O. Box 1931, Winnemucca, NV 89445

G.L.S. Company 0
Contractor, Alma Claims, Haggai Mill
S35,T39N,R35E
Lonnie Treadwell, Operator
P.O. Box 1089, Winnemucca, NV 89445

C. George Hewitt opals
Cecilie Anne Mine (OP) 1
S8,9,T45N,R26E
C. George Hewitt, Owner

Daisy "M"'s Mine (OP) opals
S24,25,T45N,R26E 1
C. George Hewitt, Owner

Kelley Mine (OP) opals
S30,T45N,R26E 1
C. George Hewitt, Owner
P.O. Box 33, Denio, NV 89404

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

Dallas Church silver & gold
Alabama Mine & Mill (OP,ML) (gravity concentration)
S5,T39N,R36E 2
Dallas Church, Operator
P.O. Box 1353, Winnemucca, NV 89445

E. B. King gold
Jumbo Mine (OP) (heap leach
S33,36,T40N,R35E cyanidation)
E. B. King, Lessee 2
1235 Melarkey Street, Winnemucca, NV 89445

Elquist Mining, Inc.	gold		Little Red's Excavating	limestone
Bad Luck Mine (OP,ML)	(gravity concentration)		Contractor, Dun Glen Mine (OP)	0
S17,T32N,R44E		0	S28,T35N,R38E	
<i>James Elquist, President & Manager</i>			<i>Gerald J. Conklin</i>	
<i>P.O. Box 488, Battle Mountain, NV 89820</i>			<i>6990 Grass Valley Road, Winnemucca, NV 89445</i>	
F.R.M. Minerals, Inc.	gold		MSB Mining, Inc.	gold & silver
Getchell Project (OP)	(heap leach)		Cherokee Claims (OP)	2
S3,4,32,33,34,T38&39N,R42E		20	S4,9,16,17,18,T39N,R36E	
<i>Cecil Alvarez, Vice President</i>			<i>Frank W. Merrick, Chairman</i>	
<i>P.O. Box 220, Golconda, NV 89414</i>			<i>P.O. Box 1153, Winnemucca, NV 89445</i>	
N.A. Degerstrom, Inc.	(crushing & screening)		Nevada North Resources (U.S.A.), Inc.	gold & silver
Contractor, Getchell Project (OP)		14	Marigold Mine (OP,ML)	(cyanidation)
S3,4,T38N,R42E			S18,T33N,R43E	0
<i>Armand G. Hansen, Vice President of Operations</i>			<i>Larie K. Richardson, Mine Manager</i>	
<i>P.O. Box 186, Golconda, NV 89414</i>			<i>26011 Montanoso Drive, Mission Viejo, CA 92691</i>	
G. Keith Hodson	opals		Nutritional Additives Corp.	limestone
Bonanza Opal Mine (OP)		1	Sexton Mill	(crushing & screening)
S13,T45N,R25E			S20,T36N,R38E	5
<i>G. Keith Hodson, Owner</i>			<i>Glen Sexton, General Manager</i>	
<i>P.O. Box 406, Denio, NV 89404</i>			<i>P.O. Box 802, Winnemucca, NV 89445</i>	
Gold Fields Mining Corp.	gold		Pinson Mining Co.	gold
Chimney Creek Mine (EX)	(drilling)		Pinson Mine & Mill (OP,ML)	(cyanidation)
S6,7,T39N,R43E		15	S28,T38N,R42E	134
<i>Alan Wright, Sr., Geologist</i>			<i>H. Dan Harper, General Manager</i>	
<i>P.O. Box 1968, Winnemucca, NV 89445</i>			<i>P.O. Box 192, Winnemucca, NV 89445</i>	
American Mine Services, Inc.		9	Revliss Co.	silver
Contractor, Chimney Creek Mine (OP)			Revliss Co. Mine (OP)	0
S6,7,T39N,R43E			S10,T42N,R33E	
<i>David Starbuck, Project Superintendent</i>			<i>Gene Pridmore, President</i>	
<i>P.O. Box 406, Winnemucca, NV 89445</i>			<i>P.O. Box 1158, Winnemucca, NV 89445</i>	
Harris Engineer Mining & NV Mining Expl.	gold		Royal Peacock Opal Mine, Inc.	opals
Claudia Mine (OP)	(sampling)		Royal Peacock #2 Opal (OP)	2
S2,T37N,R30E		1	S25,T45N,R25E	
<i>Terry Harris, Owner/Operator</i>			<i>Harry Wilson, President</i>	
<i>77 Lay Street, Winnemucca, NV 89445</i>			<i>P.O. Box 36, Denio, NV 89404</i>	
Marlon H. Thompson	gold		R.W.M. Associates, Inc.	gold
Gold Run Mine (OP)	(gravity concentration)		'Golden Amethyst Mine & Mill (UG,ML)	(gravity
S14,T34N,R40E		4	S28,T36N,R36E	concentration)
<i>Marlon H. Thompson, Owner/Operator</i>			<i>Richard W. Moyle, President</i>	2
<i>422 West Haskill, Box 8, Winnemucca, NV 89445</i>			<i>P.O. Box 606, Winnemucca, NV 89445</i>	
McDermitt Mine Joint Venture	mercury		Silver Coin Mining Co.	silver
McDermitt Mine (OP,ML)	(flotation		Silver Coin Mine (OP,ML)	(heap leach
S33,T47N,R37E	distillation)		S1,T35N,R41E	cyanidation)
<i>Fran Schultz, General Superintendent</i>		60	<i>N. G. Tintle & Steven J. Tintle, Lessees</i>	0
<i>P.O. Box 497, McDermitt, NV 89421</i>			<i>P.O. Box 133, Golconda, NV 89414</i>	
Meyer Resources, Inc.	gold, silver, etc.		The Standard Slag Co.	gold & silver
Meyer Resources, Inc., Lab (EX)		12	Lewis Mine (OP)	(cyanidation
Location unknown			S24,T35N,R29E	heap leach)
<i>Gerald Harris, Vice President</i>			<i>Ernie Charter, Manager</i>	27
<i>P.O. Box 1757, Winnemucca, NV 89445</i>			<i>P.O. Box 10477, Reno, NV 89510</i>	
Min-Ad, Inc.	limestone		Tor-Cal Resources, Inc.	gold & silver
Min-Ad Mill	(crushing & screening)		Tor-Cal Resources, Inc., Nevada Project (OP)	(development)
S24,T36N,R37E		4	S22,T36N,R36E	12
<i>Charles J. Evans, Mill Superintendent</i>			<i>Perry N. Britten, President</i>	
<i>4210 Jungo Road, Winnemucca, NV 89445</i>			<i>P.O. Box 1194, Winnemucca, NV 89445</i>	

LANDER COUNTY

A.M.S. of Nevada gold
Austin Gold Project (UG) 20
Howard Last, Superintendent
P.O. Box 186, Austin, NV 89310

Battle Mountain Gold Co. gold & silver
Copper Canyon Mine (OP) 173
S23,24,T31N,R43E
Copper Canyon Mill (cyanidation)
S23,24,T31N,R43E 227
Richard Sumin, Manager
P.O. Box 451, Battle Mountain, NV 89820

Bauer Metals, Inc. gold & silver
Bauer Metals Mill Site (OP) (cyanidation
S23,T19N,R43E heap leach)
Immanuel Lichtenstein, President 0
P.O. Box 148, Austin, NV 89310

Cortez Gold Mines gold
Cortez Gold Mine & Mill (OP,ML) (heap leach
S13,28,T28N,R47E cyanidation)
Art Walsh, General Manager 142
Cortez, NV 89821

Crested Butte Silver Mining gold & silver
Victorine Gold Project (UG,ML) (flotation
(Sumich Mine) cyanidation)
S22,27,T16N,R43E 100
John L. Larson, President
P.O. Box 186, Austin, NV 89310

FMC Corp. barite
Mountain Springs Mine (OP) 12
S8,9,T28N,R44E
R. Dale Taylor, Mine Superintendent
P.O. Box 531, Battle Mountain, NV 89820

Horizon Gold Shares, Inc. gold
(Buffalo Valley Venture) (cyanidation)
Buffalo Valley Mine (OP,ML) 14
S33,34,T32N,R42E
John E. Watson, President
P.O. Box 358, Valmy, NV 89438

IMCO Services, Inc. barite
Battle Mountain Grinding Plant (grinding) 7
S27,T32N,R45E
Phillipini Clipper Mill barite
S6,T27N,R46E (gravity concentration
crushing) 2

Mountain Springs Plant barite
S4,T28N,R44E (gravity concentration
flotation)
Ralph Gronning, Manager 6
P.O. Box 861, Battle Mountain, NV 89820

Magcobar Minerals barite
Dresser Mill (crushing & screening) 16
S16,T32N,R45E
Greystone Mine & Mill (OP,ML) barite
S16,T28N,R46E (gravity concentration)
Gary Thielen, General Manager 82
P.O. Box 370, Battle Mountain, NV 89820

Major Barite Co. gold
Major Barite Milling Plant (OP,ML) (gravity concentration)
S8,T29N,R47E 0
Tenabo Placer (OP) gold
S16,T28N,R47E 2
John Uhalde, Superintendent
1975 Palisade Drive, Reno, NV 89509

Milchem, Inc. barite
Argenta Mine (OP) 11
S19,T32N,R47E
Argenta Barite Mill (gravity concentration)
S6,T32N,R47E 16
Carl A. Brown, Manager of Nevada Operations
P.O. Box 277, Battle Mountain, NV 89820

Bateman Canyon Mill (gravity concentration)
S6,T30N,R46E 13
John Williams, Acting Superintendent
P.O. Box 272, Battle Mountain, NV 89820

New Pass Resources, Inc. gold & silver
Thomas "W" Mine (UG) 2
S9,T20N,R40E
Don Jung, Manager
P.O. Box 69, Austin, NV 89310

Tom Norris, Inc. barite
Allen Barite Mine (OP) 0
S21,T21N,R42E
Tom Norris, Lessee
P.O. Box 231, Battle Mountain, NV 89820

United Mining Co. of Nevada silver
Independence Mine (UG) 2
S28,T31N,R43E
Earl Haldeman, Vice President
P.O. Box 355, Battle Mountain, NV 89820

LINCOLN COUNTY

Delaperlite Partnership Lease perlite
Mackie Perlite Mine (UG) 2
S11,T5S,R62E
Joe Wilkin, Owner
P.O. Box 472, Panaca, NV 89042

Hollingshead Mining Contracting scheelite
Pioche Mill (flotation, gravity concentration)
S23,T1N,R67E 0
LaVar Hollingshead, Owner
Panaca, NV 89042

Standard Slag Co., The gold & silver
Atlanta Mine & Mill (OP,ML) (heap leach
S14,T7N,R68E cyanidation)
Tom Wilkirk, Superintendent 1
P.O. Box 10477, Reno, NV 89510

Tempiute Metals Co. silver
Tempiute Metals Mine (UG) 3
S14,T4S,R57E
Reland Johnson, Owner
P.O. Box 652, Farmington, UT 84025

UMETCO Metals Corp. tungsten
Emerson Mine (UG) 6
S36,T3S,R56E
Jerry Schierman, Mine Manager
P.O. Box 307, Alamo, NV 89001

Wilkin Mining & Trucking Co. perlite
 Caliente Perlite Mill (crushing & screening)
 S7,T4S,R67E 3
Joe Wilkin, Owner
P.O. Box 472, Panaca, NV 89042

LYON COUNTY

Alhambra Mines, Inc. gold & silver
 Dayton Tailings (OP) (heap leach)
 S5,T16N,R22E 22
Tom L. Nimsic, Operations Manager
1325 Airmotive Way, Suite 200, Reno, NV 89502

Art Wilson Co. gypsum
 Adams Claims (OP,ML) (crushing & screening)
 S25,T16N,R20E 25
Art Wilson, Owner/Operator
P.O. Box 1160, Carson City, NV 89702

B & B Casler, Living Trust montmorillonite
 Wabuska Plant (shaker, screening)
 S21,T15N,R25E bagging)
Bill Casler, President 2
P.O. Box 733, Yerington, NV 89447

Craigport Mining, Inc. gold & silver
 Gold Bug Claims (OP,ML) (cyanidation)
 S23,T16N,R21E 3
Bob Craig, President
P.O. Box 333, Dayton, NV 89403

Cyprus Mines Corp. diatomite
 Cyprus Mill (drying, crushing, screening)
 S12,T20N,R24E 3
 Section 8 Mine (OP) diatomite
 S8,T19N,R26E 1
Henry Turnbaugh, Superintendent
P.O. Box 455, Fernley, NV 89408

Cyton Industries, Inc. gold & silver
 Dayton Tailings Project (OP) 0
 No location
Jack Graham, President
P.O. Box 519, Dayton, NV 89403-0519

Eagle-Picher Industries, Inc. diatomite
 Hazen Pit (OP) 1
 S9,T18N,R25E
Roger Malone, President
P.O. Box 10480, Reno, NV 89510

Eagle Valley Construction Co. gold, sand, gravel
 Anderson Pit & Mill (OS,ML) (crushing & screening)
 S23,T16N,R21E 7
Ivan Farnworth, Partner
3051 Deer Run Road, Carson City, NV 89701

Gold Canyon, Inc. gold & silver
 Six Mile Canyon Mine & Mill (OP,ML) (leaching)
 S31,T17N,R22E 2
Bob Craig, Project Manager
P.O. Box 333, Dayton, NV 89403

Hans N. Lund gold & silver
 Lund Mill (OP,ML) 2
 S21,T16N,R21E
Hans N. Lund, Owner
P.O. Box 1657, Carson City, NV 89702

Minerax Resources, Ltd. gold & silver
 Oest Mine (EX,UG) 2
 S8,17,T16N,R21E
James Sagin, Director of Company
1851 Burnside Drive, Sparks, NV 89431

Nevada Cement Co. limestone
 Limestone Mine (OP) 3
 S4,T19N,R25E

Nevada Cement Plant cement
 S10,T20N,R24E (grinding, calcining)
David Dalton, President 160
P.O. Box 840, Fernley, NV 89408

NeveX Gold Company, Inc. gold & silver
 Santiago-Haywood Mine (ML) (leaching)
 S17,T16N,R21E 10
Gary Williams, Plant Supervisor
13 Affonso Drive, J-15, Carson City, NV 89701-7721

Boyles Bros. Drilling Co. (drilling)
 Contractor, Santiago-Haywood Mine (OS) 3
 S17,T16N,R21E
William K. Lowery, Field Superintendent
975 Industrial Way, Sparks, NV 89431

N. A. Degerstrom, Inc. 0
 Contractor, Santiago-Haywood Mine (OP)
 S17,18,T16N,R21E
Armand Hansen, Vice President
P.O. Box 185, Carson City, NV 89702

Tuttle's Golden Minerals montmorillonite
 Tuttle Mine (OP) (screening)
 S20,21,29,T7N,R27E 2
James B. Tuttle, Owner
P.O. Box 956, Hawthorne, NV 89415

MINERAL COUNTY

Aurora Mine gold & silver
 S17,T5N,R28E (heap leach)
 0

Centennial Minerals, Inc. (OP)
B. Mountford, President
P.O. Box 2311, Hawthorne, NV 89418

Electra Mining Co. (leaching
 Doug Stelling, President construction)
P.O. Box 160, Hawthorne, NV 89415 0

The Aurora Partnership 25
Deborah A. Cook, Project Manager
P.O. Box 1628, Hawthorne, NV 89415

Bear Creek Mining Co. gold
 Bear Creek Fallon #2
 Location unknown

Joy Manufacturing Co.
 Contractor, Bear Creek Fallon #2 (EX,OP) (drilling)
Robert Maez & Gregory Castro, Lead Drill Operators 8
P.O. Drawer 489, LaPorte, IN 46350

C-E Basic magnesite
 Luning Loading Facility 2
 S28,T8N,R34E
Les Barlow, Foreman
P.O. Box 177, Gabbs, NV 89409

Dream Land Mining Co. silver & gold
 Bounce Mine (UG) 0
 S33,T6N,R34E
Merl Richards, Vice President
P.O. Box 648, Mina, NV 89422

Harry Nylene gold & silver
 Stanmore Mine (UG,EX) 2
 S22,T8N,R28E
Harry O. Nylene, Owner
P.O. Box HH, Yerington, NV 89447

H. E. Hunewill Construction Company, Inc. gypsum
 Wassuk Gypsum Mine (OP) 2
 S6,T12N,R27E
Harvey E. Hunewill, President
10 Artist View, Wellington, NV 89444

Hugh C. Ingle, Jr. gold & silver
 Ashby Mine (UG,OP,EX) 2
 S27,T7N,R32E

Aden Mill gold & silver
 S8,T6N,R35E (gravity concentration, flotation) 2

Mabel & Garfield Mine (OP,UG) gold & silver
 S17,T7N,R33E 2
Hugh C. Ingle, Jr. & Hugh C. Ingle, Partners
1161 Highway 339, Yerington, NV 89447

Kinthead Mining & Construction, Inc. gold
 Kinthead Mill (flotation, screening) 5
 S15,T18N,R32E
Dick Merritt, Owner
P.O. Box 32, Luning, NV 89420

Metal Recovery Systems, Inc. gold
 Placer Testing (OP) 3
 S3,T13N,R32E
Ken Pollard, President
P.O. Box 3059, Carson City, NV 89702

Montreal Midnite Mining & Milling Co. gold & silver
 Alaska Mill (gravity concentration) 0
Randy Regalado, General Partner
P.O. Box 1051, Hawthorne, NV 89415

NERCO Metals, Inc. silver & gold
 Candelaria Mine (OP) (heap leach)
 S5,T3N,R35E crushing & screening) 143
Peter Petrowsky, Manager
P.O. Box 1240, Hawthorne, NV 89415

N-M Recovery Corp. gold & silver
 Stanmore Mine (OP) (heap leach) 0
 S22,T8N,R28E
Harry O. Nylene, Owner
P.O. Box HH, Yerington, NV 89447

Phillips Mining Co. gold & silver
 Lil Pardner & Apex Claim Groups (UG,OP) 2
 S7,8,T4N,R34E
Robert J. Phillips, Owner
Star Route 73500, CoKoldjeski, Pahump, NV 89041

Marietta #1 (UG) silver & gold
 S5,T4N,R32E (development) 5
Robert J. Phillips, Owner
50 Freeport Boulevard, Sparks, NV 89431

Sodaville Research Facility gold
 Live Yankee Mine (OP,ML) (crushing) 2
 S19,T5N,R28E

Sodaville Mill gold & silver
 S29,T6N,R35E (gravity concentration) 4
Jim Schaefer, Research Engineer
P.O. Box 451, Mina, NV 89422

S. T. Hilberg gold & silver
 Canyon Milling Plant 2
 S24,T8N,R31E
S. T. Hilberg, Manager
P.O. Box 20578, Reno, NV 89515

Tenneco Minerals Co. gold & silver
 Borealis Mine (OP,ML) (heap leach)
 S16,17,T6N,R29E crushing & screening) 40
Rex Outzen, Site Manager
P.O. Box 976, Hawthorne, NV 89415

Lost Dutchman Construction, Inc. 25
 Contractor, Borealis Mine (OP)
 S16,17,T6N,R29E
J. R. Barkley, President
P.O. Box 1538, Hawthorne, NV 89415

East Ridge Mine (OP) gold & silver
 S16,17,T6N,R29E 24
Dan W. Martin, Nevada Operations Manager
P.O. Box 976, Hawthorne, NV 89415

The Argee Corp. 53
 Contractor, East Ridge Mine (OP)
 S16,17,T6N,R29E
Harvey Armstrong, Project Manager
P.O. Box 2445, Hawthorne, NV 89415

UMETCO Minerals Corp. tungsten
 Desert Scheelite-Pilot Mountain (UG) 3
 S8,T6N,R37E
Stew Hollingsworth, Project Director
140 Washington Street, Suite 203, Reno, NV 89503

Wilson & Lutton gold
 Neversweat Mine (OP,ML) (screening) 3
 S13,T7N,R31E
Clarence Lutton, Owner
P.O. Box 1861, Hawthorne, NV 89415

NYE COUNTY

All Minerals, Inc. barite
 Barite Mine & Mill (OP,ML) (gravity concentration) 22
 S9,T12N,R46E
S. R. Mahoney, President
P.O. Box 7680, Murray, UT 84107

American Borate Corp. colemanite
 American Borate Plant (crushing, washing,
 S36,T17S,R49E calcining & flotation) 70
Landon Lockhart, Manager
Star Route 15, Box 610, Amargosa, NV 89020

Arizona Hillside Mining Company, Inc. gold
 Old Sullivan Mine (OP) (heap leach) 0
 S13,18,19,T8N,R43&44E
J. Michael Migel, President
P.O. Box 103, Manhattan, NV 89022

Bullfrog Enterprises gold & silver
 Montgomery Shoshone Mine (OP,ML) (vat leach) 0
 S3,T12S,R46E
Robert B. Garcia, President
P.O. Box 397, Beatty, NV 89003

C-E Basic magnesite
 Nevada Works Pit (OP) 14
 S34,T12N,R36E

Nevada Works Mill S34,T12N,R36E <i>Patrick A. Dunne, Works Manager</i> <i>P.O. Box 177, Gabbs, NV 89409</i>	calcining (flotation) 115	Shaw Construction Co. (OP) <i>Ray G. Shaw, President</i> <i>6343 Highway 50 East, Carson City, NV 89701</i>	(construction) 35
Cind-R-Lite Block Co. Cinder Cone Mine (OP) S28,T14S,R49E <i>H. D. Allen, President</i> <i>3333 Cinder Lane, Las Vegas, NV 89103</i>	pumice 3	The Industrial Co. (ML) <i>Ray Dix, Project Manager</i> <i>P.O. Box 563, Gabbs, NV 89409</i>	(construction) 90
Cruson & Pansze Bullfrog Mine & Mill (OP,ML) Parsons Construction Co. contractor for project S7,T12S,R45E <i>Elton Parsons, Owner</i> <i>P.O. Box 2658, Silver Peak, NV 89047</i>	gold & silver (crushing & screening) 6	Utah Construction & Development, Inc. (OP) <i>Robert R. Evans, Vice President</i> <i>P.O. Box 145, Gabbs, NV 89409</i>	(development) 18
Cyprus Mines Corp. Northumberland Mine & Heap Leach Plant (OP,ML) S18,T13N,R46E <i>M. M. McGee, Resident Manager</i> <i>Route 2, Box 8A, Austin, NV 89310</i>	silver & gold (heap leach) 0	Gerald A. Doyle Last Chance Antimony Mine (UG) S17,18,19,20,21,T10N,R42E <i>Gerald A. Doyle, Operator</i> <i>P.O. Box 350, Round Mountain, NV 89045</i>	gold 0
FMC Corp. Paradise Peak Project S3,4,9,10,T10N,R36E (all contractors same location) Davy McKee, Contractor for FMC Corp. (construction) <i>J. H. Loweree, Senior Vice President</i> <i>P.O. Box 145, Gabbs, NV 89409</i>	gold, silver, mercury 32	Industrial Mineral Ventures, Inc. Armagosa Pit & Mill (OP) (crushing, drying, bagging) S29,T17S,R49E <i>Forrest Hansen, Resident Manager</i> <i>RFD Box 549, Amargosa, NV 89020</i>	clay 50
Subcontractors for Davy McKee Corp. A. C. Shaw Construction, Inc. (OP) (construction) <i>1759 Silverada Boulevard, Reno, NV 89512</i>	0	Ivy Minerals Old Sullivan Mine (OP) (heap leach) S13,18,19,T8N,R43&44E <i>Conway Ivy, President</i> <i>% Dan Crackel, General Delivery, Manhattan, NV 89022</i>	gold (heap leach) 3
Allen Steel Co. (OP) (development) <i>Mike Crase, Project Manager</i> <i>1340 South 200 West, Salt Lake City, UT 84115</i>	1	Jesse R. Wilson Paymaster Mine & Mill (UG,ML) (cyanide leach) S14,T14N,R37E <i>Jesse R. Wilson, Owner</i> <i>P.O. Box 596, Sparks, NV 89432</i>	gold & silver (cyanide leach) 3
Eagle Enterprises, Inc. (OP) (security) <i>Richard Danckwerth, President</i> <i>327 Industrial Way, Carson City, NV 89701</i>	7	J. Irving Crowell, Jr., & Son Crowell Fluorspar Mine (UG) S23,T12S,R47E <i>Jack Crowell, Owner</i> <i>P.O. Box 96, Beatty, NV 89003</i>	fluorspar 6
Escon Construction, Inc. (OP) (construction) <i>Marvin Hustad, President</i> <i>P.O. Box 54, Gabbs, NV 89409</i>	176	Marshall Earth Resources, Inc. Catherine Mine (UG) S1,T12N,R39E	gold & silver 0
Gulf States, Inc. (OP) (construction) <i>Bill Halliday, Project Manager</i> <i>P.O. Box 116, Gabbs, NV 89409</i>	35	Ione Placer, Primary Plant (ML) S28,T13N,R39E (screening & washing)	gold 7
Gundle Lining Construction Corp. (ML) (construction) <i>J. Graydon Renshaw, Project Manager</i> <i>% Davy McKee Corp., P.O. Box 145, Gabbs, NV 89409</i>	65	Shamrock Tunnel #2 (UG) S22,T13N,R39E	gold & silver 2
Harding Lawson Assoc. (OP) (development) <i>Stuart Dykins, Project Manager</i> <i>940 Matley Lane, Suite 2, Reno, NV 89502</i>	3	Sky Claims Secondary Mill (ML) S34,T13N,R39E (construction)	gold & silver 11
H. E. Hunewill (OP) (construction) <i>Harvey Hunewill, President</i> <i>315 Artist View, Wellington, NV 89444</i>	6	Stonewall Mine (UG) S2,T12N,R39E	gold & silver 2
Hunter Land Surveying, Inc. (OP) (surveying) <i>David Hunter, Owner</i> <i>P.O. Box 401, Gabbs, NV 89409</i>	6	Yellow Star Mine (OP) S6,T15N,R38E <i>Hugh R. Marshall, President</i> <i>720 Willow Street, Reno, NV 89502</i> <i>or/Route 1, Box 29A, Ione, NV 89310</i>	gold & silver (development) 7
Na-Con Services, Inc. (OP) (construction) <i>Allen Eisenbarth, Project Manager</i> <i>General Delivery, Gabbs, NV 89409</i>	18	Saga Exploration Co. Sterling Mine (UG,ML) S6,T13S,R48E <i>Greg Austin, President</i> <i>P.O. Box 187, Beatty, NV 89003</i>	gold & silver (heap leach) 12
Panelclad, Inc. (OP) (construction) <i>R. D. Jones, Field Supervisor</i> <i>P.O. Box 279, Hawthorne, NV 89415</i>	6		

Smoky Valley Mining Co. gold
Round Mountain Gold (OP,ML) (heap leach)
S18,T10N,R44E 276
Don L. Simpson, General Manager
P.O. Box 480, Round Mountain, NV 89045

Standard Slag Co., The barite
Old Soldier P & S Mine (OP,ML) (crushing & screening)
S10,T13N,R45E 3
John Harmon, Superintendent, Western Operations
P.O. Box 10477, Reno, NV 89510

Tenneco Minerals Co. gold
Manhattan Mine (OP) 10
S20,T8N,R44E
Rex Outzen, Project Manager
P.O. Box 56, Manhattan, NV 89022

W. E. Vining 21
Contractor, Manhattan Mine (OP)
S20,T8N,R44E
W. E. Vining, Contractor
P.O. Box 2499, Carson City, NV 89702

Manhattan Mill gold
S20,T8N,R44E (gravity concentration,
Rex Outzen, Project Manager flotation, cyanidation)
P.O. Box 56, Manhattan, NV 89022 44

Tonopah Lab (ML) gold & silver
S36,T3N,R42E (cyanidation, gravity concentration,
William Robertson, Chief Assayer flotation)
P.O. Box 1232, Tonopah, NV 89049 9

Vanderbilt Minerals Co. bentonite
White Caps Mine & Mill (UG,ML) (crushing & screening)
S19,T12S,R46E 6
Jerry Lease, Manager
P.O. Box 398, Beatty, NV 89003

Western States Minerals Corp. gold
Northumberland Mine (OP,ML) (cyanidation, heap leach)
S18,T13N,R46E 15
Rick Fiddler, Acting Manager
Route 2, Box 8A, Austin, NV 89310

PERSHING COUNTY

Anderson Farms Corp. gold
Fortune Cookie Mine (OP,ML) (gravity concentration)
S17,T33N,R36E 8
Lawson Brooks, Mine Foreman
P.O. Box 1410, Davis, CA 95617

C Bar C Milling Co. gold
Barrel Springs Mine (OP,ML) (gravity concentration)
S31,T34N,R29E 3
Henry Cagle, President
Montello, NV 89830

Circle A Construction gold
Little Jupiter Mine (UG) 2
S17,T33N,R37E
Jupiter Gold Mill (gravity concentration)
S1,T33N,R37E 5
Marvin Aslett, President
Keith Aslett, Project Manager
P.O. Box 1608, Winnemucca, NV 89445

Danner Mines, Inc. gold
Danner Mine & Mill (OP,ML) (cyanidation)
S2,T34N,R33E 2
Donald C. Danner, President
P.O. Box 28, Imlay, NV 89418

Dusty Mining Co. gold
Dusty Mine (OP,ML) (gravity concentration)
S20,24,30,T32N,R32E 1
Ed Speir, Owner
P.O. Box 1149, Lovelock, NV 89419

Eagle-Picher Industries, Inc. diatomite
Colado Mine & Shop (OP) 21
S8,T28N,R29E
M. M. Moezzi, Mine Manager
P.O. Box 959, Lovelock, NV 89419

Colado Plant diatomite
S6,T27N,R32E (calcining)
Robert Maher, Plant Manager 110
P.O. Box A, Lovelock, NV 89419

F. M. Wright Mining Co. silver & gold
Wright Mill (flotation, gravity concentration)
S6,T28N,R33E 0
F. M. Wright, President
P.O. Box 643, Lovelock, NV 89419

Global Natural Resources, Inc. gold
Global Mine (OP,ML) (gravity concentration)
S24,T32N,R33E 3

Imlay Canyon Mine & Mill (OP,ML) gold
S30,T32N,R34E (gravity concentration)
Ricky Poe, Manager 0
P.O. Box 128, Imlay, NV 89418

Humbug Mining & Prospecting gold
Humbug Mine (OP,ML) (gravity concentration)
S22,23,26,27,T34N,R29E 3
Lee Dawson, Owner/Operator
400 Tolas Place #5, Fallon, NV 89406

Imlay Corp. gold
Imlay Canyon Mine (OP,ML) (gravity concentration)
S30,T32N,R34E 3
Immanuel Lichtenstein, President
P.O. Box 345, Imlay, NV 89418

JM & Co. gold
E. T. Mine (OP,ML) (gravity concentration)
S32,T32N,R36E 2
Springer Mines (OP,ML) gold
S19,20,T33N,R37E (gravity concentration)
James Carl, Owner/Operator 2
P.O. Box 1927, Winnemucca, NV 89445

Lacana Gold, Inc. gold & silver
Relief Canyon Mine (OP,ML) (heap leach)
S16,T27N,R34E 31
E. G. Thompson, President
P.O. Box 1150, Lovelock, NV 89419

Target, Inc. 20
Contractor, Relief Canyon Mine (OP)
S16,T27N,R34E
Jeff Fegert, President
730 Tahoe Street, Reno, NV 89509

Magna Mining Company, Inc. gold
Magna Mine (OP,ML) (gravity concentration) 3
S28,T31N,R37E
Sam Gore, Local Manager
3700 Old Tollhouse Road, Winnemucca, NV 89445

Michael Benickie gold & silver
Saundra Lee & Phase II Mines (OP,ML) (gravity concentration) 1
S18,T32N,R32E
Michael Benickie, Owner/Operator
5444 Woods Drive, Sparks, NV 89431

Minerals Associates, Inc. gold
Rose-Dale Mine (OP,ML) (heap leach cyanidation) 0
S5,8,T34N,R37E
Bill Workman, Safety Officer
P.O. Box 1008, Winnemucca, NV 89445

Mining Research, Inc. gold
Willow Creek Canyon Project (OP,ML) (gravity concentration) 5
S33,T31N,R36E
Stan Nelson, Mining Superintendent
P.O. Box 12, Imlay, NV 89418-0012

Nevada Packard Joint Venture silver
Nevada Packard Mine (OP,ML) (cyanidation) 2
S28,29,32,33,T29N,R34E
H. A. Scholz, Partner & Resident Manager
P.O. Box 1007, Lovelock, NV 89419

Nutritional Additives Co. limestone 2
Sexton Mine (OP)
S21,T34N,R38E
Glen W. Sexton, General Manager
P.O. Box 802, Winnemucca, NV 89445

Pegasus Gold Corp. gold
Florida Canyon Project (OP) (heap leach) 6
S2,T31N,R33E
Bob Turner, Project Manager
1143 West 4th Street, Winnemucca, NV 89445

Princeton Mining Assoc. gold
Placeritas (OP,ML) (gravity concentration) 0
S7,T32N,R29E
Thomas J. Delany, President
P.O. Box 4184, Sparks, NV 89432-4184

Proquip, Inc. gold
Fortune Cookie Mine (OP) 0
S17,T33N,R36E
Bart Conn, President
P.O. Box 2012, Winnemucca, NV 89445

U.S. Gypsum Co. gypsum 9
Empire Mine (OP)
S31,T31N,R24E
Roger Brown, Works Manager
Empire, NV 89405

Utah International, Inc. tungsten 6
Sutton II Mine (UG)
S35,T34N,R34E
A. F. Metcalfe, Mine Manager
P.O. Box 325, Imlay, NV 89418

William W. Dale gold
Imlay Canyon Mine (OP,ML) (gravity concentration) 0
S30,32,T32N,R34E
William W. Dale, Owner/Operator
P.O. Box 1001, Winnemucca, NV 89445

STOREY COUNTY

Asamera Minerals (U.S.), Inc. silver & gold
Gooseberry Mine & Mill (UG,ML) (cyanidation) 27
S25,T19N,R22E
Tom Kelly, Acting Mine Manager
P.O. Box 30003, Reno, NV 89520-0003

David Lester & Richard C. Bentinck gold & silver 2
Justice Mine (EX,OP)
S5,8,T16N,R21E
David Lester & Richard C. Bentinck, Owners
1318 Clemens Drive, Carson City, NV 89701

Eagle-Picher Industries, Inc. diatomite 7
Clark Mine (OP)
S28,T20N,R23E

Clark Mill (calcining, screening, drying) 36
S35,T20N,R22E
Roger Malone, President
P.O. Box 10480, Reno, NV 89510

Lee Mining Corp. gold & silver
Flowery Mine (OP) (development) 1
S23,T17N,R21E
Mike DiNicola, Operations Manager
P.O. Box 70610, Reno, NV 89570

Naturalite Aggregate Corp. pumice
(Division of Glass Mountain Block) (crushing & screening) 5
Lower Naturalite Pit & Plant (OS,ML)
S16,T17N,R22E
Dick Wideriksen, Vice President
355 Greg Street, Sparks, NV 89431

New York Comstock Deep Mines gold & silver 3
New York Mine (UG)
S5,T16N,R21E
Rodney Delmar, President
1001 North Mountain Street, Suite I-E, Carson City, NV 89701

2B Partnership gold 3
Bright Star Mine (UG,EX)
S30,T17N,R21E
Harold Biaggini, Owner
#8 Granite Way, Carson City, NV 89701

WASHOE COUNTY

Art Wilson Co. clay 3
Clay Mine & Shop (OP)
S14,T27N,R19E
Art Wilson, Owner/Operator
P.O. Box 1160, Carson City, NV 89702

Fred A. Arnold gold 0
Princess Mine (UG)
S12,T17N,R19E
Fred A. Arnold
1540 Dayton, Reno, NV 89502

Gold Fields Mining Co. silver & gold
Sample Prep Facility (OS) (crushing & cooking) 0
T16N,R21E
Robert Bennett, District Geologist
331 Freeport Boulevard, Sparks, NV 89431

Miller Construction Co. rhyolite
Contractor for Norwest Exploration Co. (crushing &
Norwest Rhyolite Pit (OP,ML) screening)
S8,T19N,R21E 3
Joe Miller, Owner
P.O. Box 1981, Fernley, NV 89408

Nevada Pacific Mining Company, Inc. gold
Olinghouse Placer (OP,ML) (gravity concentration)
S29,T21N,R23E 0
Ted V. Smith & Robert J. Collup, Operations Managers
P.O. Box 189, Wadsworth, NV 89442

Richert Mining Co. gold, silver, copper
Richert Mine (OP) 0
S29,31,32,T22N,R18E
Richard F. Denton, Sr., General Partner
P.O. Box 11885, Reno, NV 89510

Rilite Aggregate Company, Inc. pumice
Rilite Aggregate Pit & Mill (OS,ML) (crushing &
S12,T18N,R20E screening)
Bruno Benna & I. Christenson, Owners 8
P.O. Box 11767, Reno, NV 89510

University of Nevada-Reno copper, lead, zinc
Commonwealth Mine (UG) (education)
S12,T17N,R19E 5
Danny L. Taylor, Chairman, Mining Engineering
Mackay School of Mines, Reno, NV 89557

U.S. Gypsum Co. gypsum
Empire Mill (crushing, screening)
S11,T31N,R23E 14
Charles Anderson, Works Manager
Empire, NV 89405

Wytana, Inc. gold
Olinghouse Placer (OP,ML) (gravity concentration)
S29,T21N,R23E 24
Bill Rosewarne, Mine Superintendent
P.O. Box 189, Wadsworth, NV 89442

WHITE PINE COUNTY

Amselco Minerals, Inc. gold
Alligator Ridge Gold Mine (OP,ML) (cyanidation
S2,T22N,R57E heap leach)
Warren Stanford, General Manager 157
P.O. Box 149, Ely, NV 89301

Fred R. Salisbury gold & silver
Fred R. Salisbury Placer (OP,ML) (gravity concentration)
S19,T14N,R67E 3
Fred R. Salisbury, Owner
Star Route 5, Lot 24, Osceola, NV 89301

Golden Eagle Mining Co. gold & silver
Tilford Mine (OP,ML) 4
S26,T14N,R67E
Bernard Christenson, President
Star Route 5, via Ely, NV 89301

Mt. Moriah Stone, Inc. building stone
Mt. Moriah Stone Quarry (OS) 6
S15,T16N,R70E
Richard K. Hatch, President
No. 10 Hatch Rock Road, Gandy Route, Garrison, UT
84728

New Dynasty Mines (US), Inc. gold
Little Bald Mountain Mine (OP) (heap leach
S27,34,T24N,R57E cyanidation)
J. D. Simpson, President 4
P.O. Box 314, Eureka, NV 89316-0314

Country Communication (construction)
Contractor, Little Bald Mountain Mine (OP) 8
S27,34,T24N,R57E
Mike Lemich, Owner
1200 Avenue B, Ely, NV 89301

Placer Amex, Inc. gold
Bald Mountain Project (OP,ML) (heap leach
S17,20,T24N,R57E cyanidation)
Scott Cornell, Project Engineer 14
P.O. Box 1229, Ely, NV 89301

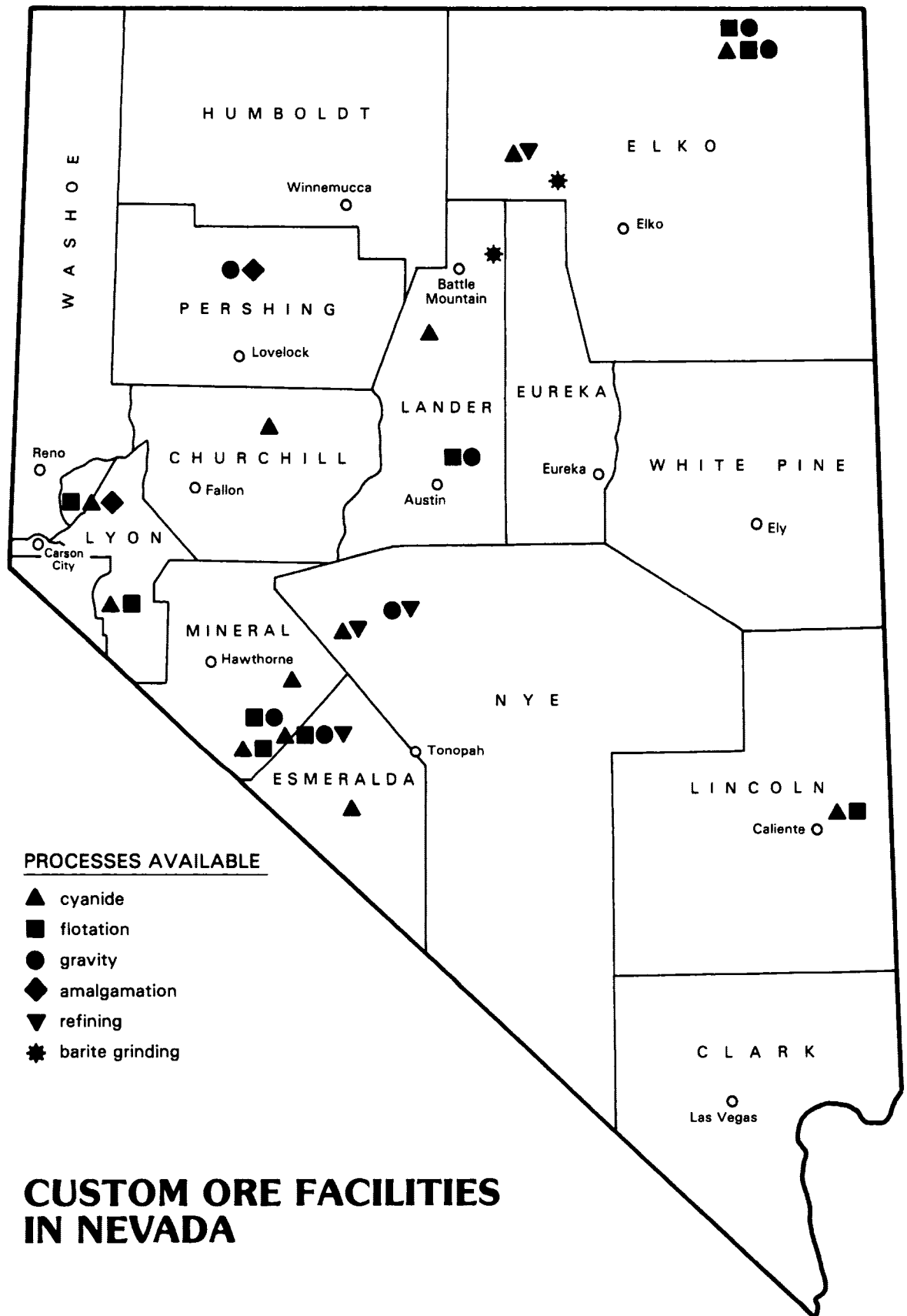
Brown & Root USA, Inc. 41
Contractor, Bald Mountain Project (OP)
S17,20,T24N,R57E
Ken Snyder, Project Manager
P.O. Box 1200, Ely, NV 89301

Pollocks Drilling rotary drilling
Contractor, Bald Mountain Project (EX) 5
S17,20,T24N,R57E
Oren Pollock, Owner
P.O. Box 123, Ely, NV 89310

Silver King Mines, Inc. gold
East Robinson Project (OP) 5
S11,T16N,R62E

Taylor Pit & Mill (OP,ML) silver
S16,T14N,R65E (cyanidation)
56

Ward Mountain Mine (UG) zinc, copper, silver
S14,T14N,R62E (development)
K. L. Stoker, President 16
P.O. Box 324, East Ely, NV 89315





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The Nevada Bureau of Mines and Geology (NBMG) is charged by state law with the duty of investigating and reporting on the geology and mineral resources of the State. NBMG is a research and public service division of the University of Nevada-Reno. NBMG has no regulatory functions.

NBMG performs research, compiles information, and makes the information available through: 1) published maps and reports; 2) unpublished data files and collections; and 3) talks, correspondence, and personal contacts. NBMG also provides assaying and mineral identification services, and through its affiliation with the National Cartographic Information Center provides information and assistance on base maps and airphotos.

NBMG research includes all phases of Nevada's geology and mineral resources: 1) basic geologic mapping and laboratory studies; 2) geophysical and geochemical surveys; 3) engineering geology; 4) geologic considerations in urban and rural planning; 5) the preparation of educational guides and booklets; 6) statewide investigations of mineral commodities; 7) the geology of ore deposits; and 8) the exploration, development, mining, processing, utilization, and conservation of metal ores, industrial minerals, fossil and nuclear fuels, geothermal power, and water.

NBMG offices are located in the Mines Wing of the Scrugham Engineering-Mines building on the University of Nevada-Reno campus; office hours are 8:00–4:30, Monday through Friday.

For information concerning the geology and mineral resources of Nevada, write to the Nevada Bureau of Mines and Geology, University of Nevada-Reno, Reno, NV 89557-0088; or call (702) 784-6691. A publication list will be sent upon request.

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