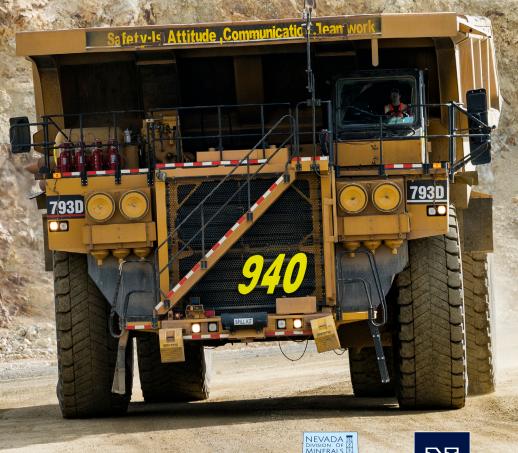
# Major Mines of Nevada 2023

Mineral Industries in Nevada's Economy







University of Nevada, Reno

# NEVADA COMMISSION ON MINERAL RESOURCES Division of Minerals

The seven-member Commission on Mineral Resources is a public body appointed by the Governor that provides advice and recommendations to the Governor and Legislature on matters relating to mineral resources. The Division's mission is to encourage and assist in the responsible exploration for, and the production of, minerals, oil, gas, and geothermal energy which are economically beneficial to the State.

The Division is involved in activities relating to mineral, oil, gas, and geothermal development. Staff compiles annual data on all active mines in Nevada and maintains the State's mine registry. Information concerning mining operations and production is made available to the public through this yearly publication. Educational documents and materials concerning the minerals industry are also produced. The Division often acts as a cooperating agency in federal land use actions at the request of the Governor's office.

The Division is the fluid minerals permitting agency for drilling activities on both public and private lands in Nevada. Staff also monitors production of oil, gas, and geothermal resources to ensure proper management and conservation. Nevada is a member of the Interstate Oil and Gas Compact Commission.

The Division's abandoned mine lands program provides for public safety by identifying and ranking dangerous conditions at mines that are no longer operating, and by securing dangerous orphaned mine openings. The program continually urges the public to recognize and avoid hazardous abandoned mines.

#### **Commission on Mineral Resources**

Josh Nordquist, Chair (Geothermal Resources)
Nigel Bain (Large-Scale Mining)
Bob Felder (Exploration and Development)
Randy Griffin (Small-Scale Mining and Prospecting)
Stephanie Hallinan (Large-Scale Mining)
Arthur Henderson (Oil and Gas)
Mary Korpi (Public-at-Large)

#### **Division of Minerals Staff**

Robert Ghiglieri - Administrator, Division of Minerals
Crystal Cruson - Program Officer II
Sean Derby - Chief, Abandoned Mine Lands Program
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Keith Hayes - Project Manager
Dustin Holcomb- Program Manager, Oil, Gas, and Geothermal
Richard Kauffman - AML Field Specialist - GIS Specialist
Lucia Patterson - Geologist - GIS Analyst III
Deborah Selig - Administrative Assistant IV, Las Vegas Office
Carol Shelton - Public Outreach/AML Field Specialist, Las Vegas Office
Rebecca Timms - Administrative Assistant IV, Carson City Office
Garrett Wake - Deputy Administrator



# **Major Mines of Nevada 2023**

# Mineral Industries in Nevada's Economy

By Rob Ghiglieri and Lucia Patterson The Nevada Division of Minerals

# 2024

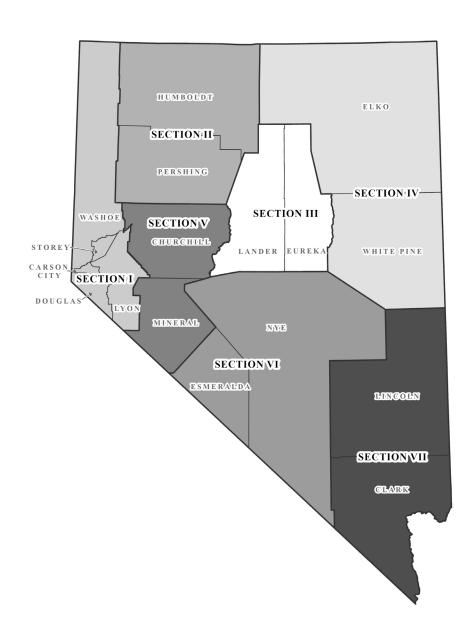
This is the thirty-fifth of an annual series of summary reports on major mines of Nevada. Aggregate operations are not included. Information on employment and production for the calendar year 2023 was provided by the individual mine, oil field, and goethermal plant operators. The Nevada Division of Minerals maintains a complete register of Nevada mines. For further information, contact them at 400 W. King, Suite 106, Carson City, Nevada 89703 or call (775) 684-7040, email ndom@minerals.nv.gov, or visit their Web site at https://minerals.nv.gov.

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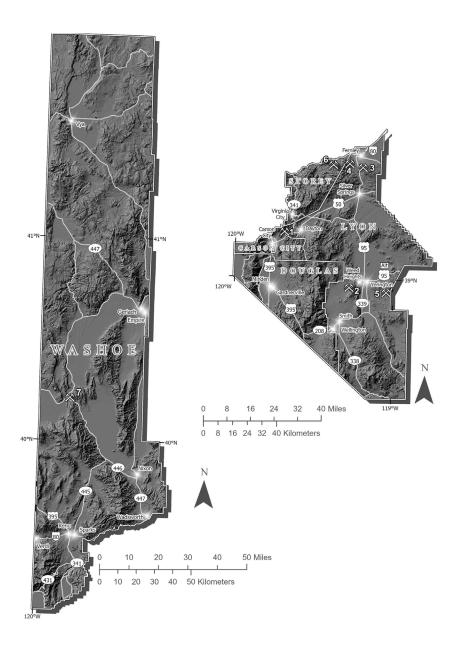
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# Section I

# **Lyon County**

# Adams Claim Gypsum Mine (1)

Operator:

Art Wilson Co. P.O. Box 20160

Carson City, NV 89721

775-882-0700

Company employees: 35

Production:

Gypsum - 224,354 tons Limestone - 879 tons

### Ludwig Mine (2)

Operator:

Art Wilson Co.

P.O. Box 20160 Carson City, NV 89721

775-882-0700

Company employees: 1

Production:

Gypsum -

No mining occured in 2023

### NCC Fernley Operations (3)

Operator:

Nevada Cement Co. 1290 West Main Street Fernley, NV 89408

775-575-2281 Fax: 575-4387

Company employees: 2 Contract employees: 12

Production:

Limestone - 53,000 tons

#### NCC Mustache Mine (4)

Operator:

Nevada Cement Co. 1290 West Main Street Fernley, NV 89408 775-575-2281 Fax: 575-4387

Company employees: 1

Contract employees: 20

Production:

Pozzolan - 15,000 tons

# Pumpkin Hollow (5)

Operator:

Nevada Copper, Inc. 61 East Pursel Ln. Yerington, NV 89447 775-463-3510

Production:

Copper - 1,487,312 pounds Gold - 212 oz Silver - 6,304 oz

# **Storey County**

# Clark Mine (6)

Operator:

US Silica

640 Clark Station Rd. Sparks, NV 89434

775-824-7600 Fax: 824-7601

Company employees: 70 Contract employees: 2

Production:

Diatomite - 44,922

# **Washoe County**

# NCC Flanigan Mine (7)

Operator:

Nevada Cement Co. 1290 West Main Street Fernley, NV 89408

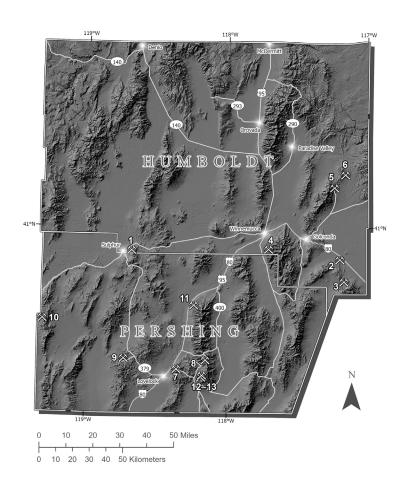
775-575-2281 Fax: 575-4387

Company employees: 1

Contract employees: 18

Production:

Specialty Clay - 15,000 tons



# Section II

# **Humboldt County**

### Hycroft Mine (1)

Operator:

Hycroft Mining, Corp.

P.O. Box 3030

Winnemucca, NV 89446

775-623-5260

Company employees: 74

Contract employees: 0

Production:

Gold -

No mining occured in 2023

# Lone Tree Complex (2)

Operator:

i-80 Gold Corp.

5190 Neil Road, Suite 460

Reno, NV 89502

775-525-6450

Company employees: 20 Contract employees: 2

Production:

Gold - 6,200 oz

Silver 2,000 oz

# Marigold Mine (3)

Operator:

SSR Mining P.O. Box 160

Valmy, NV 89438

775-502-4800

Company employees: 468 Contract employees: 20

Production:

Gold - 278,488 oz Silver - 6,173 oz

## MIN-AD Mine (4)

Operator:

MIN-AD, Inc.

P.O. Box 39

Winnemucca, NV 89446

775-623-5944

Company employees: 15

Production:

Dolomite - 59,382 tons

# **Turquoise Ridge Underground Mine (5)** & Twin Creeks Open Pit (6)

Operator:

Nevada Gold Mines, LLC 2055 Getchell Mine Road

Golconda, NV 89414

775-388-1551 Fax: 775-748-3125 Company employees: 842

Production:

Gold - 514,386 oz Silver - 163,388 oz

# **Pershing County**

#### **Buff/Satin Mine (7)**

Operator:

Vanderbilt Minerals, LLC

P.O. Box 6660

Pahrump, NV 89041

775-253-0064

Company employees: 3

Production:

Specialty Clay -

No mining occured in 2023

### Coeur Rochester Mine (8)

Operator:

Coeur Rochester, Inc.

P.O. Box 1057

Lovelock, NV 89419

775-273-7995

Company employees: 376 Contract employees: 556

Production:

Gold - 38,775 oz

Silver - 3,390,451 oz

# Colado Mine (9)

Operator:

US Silica

P.O. Box 959

Lovelock, NV 89419

775-824-7600 Fax: 824-7601

Company employees: 38

Production:

Diatomite - 144,345 tons

## **Empire Gypsum Mine (10)**

Operator:

Empire Mining Co., LLC

P.O. Box 157

Gerlach, NV 89412

775-600-4569 Fax: 702-921-9552

Company employees: 30

Contract employees: 2

Production:

Gypsum - 393,690 tons

# Florida Canyon Mine (11)

Operator:

Florida Canyon Mining, Inc.

Argonaut Gold

P.O. Box 330

Imlay, NV 89418

775-538-7300

Company employees: 264

Contract employees: 43

Production:

Gold - 70,477 oz

Silver - 54,720 oz

#### Relief Canyon (12)

Operator:

Gold Acquisition Corp.

P.O. Box 1033

Lovelock, NV 89419

775-273-7019 Fax: 273-7063

Company employees: 11

Production:

Gold - 733 oz

Silver - 2,589 oz

# Relief Canyon Limestone Quarry (13)

Operator:

Nevada Cement Company

1290 West Main Street

Fernley, NV 89408

775-575-2281 Fax: 575-4387

Company employees: 1

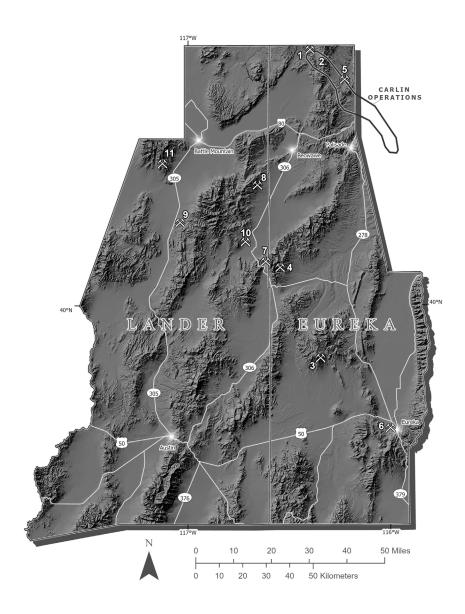
Contract employees: 35

Production:

Limestone - 110,000 tons



Isabella Pearl gold mine, Mineral County (Richard Kauffman photo).



# Section III

# **Eureka County**

#### Betze-Post Mine (1)

Operator:

Nevada Gold Mines, LLC 1655 Mountain City Highway Elko, NV 89801

775-748-1001

Company employees: 431

Production:

Gold - 207,493 oz Silver - 16,640 oz

# Eastern Nevada Operations (2) (Carlin Operations)

Operator:

Nevada Gold Mines, LLC 1655 Mountain City Highway Elko, NV 89801 775-748-1001

Company employees: 2,501

Production:

Gold - 977,661 oz Silver - 55,110 oz

# Gold Bar Mine (3)

Operator:

McEwen Mining Nevada, Inc. 2215 N. 5th Street Elko, NV 89801 775-777-9977

Company employees: 100 Contract employees: 110

Production:

Gold - 43,755 oz Silver - 696 oz

#### Goldrush (4)

Operator:

Nevada Gold Mines, LLC HC 66 Box 1250 Crescent Valley, NV 89821 775-468-4400 Fax: 468-4496 Company employees: 216 Contract employees: 86

Production:

Gold - 81,686 oz

# Maggie Creek Operation (5)

Operator:

Progressive Contracting, Inc. P.O. Box 1930 St. George, UT 84771 435-628-6662 Fax: 628-7314 Company employees: 17 Production:

Barite - 55,932 tons

### Ruby Hill Mine (6)

Operator:

i-80 Gold Corp. P.O. Box 676 Eureka, NV 89316 775-304-0286

Company employees: 20

Production:

Gold - 6,100 oz Silver - 9,100 oz

# **Lander County**

# Cortez Hills Underground Mine (7)

Operator:

Nevada Gold Mines, LLC HC 66 Box 1250

Crescent Valley, NV 89821 775-468-4400 Fax: 468-4496

> Company employees: 326 Contract employees: 83

Production:

(underground only, excluding the openpit)

> Gold - 356,460 oz Silver - 62,357 oz

### Fire Creek Mine (8)

Operator:

Klondex Gold and Silver Mining Co. (Hecla Mining Co.) 4000 W. Winnemucca Blvd. Winnemucca, NV 89445 775-530-0780

Company employees: 2

Production:

Gold - 683 oz

# **Mountain Springs Mine (9)**

Operator:

M-I LLC P.O. Box 370 2 North Second Street Battle Mountain, NV 89820 775-635-5135

Company employees: 44

Production:

Barite - 152,717

## Pipeline Mine (10)

Operator:

Nevada Gold Mines, LLC HC 66 Box 1250 Crescent Valley, NV 89821 775-468-4400 Fax: 468-4496 Company employees: 735 Contract employees: 210

#### Production:

(includes the Cortez Hills open pit) Gold - 450,178 oz Silver - 64,287 oz

#### Phoenix Mine (11)

Operator:

Nevada Gold Mines P.O. Box 1657 Battle Mountain, NV 89820 775-635-6514 Company employees: 474 Contract employees: 351

#### Production:

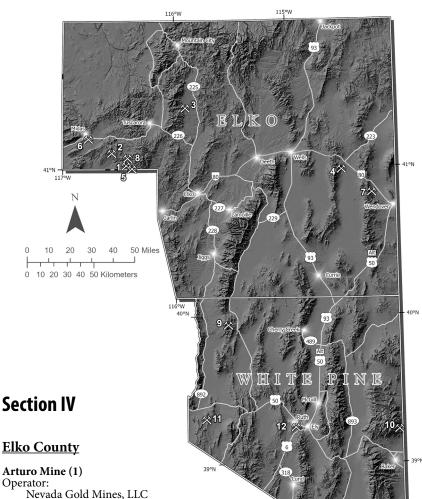
Gold - 199,994 oz Silver - 952,702 oz Copper - 35,406,713 pounds



Copper Cathode - Phoenix copper-gold mine, Lander County (Nevada Gold Mines photo).



Phoenix copper-gold mine, Lander County (Nevada Gold Mines photo).



Arturo Mine (1)

Operator:

1655 Mountain City Highway Elko, NV 89801 775-748-1001

Company employees: 59

Production:

Gold - 21,211 oz

# Hollister Mine (2)

Operator:

Klondex Hollister Mine, Inc. 4000 W. Winnemucca Blvd. Winnemucca, NV 89445

775-530-0780

Company employees: 8

Production: Gold -

No mining occured in 2023

# Jerritt Canyon Mine (3)

Operator:

First Majestic Silver P.O. Box 2778 Elko, NV 89803 775-738-5600 Fax: 551-9810 Company employees: 60 Contract employees: 10

Production:

Gold - 21,101 oz

Elko and White Pine continued on page 15 after the centerfold.



Carlin-Goldstrike gold processing autoclave, Elko County (Nevada Gold Mines photo)



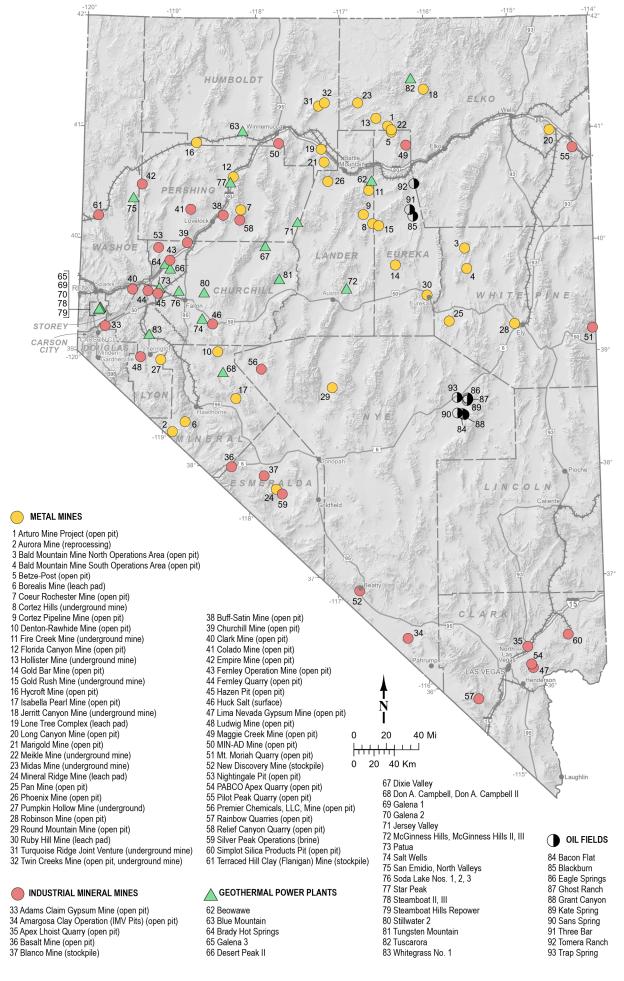
Carlin gold processing mill, Elko County (Nevada Gold Mines photo)



El Nino portal/Arturo gold mine, Elko County (Nevada Gold Mines photo).



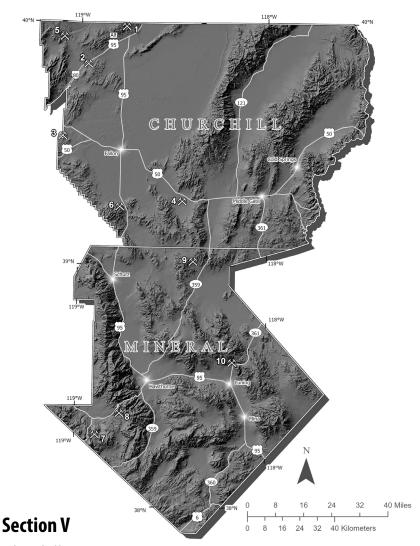
Underground drill rig- Cortez Hills Underground gold mine, Lander County (Nevada Gold Mines photo).



# **Section IV (continued)**

Long Canyon Mine (4) Operator:	White Pine County
Nevada Gold Mines, LLC	<b>Bald Mountain Mine North &amp; South</b>
688 Johnson Ranch Rd.	Operations (9)
Oasis, NV 89835	Operator:
775-748-1001	KG Mining (Bald Mountain), Inc.
Company employees: 14	Kinross Gold Corp.
Contract employees: 14	435 Jiggs Hwy., Unit 16
Production:	Spring Creek, NV 89815
Gold - 15,002 oz Silver - 897 oz	775-237-5911 Fax: 237-7101
311VET - 697 OZ	Company employees: 532
Meikle Mine (5)	Contract employees: 175
Operator:	Production:
Nevada Gold Mines, LLC	Gold - 143,105 oz
1655 Mountain City Highway	Silver - 39,211 oz
Elko, NV 89801	M. M. 11 O. (10)
775-748-1001	Mt. Moriah Quarry (10)
Company employees: 521	Operator:
Production:	Mt. Moriah Stone
Gold - 213,026 oz Silver - 17,083 oz	#10 Hatch Rock Road
Silver - 17,005 02	P.O. Box 70
Midas Mine (6)	Baker, NV 89311
Operator:	435-855-2232 Fax: 855-2332
Klondex Midas Operations, Inc.	Company employees: 29 Production:
(Hecla Mining Co.)	
4000 W. Winnemucca Blvd.	Quartzite - 3,257 tons
Winnemucca, NV 89445	Pan Mina (11)
775-304-3779	Pan Mine (11) Operator:
Company employees: 8	GRP Pan, LLC
Production:	(Calibre Mining Corp.)
Gold -	P.O. Box 150278
No mining occured in 2023	Ely, NV 89315
2 · · · · · · · · · · · · · · · · · · ·	775-386-1900
Pilot Peak Quarry (7)	Company employees: 63
Operator:	Contract employees: 141
Graymont	Production:
P.O. Box 2520	Gold - 41,385 oz
West Wendover, NV 89883	Silver - 1,750 oz
775-483-5460	511761 1,750 02
Company employees: 69 Production:	Robinson Mine (12)
Limestone - 1,320,000 tons	Operator:
2,620,000 tollo	KGHM International, Ltd.
Rossi Mine (8)	4342 W. White Pine County Road 44
Operator:	Ruth, NV 89319
Halliburton Energy Services	775-289-7000 Fax: 289-7349
912 Dunphy Ranch Rd.	Company employees: 615
Battle Mountain, NV 89820	Production:
281-840-6535	Copper - 72,986,728 pounds
Company employees: 7	Gold - 23,209 oz
Contract employees: 15	Silver 222,258 oz
Production	Molybdenite - 135,796 pounds

Barite - 171,365 tons



# **Churchill County**

# Churchill Limestone Quarry (1)

Operator:

Nevada Cement Co. 1290 West Main Street Fernley, NV 89408 775-575-2281 Fax: 575-4387 Company employees: 2 Contract employees: 22

Production:

Limestone - 505,650 tons

# **Fernley Diatomite Operations (2)** Operator:

US Silica

9785 Gateway Drive Reno, NV 89521

775-824-7600 Fax: 824-7601 Company employees: 40

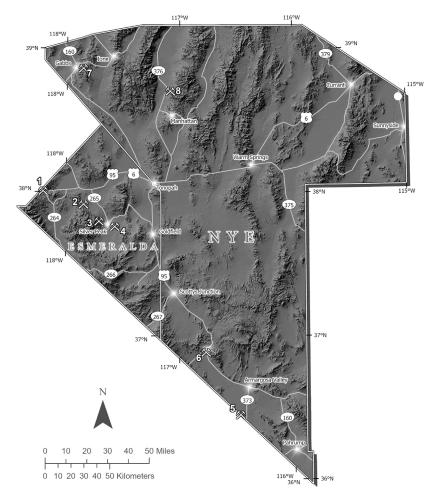
Production:

Diatomite - 62,897 tons

# **Mineral County**

Silver - 41,231 oz

II . M: (2)	
Hazen Mine (3)	Aurora Mine (7)
Operator:	Operator: Klondex Aurora Mine, Inc.
US Silica	(Hecla Mining Co.)
640 Clark Station Rd.	4000 W. Winnemucca Blvd.
Sparks, NV 89434	Winnemucca, NV 89445
775-824-7600 Fax: 824-7601	775-304-3776
Company employees: 0	Company employees: 0
Production:	Production:
Diatomite -	Gold -
No mining occured in 2023	No mining occured in 2023
Huck Salt (4)	Borealis Mine (8)
Operator:	Operator:
Huck Salt Company	Borealis Mining Company, LLC
P.O. Box 1434	P.O. Box 2447
Fallon, NV 89407	Reno, NV 89515
775-423-2055 Fax: 423-0467	775-247-7012
Company employees: 13	Company employees: 12
Shipped:	Production:
Salt - 19,626 tons	Gold - 432 oz
	Silver - 929 oz
Nightingale Mine (5)	
Operator:	Denton-Rawhide Mine (9)
Imerys of California, Inc.	Operator:
100 Front Street	Rawhide Mining, LLC
Fernley, NV 89408	2040 Reno Hwy. #212
775-575-2536	Fallon, NV 89406
Company employees: 16	775-945-1015 Fax: 305-1601
Contract employees: 5	Company employees: 16
Production:	Contract employees: 1
Diatomite - 21,505 tons	Production:
	Gold - 3,124 oz
Perlite Mine (6)	Silver - 13,319 oz
Operator:	
US Silica	Isabella Pearl (10)
P.O. Box 959	Operator:
Lovelock, NV 89419	Fortitude Gold Corp.
775-824-7600 Fax: 824-7601	P.O. Box 247
Company employees: 0	Mina, NV 89422
Production:	775-300-0447
Perlite -	Company employees: 27
No mining occured in 2023	Contract employees: 32
C	Production:
	Gold - 37,996 oz



# **Section VI**

# **Esmeralda County**

# **Basalt Diatomite Mine (1)**

Operator:

Grefco Minerals, Inc. P.O. Box 278 Dyer, NV 89010 775-573-2422

> Company employees: 17 Contract employees: 3

Production:

Diatomite - 8,255 tons

### Blanco Mine (2)

Operator:

Vanderbilt Minerals, Inc. P.O. Box 6660 Pahrump, NV 89041 775-253-0064 Company employees: 7

Production:

Specialty clays -No mining occurred in 2023

# Mineral Ridge Mine (3)

Operator:

Mineral Ridge Gold, LLC 1910 Idaho St., Ste. 102-550

Elko, NV 89801

775-753-4778 Fax: 775-753-4780 Company employees: 4

Production:

Gold -

No mining occured in 2023

### Silver Peak Lithium Operations (4)

Operator:

Albemarle U.S., Inc. P.O. Box 98 Silver Peak, NV 89047 775-380-0330 Fax: 380-0386 Company employees: 65 Contract employees: 35

Shipped:

Lithium compounds - 7,166,000 lbs

# Nye County

## Amargosa Clay Operation (5)

Operator:

Lhoist North America

P.O. Box 86

Amargosa Valley, NV 89020

775-309-3723

Company employees: 42 Contract employees: 7

Production:

Specialty clays - 61,900 tons

## New Discovery Mine (6)

Operator:

Vanderbilt Minerals, LLC

P.O. Box 6660

Pahrump, NV 89041

775-253-0064

Company employees: 7

Production:

Specialty clays -

No mining occurred in 2023

# Premier Magnesia (7)

Operator:

Premier Magnesia, LLC P.O. Box 177

Gabbs, NV 89409

775-285-2601 Fax: 285-4021

Company employees: 117

Shipped:

Magnesium compounds - 113,387 tons

### Round Mountain Mine (8)

Operator:

Round Mountain Gold Corp.

P.O. Box 480

Round Mountain, NV 89045

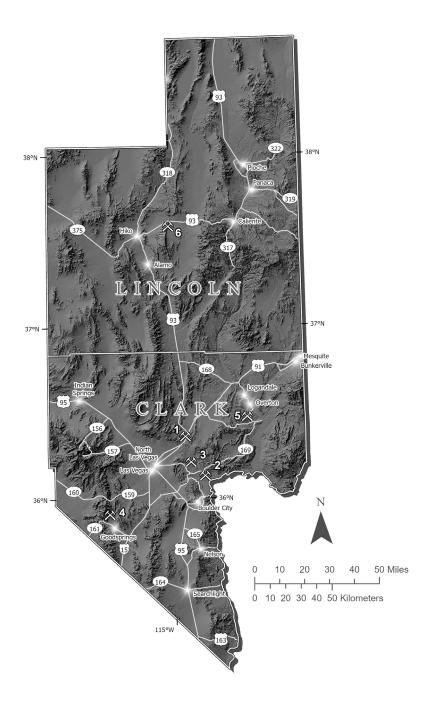
775-377-2366 Fax: 377-3224

Company employees: 755 Contract employees: 154

Production:

Gold - 230,867 oz

Silver - 400,231 oz



# **Section VII**

# **Clark County**

# Apex Quarry (1)

Operator:

Lhoist North America 12101 N. Las Vegas Blvd. Las Vegas, NV 89165 702-643-7702 Fax: 643-9517 Company employees: 107 Contract employees: 1

Production:

Limestone - 1,148,000 tons Dolomite - 250,000 tons

# Lima Nevada Gypsum Mine (2)

Operator:

H. Lima Nevada, LLC
704 E. Yosemite
Manteca, CA 95336
209-239-6787 Fax: 239-6778
Company employees: 10
Production:

### PABCO Gypsum Mine (3)

Gypsum - 73,000 tons

Operator:

Pacific Coast Building Products, Inc. 8000 E. Lake Mead Blvd. Las Vegas, NV 89115 702-407-3700 Fax: 643-6249 Company employees: 16 Contract employees: 3

Production:

Gypsum - 1,293,898 tons

# Rainbow Quarry (4)

Operator:

Las Vegas Rock, Inc.
P.O. Box 19118
2 Jean Prison Rd.
Jean, NV 89019
702-791-7625 Fax: 896-4533
Company employees: 10
Production:

Meta-quartzite blocks - 468 tons

# Simplot Silica Products (5)

Operator:

J.R. Simplot Company
P.O. Box 308
Overton, NV 89040
702-397-2667 Fax: 397-2798
Company employees: 33
Shipped:

Silica sand - 752,158 tons

# **Lincoln County**

# **Tenacity Perlite Mine (6)**

Operator:

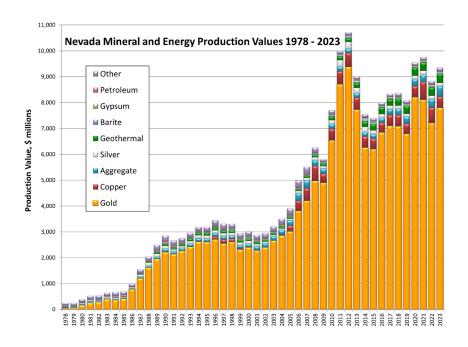
Wilkin Mining & Trucking, Inc. HC 34 Box 199 Caliente, NV 89008 775-728-4463 Company employees: 1

Production:

Perlite - 2,064 tons

# **Summary of 2023 Production**

Gold	4,030,556	ounces
Silver	5,527,394	ounces
Barite (mined)	324,082	tons
Copper	109,880,753	pounds
Diatomite	281,924	tons
Dolomite	309,382	tons
Gypsum	1,984,942	tons
Limestone	3,137,529	tons
Lithium compounds (shipped)	7,166,000	pounds
Magnesium compounds (shipped)	577,094	tons
Molybdenite	135,796	pounds
Perlite	2,064	tons
Pozzolan	15,000	tons
Quartzite	3,257	tons
Salt (shipped)	19,626	tons
Silica sand (shipped)	752,158	tons
Specialty clays	99,592	tons



# Economic Impacts of Mining in Nevada—2023

Nevada's mining industry recorded approximately \$9.5 billion in total value of all commodities in 2023, representing a 7.9% increase from the \$8.8 billion dollar value recorded in 2022. This increase is largely attributed to the steady increase in gold prices throughout the year. Nearly 83% of the value was driven by gold and silver, which contributed over \$8 billion, based on the actual gross proceeds reported to the Nevada Department of Taxation. According to Kitco Metals Inc. (www.kitco.com), the average prices for gold and silver in 2023 were \$1,932.84 and \$23.63, per troy ounce, respectively. Nevada led the nation in 2023 in the production of gold, barite, lithium compounds, and magnesium compounds. Nevada produced a wide variety of other mineral and energy commodities such as clays, copper, dolomite, geothermal energy, gypsum, lapidary and gemstones, limestone, molybdenite, oil, perlite, salt, silica sand, silver, and specialty aggregates. A summary of commodity production amounts, value, and year-over-year percentage changes can be seen in table 1.

# **Production Highlights**

Nevada's gold production was 4,030,556 troy ounces in 2023 compared to 4,044.977 troy ounces in 2022, a decrease of 0.4%. According to the U.S. Geological Survey, Nevada remains the nation's top gold producer with about 73% (124 metric tons) of the U.S. total (170 metric tons) and would rank 5th in world gold production behind China (370), Australia (310), Russia (310), and Canada (200). A summary of 2023 metal production, ranked by producer, is shown in table 2.

# **Employment**

According to the Nevada Department of Employment, Training, and Rehabilitation, the Nevada minerals industry, including support activities and oil and gas extraction, directly employed an average of 14,592 people in 2023. The average yearly pay for mineral industry employees during this time was \$113,000, the third highest average private employment sector in the state, behind Company Management and Utilities. Mining employment remains an important factor in the economic diversity of Nevada.

•	Production		YOY	١	OY Value
Commodity	Amount	Unit	Change (%	) Value (\$) C	hange (%)
Gold*	4,030,556	ounces	-0.4%	\$7,790,419,859	8.2%
Silver*	5,527,294	ounces	1.0%	\$130,603,988	8.7%
Barite (shipped)	382,792	tons	-15.6%	\$41,105,574	13.7%
Copper*	109,880,753	pounds	-22.5%	\$425,334,989	-16.2%
Diatomite	281,924	tons	-13.9%	\$58,304,549	-2.4%
Dolomite*	59,382	tons	17.6%	\$5,675,533	3 23.2%
Gypsum	1,984,942	tons	-24.8%	\$48,606,388	-4.8%
Limestone*	3,389,529	tons	-15.4%	\$35,081,882	8.5%
Lithium compounds (shipped)	7,166,000	pounds	-13.7%	\$172,197,316	65.2%
Magnesium compounds (shippe	ed) 113,387	tons	-7.4%	\$9,816,903	3 4.4%
Molybdenite*	135,796	pounds	-50.7%	\$2,512,226	30.3%
Perlite	2,064	tons	152%	\$625,247	11.7%
Salt (shipped)	19,626	tons	9.0%	\$1,138,040	-25.8%
Silica sand (shipped)	752,158	tons	-2.5%	\$22,749,841	-2.4%
Specialty clays*	99,592	tons	-7.8%	\$12,869,790	-2.9%
Geothermal energy (sold)	4,376,769	megawatt hours	10.4%	\$341,604,265	5.9%
Oil (sold)*	203,076	barrels	-13.3%	\$14,632,688	-24.2%
Aggregates (USGS)	38,400,000	tons	18.2%	\$413,000,000	28.7%
		To	otal Value	\$9,526,279,078	3

<sup>\*</sup>Differences in production and value amounts due to differing accounting methodologies between state agencies.

# **Permitting and Reclamation**

Before mining can begin, plans of operation must be submitted and permits obtained from federal, state, and local governments to ensure that resources such as wildlife, air, and water are protected. Nevada and federal laws and regulations require that lands disturbed by mining activities be rehabilitated, so they can be used for other activities once mining is completed. This process, called reclamation, returns mined areas to other productive practices such as livestock grazing, wildlife habitat, recreation opportunities, or other natural resource uses. To ensure that reclamation is completed, mine operators are required to post reclamation bonds with government agencies prior to commencement of operations. The bonds are released only after the mined area is stabilized and all the reclamation requirements have been met. According to the Nevada Division of Environmental Protection, approximately \$4.1 billion in reclamation bonds and other financial assurance are currently posted. Mine operators are proud of their efforts and are constantly seeking ways to enhance their reclamation technology while addressing environmental concerns. In 2023, two operators received the Nevada Excellence in Mine Reclamation Award for their exemplary efforts. Coeur Mining Inc, recieved an award in the category of Wildlife Habitat Restoration for thier Duffy Pond restoration project at the Rochester Mine in Pershing County, and Kinross Mining Inc, recieved an award in the category of Leadership in Concurrent Reclamation at thier Process 1 Heap Leach Facility Reclamation Project at their Bald Mountain Mine in White Pine County. Information on the award and past award winners can be found at <a href="https://minerals.nv.gov/Programs/Mining/MiningExcMineRec/">https://minerals.nv.gov/Programs/Mining/MiningExcMineRec/</a>.

#### **Gold Reserves**

Gold reserves are defined as that portion of a gold deposit known to be economically feasible for extraction. The amount of stated reserves changes with commodity prices and operating costs or when new reserves are added through exploration. Extensive gold resources are known to exist at or near many mining operations in Nevada. An increase in the gold price with all else being equal would mean many companies would be able to reclassify their resources into a reserve category. An increase in the cost of regulatory compliance or the application

Table 2. 2023 Nevada Metal Production, by Producer

Operator	Gold (ozs)	Silver (ozs)	Copper (lbs)	Moly (lbs)
Nevada Gold Mines	3,037,097	1,332,464	35,406,713	
Kinross	388,097	443,310		
SSR Mining	278,488	6,173		
Florida Canyon Mining (Argonaut Gold)	70,477	54,720		
i80 Gold	45,000	11,100		
McEwen Mining	43,775	696		
Calibre Gold	41,385	1,750		
Coeur	38,775	3,390,451		
Fortitude Gold	37,996	41,231		
KGHM International	23,209	222,258	72,986,728	135,796
First Majestic Silver	21,101	NR		
Rawhide Mining	3,124	13,319		
Gold Aquisition Corp.	733	2,589		
Klondex (Hecla)	683	NR		
Borealis Mining	423	929		
Nevada Copper	212	6,304	1,487,312	
Geo-Nevada	1	0		
Totals	4,030,556	5,527,294	109,880,753	135,796

of gross royalties levied on production can have the same effect as a lowering of the gold price, thereby reducing reserves. For the larger operating mines, the publicly reported reserves for the year ending 2023 totaled approximately 39 million ounces of gold. Assuming similar economic conditions without any reserve replacement, current reserves are sufficient to sustain gold production near current levels in Nevada for about ten years (table 3).

# **Exploration**

Exploration for new deposits is an ongoing effort by both the existing operating companies and many others who do not yet operate mines in the state. Exploration geologists, drillers, assayers, and others who support exploration activities represent a significant positive economic impact, particularly in Nevada's rural areas. Exploration activity and funding are closely tied to economic conditions and commodity prices. To quantify the level of exploration activity and the factors responsible for those levels, the Division contracted with the Nevada Bureau of Mines and Geology, who released the results of the biennial exploration survey

in mid 2023, using 2021 and 2022 data recieved from companies involved in metal, geothermal, oil and gas exploration in the State. This informative report, which can be downloaded at <a href="https://pubs.nbmg.unr.">https://pubs.nbmg.unr.</a> edu/NV-exploration-survey-2022-p/es2022. htm, revealed that exploration spending in 2022 increased by 13%, from \$309 million in 2021 to \$350 million in 2022. These are minimum spending amounts, because not all companies reported their expenditures. In 2021, 93% (\$287 million) of exploration expenditures were spent targeting precious metals, which decreased to 79% (\$275 million) in 2022 following a mid-year decrease in gold prices. Expenditures for lithium exploration showed a 141% increase from 4% (\$13 million) in 2021 to 9% (\$30 million) in 2022, following significant increases in lithium prices. Expenditures in the base metal exploration sector also increased from 3% (\$10 million) in 2021 to 12% (\$44 million) in 2022, an increase attributable to several large property acquisitions. Employment numbers increased as well from a minimum of 524 people directly employed by companies doing exploration activities in Nevada in 2021, to a minium of 619 in 2022.

Table 3. Nevada Mine Reserves (Proven and Probable) Reported for End of Year 2023

Company	Mine	Gold (ozs)	Silver (ozs)	Copper (lbs)
Argonaut Gold	Florida Canyon	861,000		
Coeur	Rochester	1,238,000	192,885,000	
Calibre	Pan	273,000		
Gold Aquisition	Relief Canyon	631,000	1,597,000	
Fortitude Gold	Isabella Pearl	45,000	485,600	
Hecla	Fire Creek			
Hecla	Hollister			
Hecla	Midas			
KGHM	Robinson	410,000	8,640,000	905,000,000
Kinross	Bald Mountain	489,000		
Kinross	Round Mountain	1,979,000	298,000	
McEwen	Gold Bar	499,000		
Nevada Copper	Pumpkin Hollow	419,000	14,544	6,503,000
NV Gold Mines	Carlin Operations	9,700,000		
	(Includes Goldstrike & Arturo)			
NV Gold Mines	Cortez & Goldrush	9,000,000		
<b>NV Gold Mines</b>	Long Canyon			
<b>NV Gold Mines</b>	Phoenix	1,900,000	23,000,000	507,063,203
NV Gold Mines	Turquoise Ridge & Twin Creeks	8,600,000		
SSR	Marigold	2,863,000		
	Totals	38,708,000	226,920,144	1,418,566,203

# **Oil and Geothermal Activity**

Economic activity from oil and gas exploration and production is relatively minor compared to mining but is locally important to the economy of east-central Nevada. In oil field terms, Nevada is considered a frontier state, meaning its potential is yet to be realized. According to the U.S. Energy Information Administration, the price for a barrel of West Texas Intermediate crude in 2023 ranged from a monthly average low of \$70.31 to a high of \$89.38 and averaged \$77.68 for the year, versus \$94.79 in 2022. Nevada's oil production in 2023 decreased by 15% from 234,686 barrels (42 gallons per barrel) in 2022 to 203,076 barrels sold in 2023, worth approximately \$14.6 million. Table 4 summarizes the number of producing wells and the number of barrels sold by operator and oil field in 2023.

Nevada is rich in geothermal resources and is second only to California in the production of geothermal energy. For 2023, Nevada had 27 plants in 18 geothermal fields that sold approximately 4.3 million megawatt hours of electricity, worth approximately \$342 million (table 5). According to the U.S. Energy Information Association, this is sufficient to power approximately 401,538 residential homes in Nevada for a year. Geothermal heat is also used for a variety of commercial, domestic, and public applications in Nevada. Schools in Elko County, a casino in Washoe County, and homes in Lincoln and Washoe counties are examples of public and private facilities using this renewable energy resource.

#### Conclusion

Nevada's mineral industry continues to be a major economic force in the state. Nevada is a major natural resource producer with significant mineral and energy resources awaiting discovery. Given stable commodity prices, proactive regulatory environment, and high environmental standards this situation should continue for many years to come. Major factors affecting the stability of the Nevada mineral industry are potential future withdrawals of prospecitve federal lands

Table 4. Nevada Oil Production in 2023

Operator	Producing Field	# of Producing Wells	Total Barrels Sold
Makoil	Trap Spring	30	106,881
Grant Canyon	Grant Canyon	3	31,553
Kirkwood	Eagle Springs	11	30,951
Grant Canyon	Blackburn	4	14,686
Grant Canyon	Three Bar	2	6,307
Kirkwood	Ghost Ranch	3	6,210
Grant Canyon	Bacon Flat	1	4,997
Makoil	Ghost Ranch	1	899
Western General	Kate Spring	3	788
Grant Canyon	Sans Spring	1	528
Tomera Oil Fields	Tomera Ranch	-	176
Kirkwood	Sand Dune	-	-
	Totals	59	203,076

Table 5. Nevada Geothermal Production in 2023 by Company

Company (including all subsidiaries)	Total Output (Sales) MWh	% of Total
Ormat Nevada Inc.	3,752,186	85.7%
Cyrq Energy	411,979	9.4%
Enel North America Inc.	144,243	3.3%
Star Peak Geothermal	50,150	1.2%
Homestretch Energy/Whitegrass No. 1 LLC	18,211	0.42%
Tota	I 4,376,769	

from mineral entry and leasing, special land designations or development stipulations that make it challenging or unfeasable to proceed with mineral development, and uncertainty surrounding mining laws and regulations.

As exploration for critical minerals gains momentum, Nevada's rich mineral endowment makes this state a prime location to explore. Of the 50 critical minerals published in the Federal Register on February 24, 2022, 33 minerals have known occurrences or deposits in Nevada. With its rich mineral endowment and favorable regulatory environment, Nevada ranked as the 2nd best mining jurisdiction in the world based on the Investment Attractiveness Index in the Fraser Institute's 2023 annual survey.

#### Data

The Nevada Division of Minerals and the Nevada Bureau of Mines and Geology continuously strive to provide data for the mineral, oil-gas, and geothermal exploration and mining community. The websites listed below have been developed to provide spatial data for Nevada explorers and beyond. The websites are free to use, and the data are free to download.

# Nevada Division of Minerals (NDOM) Open Data Site https://ndomdata.com

Nevada Bureau of Mines and Geology Open Data Site

 $\underline{https://data-nbmg.opendata.arcgis.com/}$ 

C.L.A.I.M.S. https://miningclaim.org

All data included in this publication, both current and historic, have been digitized and are available within the Nevada Mineral Production Experience located on the main page of the NDOM Open Data Site.



Pump Jack Railroad Valley, Nye County (Dustin Holcomb photo).

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# The Nevada Bureau of Mines and Geology

The Nevada Bureau of Mines and Geology (NBMG) is a research and public service unit of the University of Nevada, Reno (UNR) and is the state geological survey, applying its expertise across the entire state. NBMG is part of the Mackay School of Earth Sciences and Engineering within the College of Science at UNR.

NBMG scientists conduct research and publish reports on mineral resources, engineering geology, environmental geology, hydrogeology, geologic hazards, and geologic mapping. Individuals interested in Nevada geology are encouraged to visit, call, write NBMG, or visit our website.

# https://www.nbmg.unr.edu

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