

Major Mines of Nevada 2020

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)
Mary Korpi (Small-Scale Mining and Prospecting)
Nigel Bain (Large-Scale Mining)
Randy Griffin (Small-Scale Mining and Prospecting)
Arthur Henderson (Oil and Gas)
Bob Felder (Exploration and Development)
Stephanie Hallinan (Large-Scale Mining)

Division of Minerals Staff

Mike Visher - Administrator, Division of Minerals
Courtney Brailo - AML/Fluid Minerals Field Specialist
Sean Derby - Chief, Abandoned Mine Lands Program
Rebecca Ely - Public Outreach/AML Field Specialist
Robert Ghiglieri - Deputy Administrator
Valerie Kneefel - Program Officer II
Sherrie Nuckolls - Administrative Assistant IV, Carson City Office
Lucia Patterson - GIS/Field Specialist-Geologist
Cortney Luxford - Program Manager, Oil, Gas, and Geothermal
Deborah Selig - Administrative Assistant IV, Las Vegas Office
Garrett Wake - Southern Nevada Programs Manager

Cover photo: Photo of the Robinson open-pit mining operation in White Pine County.
(Garrett Wake photo).

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.

<http://www.nbmг.unr.edu>

Most NBMG scientists (Director and research faculty), cartographic, and administrative staff are located on the **University of Nevada campus**, 775-794-6691.

U.S. Mail:

Nevada Bureau of Mines and Geology
Mail Stop 178
University of Nevada
Reno, NV 89557-0178

UPS or Federal Express:

Nevada Bureau of Mines and Geology
University of Nevada / Mail Stop 178
1664 N. Virginia Street
Reno, NV 89503

Publication Sales and Information Office

Nevada Bureau of Mines and Geology
Great Basin Science Sample and Records Library
2175 Raggio Parkway
Reno, NV 89512

Please contact the Publication Sales Office to purchase NBMG geologic maps and reports and U.S. Geological Survey geologic maps, publications, and topographic maps. Walk-in customers, please note: **The cash register closes at 3:00 p.m. (Tuesday–Friday).**

Phone: (775) 682-8766 (Tuesday–Friday, 8:00 a.m.–3:00 p.m., PST)
E-mail: nbmg@unr.edu
Web: www.nbmг.unr.edu

Please contact the Information Office for information on aerial photographs; cuttings, core, and well records for oil, gas, and geothermal; and general geological information.

Phone: (775) 682-8767 (Tuesday–Friday, 8:00 a.m.–3:00 p.m., PST)
E-mail: nbmg@unr.edu

The University of Nevada, Reno is an Equal Opportunity/Affirmative Action employer and does not discriminate on the basis of race, color, religion, sex, age, creed, national origin, veteran status, physical or mental disability, and in accordance with university policy, sexual orientation, in any program or activity it operates. The University of Nevada, Reno employs only United States citizens and aliens lawfully authorized to work in the United States.



Major Mines of Nevada 2020

Mineral Industries in Nevada's Economy

By Mike Visser and Lucia Patterson
The Nevada Division of Minerals

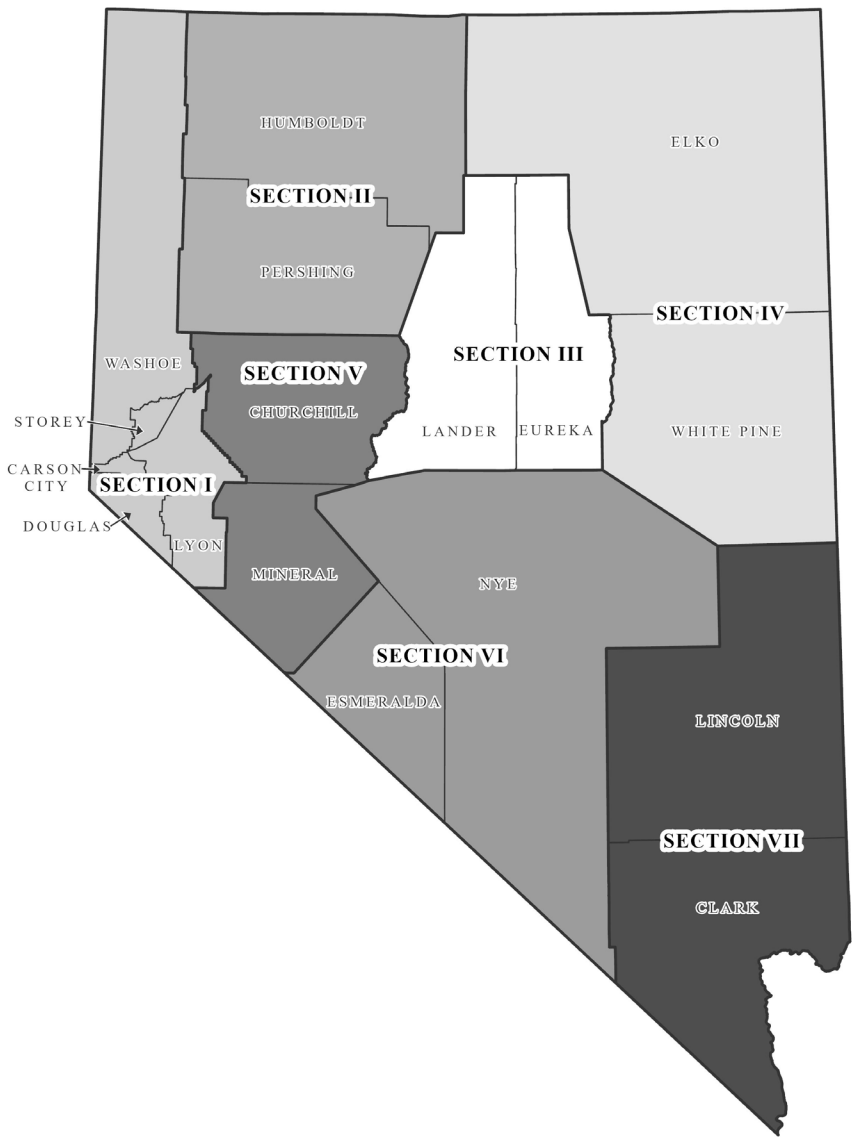
2021

This is the thirty-second 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 2020 was provided by the individual mine 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, fax (775) 684-7052, or visit their Web site at <http://minerals.nv.gov>.

College of Science
Mackay School of Earth Sciences and Engineering



University of Nevada, Reno



Contents

Major mines

Section I	
Lyon County	5
Storey County	5
Washoe County	5
Section II	
Humboldt County	6
Pershing County	8
Section III	
Eureka County	11
Lander County	12
Section IV	
Elko County	14
White Pine County	15

Major mines, oil fields, and geothermal plants, 2020 (centerfold map)

Section V	
Churchill County	16
Mineral County	17
Section VI	
Esmeralda County	18
Nye County	19
Section VII	
Clark County	21
Lincoln County	21

Summary of 2020 production	22
-----------------------------------	----

Economic impacts of mining in Nevada—2020	23
--	----

Index	28
--------------	----



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: 34

Production:

Gypsum - 271,976 tons
Limestone - 301 tons

Ludwig Mine (2)

Operator:

Art Wilson Co.
P.O. Box 20160
Carson City, NV 89721
775-882-0700

Company employees: 1

Production:

No mine production in 2020

NCC Fernley Operations (3)

Operator:

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

Company employees: 116

Production:

Limestone - 19,430 tons

NCC Mustache Mine (4)

Operator:

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

Company employees: 2

Production:

Pozzolan - 30,634 tons

Pumpkin Hollow (5)

Operator:

Nevada Copper, Inc.
61 East Pursel Ln.
Yerington, NV 89447
775-463-3510 Fax: 463-4130

Company employees: 83

Contract employees: 203

Production:

Copper - 2,667,827 pounds
Gold - 293 oz
Silver - 10,757 oz

Storey County

Clark Mine (6)

Operator:

US Silica
640 Clark Station Rd.
Sparks, NV 89434
775-824-7700 Fax: 824-7715

Company employees: 4

Contract employees: 5

Production:

Diatomite - 83,243 tons

Washoe County

NCC Flanigan Mine (7)

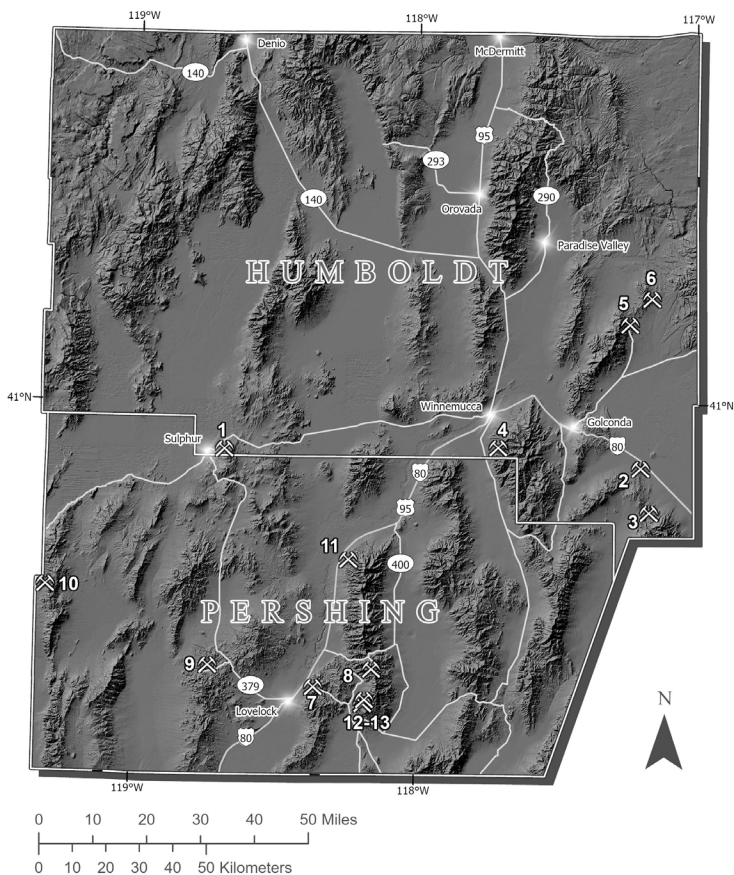
Operator:

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

Company employees: 1

Production:

Specialty Clay - 4,889 tons



Section II

Humboldt County

Hycroft Mine (1)

Operator:

Hycroft Mining, Corp.
P.O. Box 3030
Winnemucca, NV 89446
775-623-5260 Fax: 201-1045
Company employees: 235
Contract employees: 25

Production:

Gold - 27,392 oz
Silver - 178,836 oz

Lone Tree Complex (2)

Operator:

Nevada Gold Mines, LLC
1655 Mountain City Highway
Elko, NV 89801
775-778-4000 Fax: 778-4360
Company employees: 25

Production:

Gold - 12,602 oz
Silver - 5,291 oz

Marigold Mine (3)

Operator:

SSR Mining
P.O. Box 160
Valmy, NV 89438
775-502-4800

Company employees: 440

Contract employees: 18

Production:

Gold - 234,443 oz
Silver - 3,329 oz

MIN-AD Mine (4)

Operator:

MIN-AD, Inc.
P.O. Box 39
Winnemucca, NV 89446
775-623-5944 Fax: 623-9028

Company employees: 11

Production:

Dolomite - 37,075 tons

Turquoise Ridge Underground Mine (5)

Operator:

Nevada Gold Mines, LLC
2055 Getchell Mine Rd.
Golconda, NV 89414
775-529-5001

Company employees: 473

Contract employees: 200

Production:

Gold - 287,144 oz

Twin Creeks Mine (6)

Operator:

Nevada Gold Mines, LLC
P.O. Box 69
Golconda, NV 89414
775-529-5001 Fax: 748-3125

Company employees: 417

Contract employees: 60

Production:

Gold - 249,662 oz

Pershing County

Buff/Satin Mine (7)

Operator:

Vanderbilt Minerals, LLC
P.O. Box 6660
Pahrump, NV 89041
775-537-6976 Fax: 537-6879

No mine production in 2020

Coeur Rochester Mine (8)

Operator:

Coeur Rochester, Inc.
P.O. Box 1057
Lovelock, NV 89419
775-273-7995
Company employees: 289
Contract employees: 69

Production:

Gold - 27,147 oz
Silver - 3,174,529 oz

Colado Mine (9)

Operator:

US Silica
P.O. Box 959
Lovelock, NV 89419
775-824-7600 Fax: 824-7633
Company employees: 35

Production:

Diatomite - 258,922 tons

Empire Gypsum Mine (10)

Operator:

Empire Mining Co., LLC
P.O. Box 157
Gerlach, NV 89145
775-800-4569 Fax: 702-921-9552
Company employees: 50
Contract employees: 5

Production:

Gypsum - 510,549 tons

Florida Canyon Mine (11)

Operator:

Florida Canyon Mining, Inc.
Alio Gold purchased by
Argonaut Gold in 2020
P.O. Box 300
Imlay, NV 89418
775-538-7300
Company employees: 241
Contract employees: 11

Production:

Gold - 46,865 oz
Silver - 27,489 oz

Relief Canyon (12)

Operator:

Gold Acquisition Corp.
P.O. Box 1033
Lovelock, NV 89419
775-273-7019 Fax: 273-7063
Company employees: 37
Contract employees: 110

Production:

Gold - 5,072
Silver - 14,330

Relief Canyon Limestone Quarry (13)

Operator:

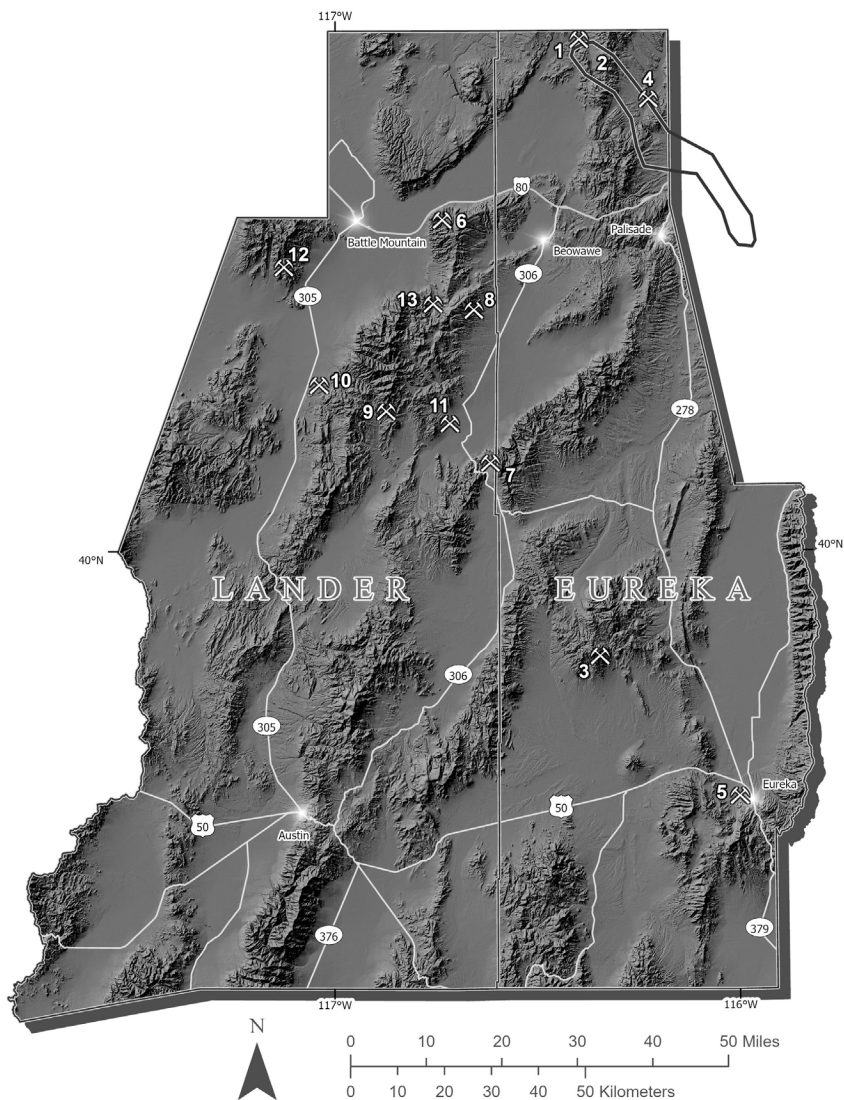
Nevada Cement Company
1290 West Main Street
Fernley, NV 89408
775-575-2281 Fax: 575-4387
Company employees: 3

Production:

Limestone - 73,475 tons



*Pumpkin Hollow mill, Lyon County
(Nevada Mining Association photo).*



Section III

Eureka County

Betze-Post Mine (1)

Operator:

Nevada Gold Mines, LLC
1655 Mountain City Highway
Elko, NV 89803
775-748-1001

Company employees: 951

Production:

Gold - 418,195 oz
Silver - 21,632 oz

Eastern Nevada Operations (Carlin Operations) (2)

Operator:

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

Company employees: 1,819

Production:

Gold - 860,404 oz
Silver - 9,875 oz

Gold Bar Mine (3)

Operator:

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

Company employees: 84

Contract employees: 65

Production:

Gold - 27,910 oz

Maggie Creek Operation (4)

Operator:

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

Production:

No mine production in 2020

Ruby Hill Mine (5)

Operator:

Ruby Hill Mining Co.
P.O. Box 676
Eureka, NV 89521
775-401-6435

Company employees: 13

Contract employees: 32

Production:

Gold - 3,252 oz
Silver - 5,153 oz

Lander County

Argenta Mine (6)

Operator:

Baker Hughes Oilfield Operations, LLC
P.O. Box 277
Battle Mountain, NV 89820
775-625-8700 Fax: 635-5455
Company employees: 17
Contract employees: 6

Production:

No mine production in 2020

Cortez Hills Underground Mine (7)

Operator:

Nevada Gold Mines, LLC
HC66 Box 1250
Crescent Valley, NV 89821
775-468-4400 Fax: 468-4496
Company employees: 418
Contract employees: 278

Production:

(underground only, excluding the open-pit)

Gold - 362,821 oz
Silver - 30,800 oz

Fire Creek Mine (8)

Operator:

Klondex Gold and Silver Mining Co.
(Hecla Mining Co.)
4000 W. Winnemucca Blvd.
Winnemucca, NV 89445
775-299-2522
Company employees: 30
Contract employees: 12

Production:

Gold - 31,800 oz
Silver - 37,400 oz

Greystone Mine (9)

Operator:

M-I LLC
P.O. Box 370
2 North Second Street
Battle Mountain, NV 89820
775-635-5135
Company employees: 17

Production:

Barite - 15,300 tons

Mountain Springs Mine (10)

Operator:

M-I LLC
P.O. Box 370
2 North Second Street
Battle Mountain, NV 89820
775-635-5135
Company employees: 17

Production:

Barite - 69,265 tons

Pipeline Mine (11)

Operator:

Nevada Gold Mines, LLC
HC66 Box 1250
Crescent Valley, NV 89821
775-468-4400 Fax: 468-4496
Company employees: 1,075
Contract employees: 715

Production:

(includes the Cortez Hills open-pit)

Gold - 421,700 oz
Silver - 34,613 oz

Phoenix Mine (12)

Operator:

Nevada Gold Mines
1655 Mountain City Highway
Elko, NV 89801
775-778-4000 Fax: 778-4360
Company employees: 483
Contract employees: 50

Production:

Gold - 187,607 oz
Silver - 1,169,367 oz
Copper - 41,957,856 pounds

Slaven Canyon Mine (13)

Operator:

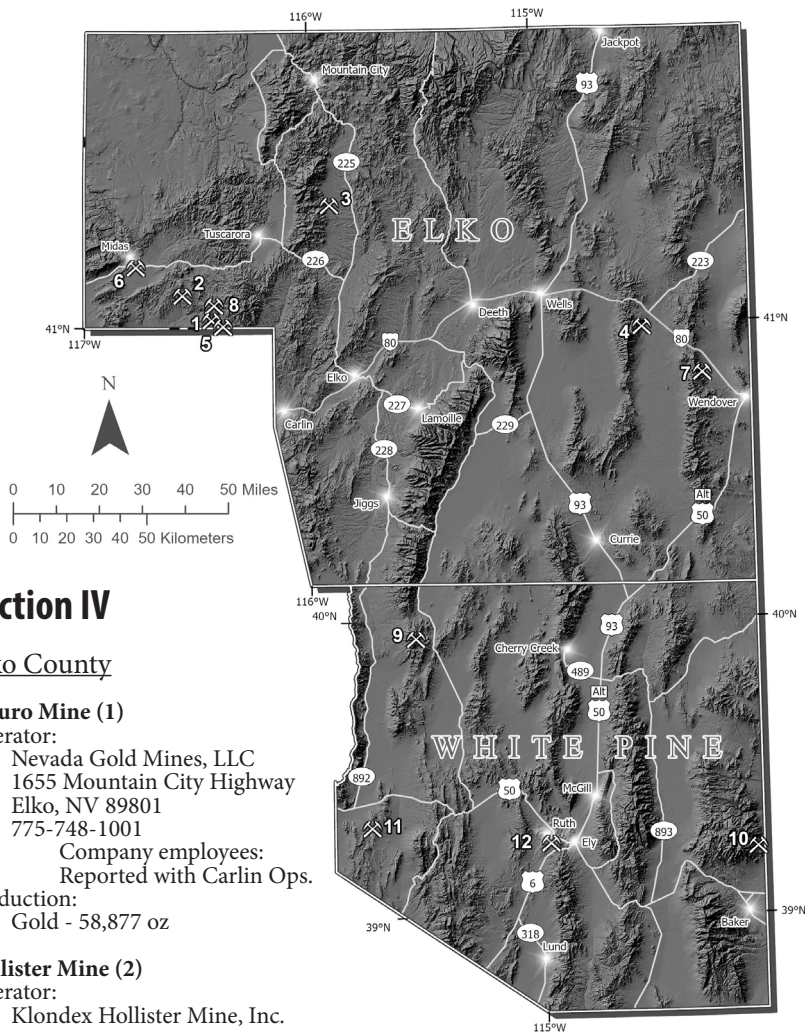
Baker Hughes Oilfield Operations, LLC
P.O. Box 277
Battle Mountain, NV 89820
775-625-8700 Fax: 635-5455
Company employees: 17
Contract employees: 6

Production:

Barite - 53,673 tons



*Cortez Hills open-pit, Lander County
(Nevada Mining Association photo).*



Section IV

Elko County

Arturo Mine (1)

Operator:

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

Company employees:
Reported with Carlin Ops.

Production:

Gold - 58,877 oz

Hollister Mine (2)

Operator:

Klondex Hollister Mine, Inc.
(Hecla Mining Co.)
4000 W. Winnemucca Blvd.
Winnemucca, NV 89445
775-299-2522

Company employees: 6

No mine production in 2020

Jerritt Canyon Mine (3)

Operator:

Jerritt Canyon Gold, LLC
HC 31 Box 78
Elko, NV 89801
775-738-5600 Fax: 758-9233
Company employees: 298
Contract employees: 228

Production:

Gold - 112,749 oz

Long Canyon Mine (4)

Operator:

Nevada Gold Mines, LLC
688 Johnson Ranch Rd.
Oasis, NV 89835
775-748-1001

Company employees: 220
Contract employees: 100

Production:

Gold - 260,650 oz

Elko and White Pine continued on page 15
after the centerfold

Section IV (continued)

Meikle Mine (5)

Operator:

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

Company employees: 533

Production:

Gold - 350,336 oz
Silver - 18,122 oz

Midas Mine (6)

Operator:

Klondex Midas Operations, Inc.
(Hecla Mining Co.)
4000 W. Winnemucca Blvd.
Winnemucca, NV 89445
775-299-2522

Company employees: 14

Contract employees: 4

No mine production in 2020

Pilot Peak Quarry (7)

Operator:

Graymont
P.O. Box 2520
West Wendover, NV 89883
775-483-5460

Company employees: 66

Production:

Limestone - 1,523,599 tons

Rossi Mine (8)

Operator:

Halliburton Energy Services
912 Dunphy Ranch Rd.
Battle Mountain, NV 89820
775-401-1725

Company employees: 2

No mine production in 2020

White Pine County

Bald Mountain Mine North & South Operations (9)

Operator:

KG Mining (Bald Mountain), Inc.
Kinross Gold Corp.
435 Jiggs Hwy., Unit 16
Spring Creek, NV 89815
775-237-7100 Fax: 237-7101

Company employees: 590

Contract employees: 757

Production:

Gold - 190,496 oz
Silver - 64,555 oz

Mt. Moriah Quarry (10)

Operator:

Mt. Moriah Stone
#10 Hatch Rock Road
P.O. Box 70
Baker, NV 89311
435-855-2232 Fax: 855-2332
Company employees: 22

Production:

Quartzite - 3,490 tons

Pan Mine (11)

Operator:

Fiore Gold (US), Inc.
P.O. Box 150278
Ely, NV 89315
775-386-1900

Company employees: 55

Contract employees: 173

Production:

Gold - 46,516 oz

Robinson Mine (12)

Operator:

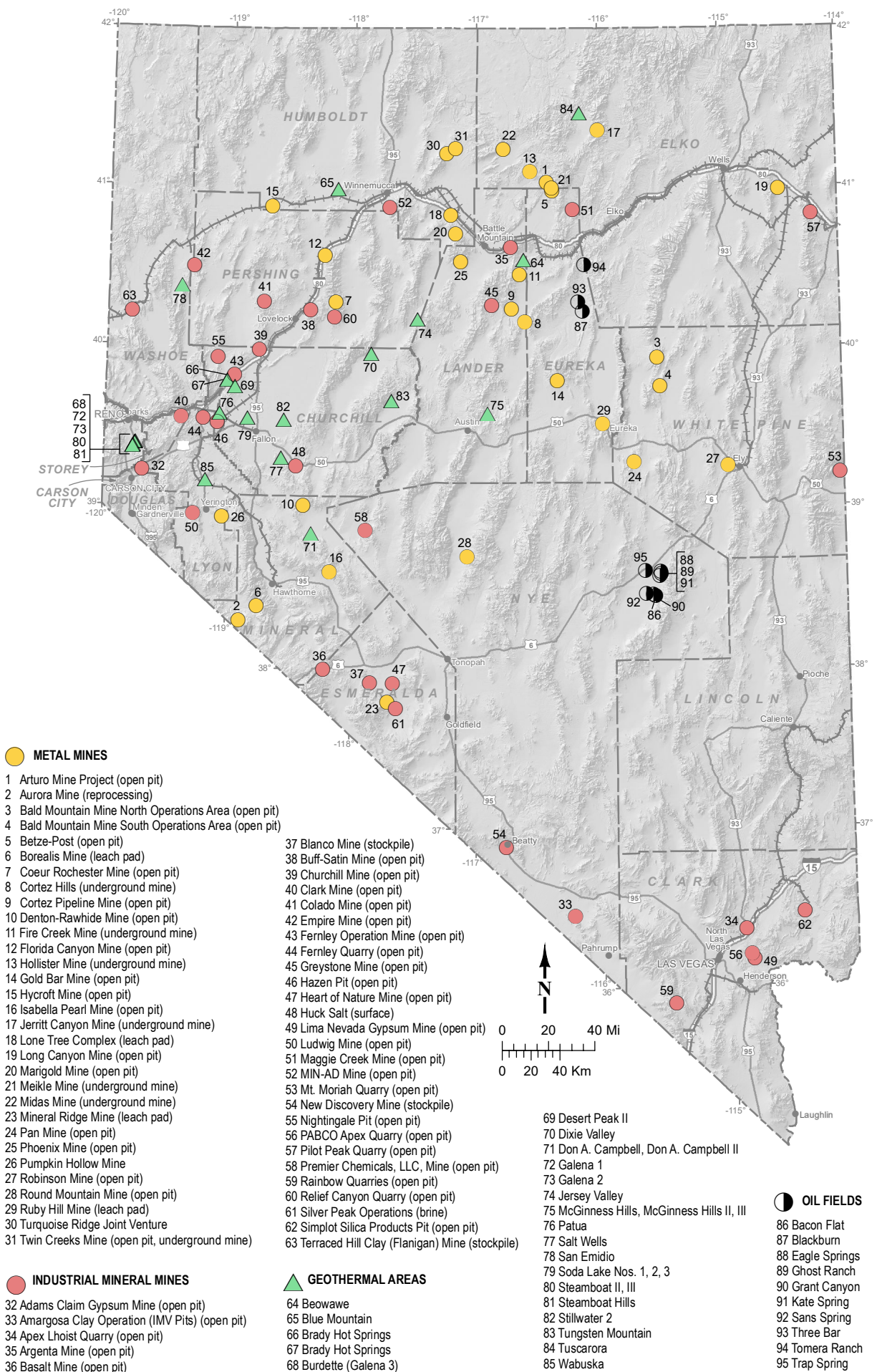
KGHM International, Ltd.
P.O. Box 382
Ruth, NV 89319

775-289-7000 Fax: 289-7349

Company employees: 605

Production:

Copper - 109,639,248 pounds
Gold - 38,801 oz
Molybdenite - 426,538 pounds
Silver - 199,382 oz



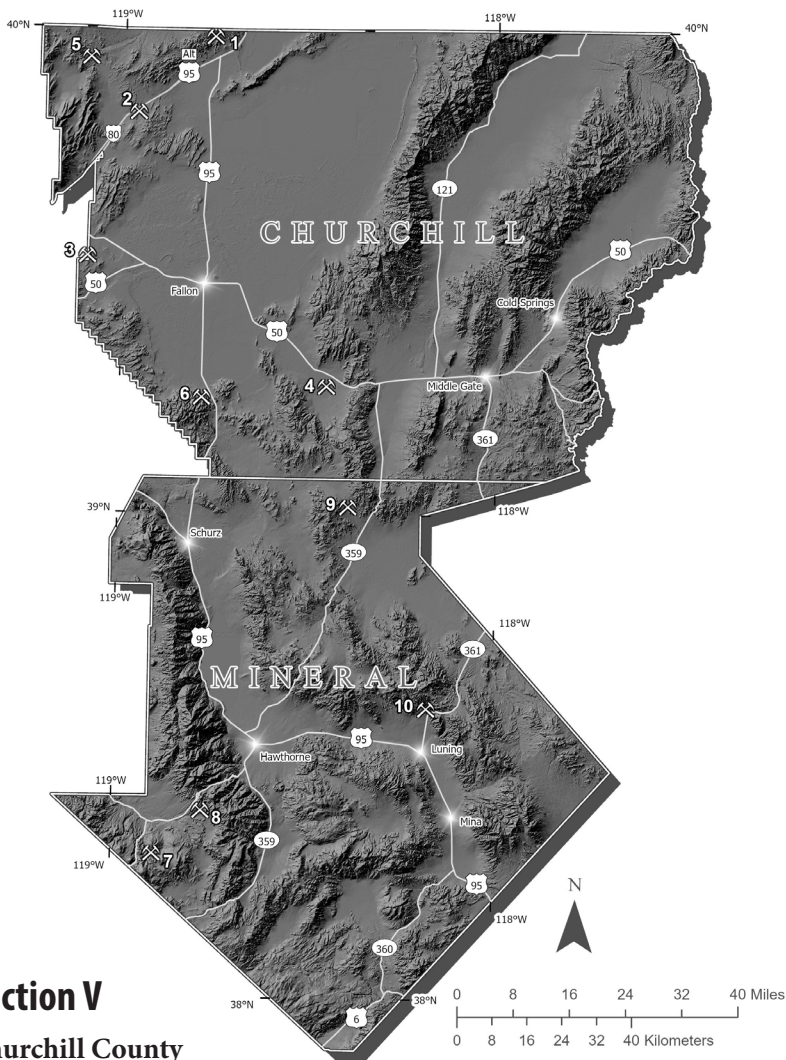
Major mines, oil fields, and geothermal areas, 2020.



*Pumpkin Hollow core shed,
Lyon County (Nevada Mining Association photo).*



*SSR Marigold open-pit,
Humboldt County (Nevada Mining Association photo).*



Section V

Churchill County

Churchill Limestone Quarry (1)

Operator:

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

Company employees: 2
Contract employees: 2

Production:

Limestone - 398,055 tons

Fernley Diatomite Operations (2)

Operator:

US Silica
P.O. Box 860
Fernley, NV 89408
775-423-6668 Fax: 423-6411
Company employees: 35

Production:

Diatomite - 45,692 tons

Hazen Mine (3)

Operator:

US Silica
640 Clark Station Rd.
Sparks, NV 89434
775-824-7700 Fax: 824-7715
Company employees: 2
Contract employees: 4

No mine production in 2020

Huck Salt (4)

Operator:

Huck Salt Company
2900 Phritzie Ln.
Fallon, NV 89406
775-423-2055 Fax: 423-0467
Company employees: 12

Shipped:

Salt - 15,042 tons

Nightingale Mine (5)

Operator:

Imerys of California, Inc.
100 Front Street
Fernley, NV 89408
775-575-2536 Fax: 575-1470
Company employees: 15
Contract employees: 4

Production:

Diatomite - 28,277 tons

Perlite Mine (6)

Operator:

US Silica
640 Clark Station
Sparks, NV 89434
775-824-7700 Fax: 824-7715
Company employees: 5

No mine production in 2020

Mineral County**Aurora Mine (7)**

Operator:

Klondex Aurora Mine, Inc.
(Hecla Mining Co.)
4000 W. Winnemucca Blvd.
Winnemucca, NV 89445
775-299-2522

Company employees: 1

No mine production in 2020

Borealis Mine (8)

Operator:

Borealis Mining Company, LLC
9650 Gateway Drive, STE 202
Reno, NV 89521
775-299-5123

Company employees: 8

Production:

Gold - 310 oz
Silver - 896 oz

Denton-Rawhide Mine (9)

Operator:

Rawhide Mining, LLC
P.O. Box 2070
Fallon, NV 89407
775-945-1015

Company employees: 135

Contract employees: 2

Production:

Gold - 24,078 oz
Silver - 159,049 oz

Isabella Pearl (10)

Operator:

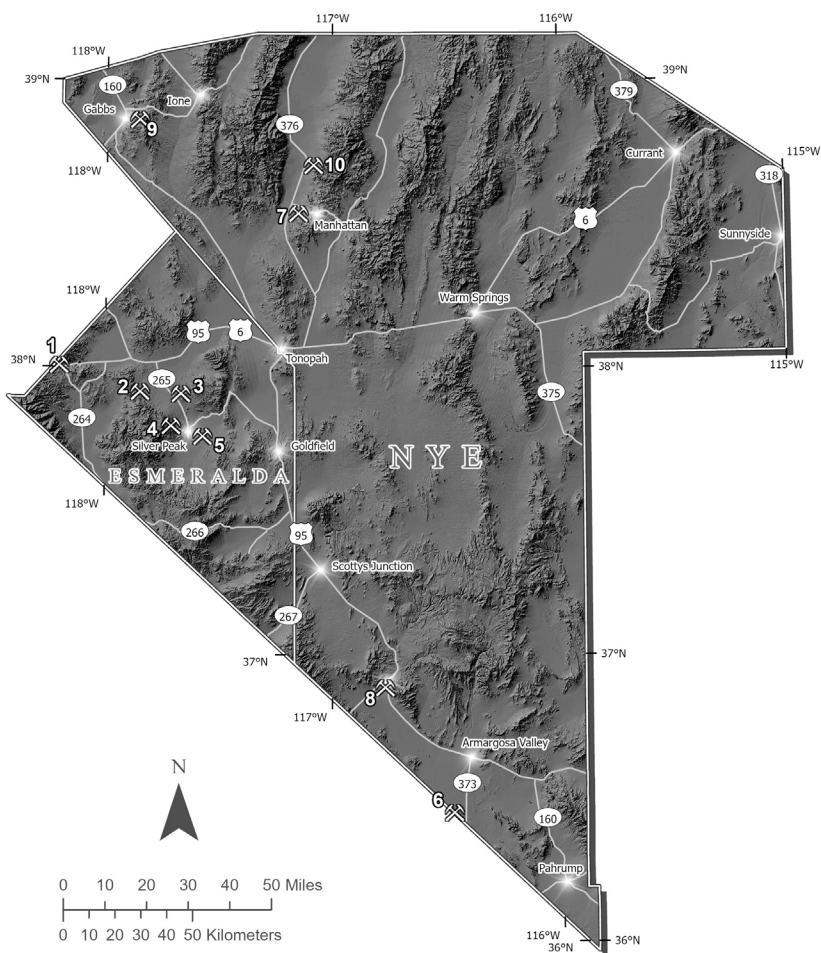
Walker Lane Minerals Corp.
(Fortitude Gold Corp.)
5000 State Route 361
Luning, NV 89420
775-300-1592

Company employees: 55

Contract employees: 48

Production:

Gold - 28,542 oz
Silver - 26,961 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: 15

Contract employees: 3

Production:

Diatomite - 3,759 tons

Blanco Mine (2)

Operator:

Vanderbilt Minerals, Inc.

P.O. Box 6660

Pahrump, NV 89041

775-537-6976 Fax: 537-6879

Company employees: 7

Production:

Specialty clays - No mining
occurred in 2020

Heart of Nature (3)

Operator:

ABM Mining, LLC
871 Coronado Center Dr. Suite #200
Henderson, NV 89052
661-399-9755 Fax: 399-9758
Company employees: 2
Contract employees: 2

Production:

Gypsum/sulfur soil
amendment - 9,131 tons

Mineral Ridge Mine (4)

Operator:

Mineral Ridge Gold, LLC
1910 Idaho St., Ste. 102-550
Elko, NV 89801
775-753-4778 Fax: 775-753-4780
Company employees: 20

Production:

Gold - 2,800 oz
Silver - 1,358 oz

Silver Peak Lithium Operations (5)

Operator:

Albemarle U.S., Inc.
P.O. Box 98
Silver Peak, NV 89047
775-937-2222 Fax: 937-2317
Company employees: 62
Contract employees: 10

Shipped:

Lithium compounds - 6,902,966 lbs

Nye County**Amargosa Clay Operation (6)**

Operator:

Lhoist North America
P.O. Box 86
Amargosa Valley, NV 89020
775-372-5341
Company employees: 41

Production:

Specialty clays - 186,800 tons

Manhattan Gulch (7)

Operator:

Manhattan Gulch, LLC
P.O. Box 72
Manhattan, NV 89022
775-298-8120

Production:

Gold - 745 oz

New Discovery Mine (8)

Operator:

Vanderbilt Minerals, LLC
P.O. Box 6660
Pahrump, NV 89041
775-537-6976 Fax: 537-6879

Production:

Specialty clays - No mining
occurred in 2020

Premier Magnesia (9)

Operator:

Premier Magnesia, LLC
P.O. Box 177
Gabbs, NV 89409
775-285-2601 Fax: 285-4021
Company employees: 115

Shipped:

Magnesium compounds - 124,088 tons

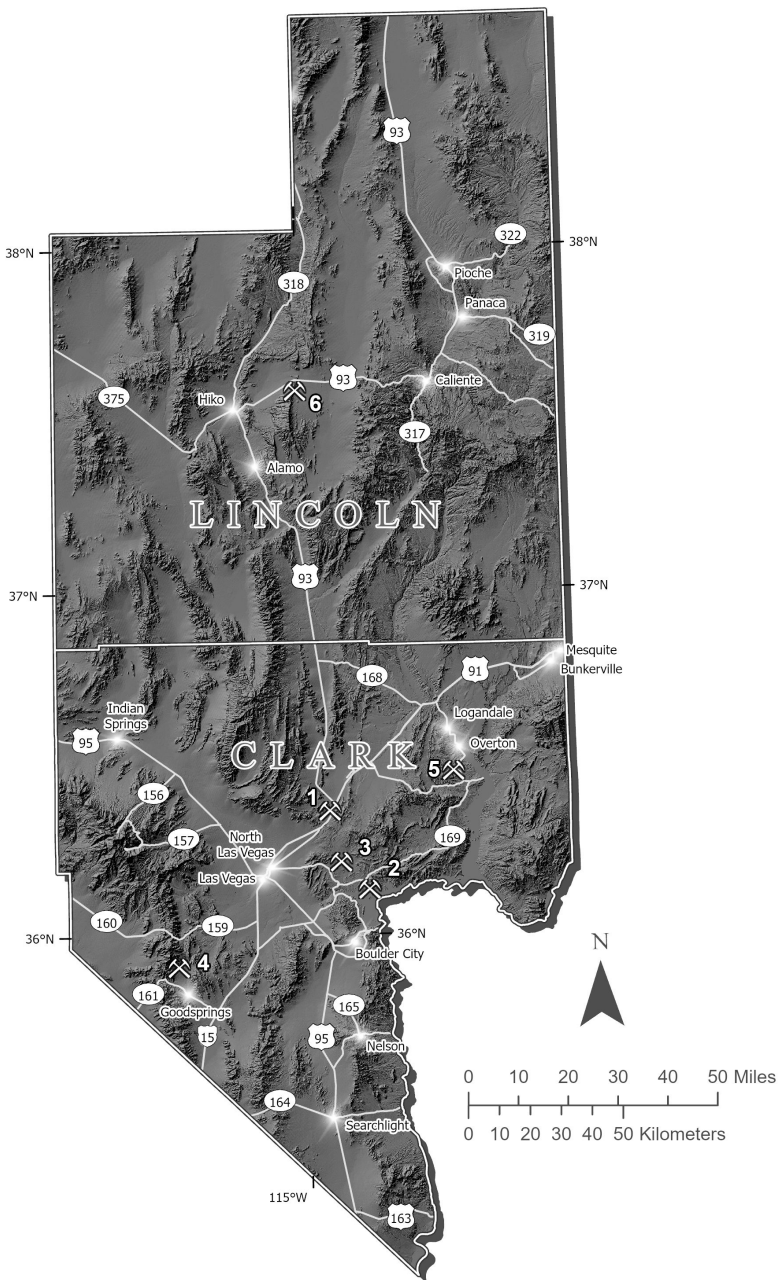
Round Mountain Mine (10)

Operator:

Round Mountain Gold Corp.
P.O. Box 480
Round Mountain, NV 89045
775-377-2366 Fax: 377-3224
Company employees: 850
Contract employees: 150

Production:

Gold - 313,454 oz
Silver - 933,702 oz



Section VII

Clark County

Apex Quarry (1)

Operator:

Lhoist North America
12101 N. Las Vegas Blvd.
Las Vegas, NV 89165
702-643-7702

Company employees: 110

Contract employees: 5

Production:

Limestone - 1,206,000 tons
Dolomite - 321,000 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: 8

Contract employees: 1

Production:

Gypsum - 140,000 tons

PABCO Gypsum Mine (3)

Operator:

Pacific Coast Building Products, Inc.
P.O. Box 890
North Las Vegas, NV 89036
702-407-3710 Fax: 643-6249

Company employees: 19

Contract employees: 4

Production:

Gypsum - 1,494,218 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

Contract employees: 4

Aggregate production only, no dimension
stone mined in 2020

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 - 570,097 tons

Lincoln County

Tenacity Perlite Mine (6)

Operator:

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

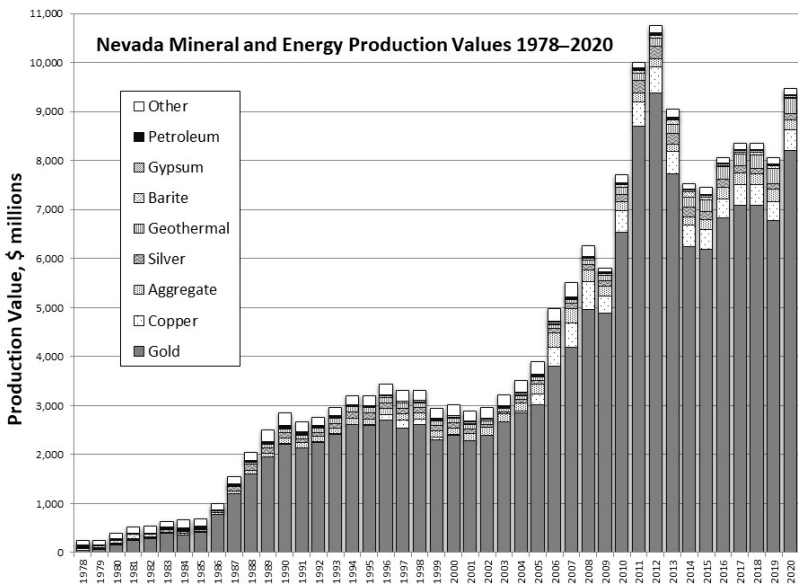
Company employees: 2

Production:

Perlite - 2,715 tons

Summary of 2020 Production

Gold	4,632,690	ounces
Silver	6,127,438	ounces
Barite (mined)	138,238	tons
Copper	154,264,931	pounds
Diatomite	419,893	tons
Dolomite	37,075	tons
Gypsum	2,425,874	tons
Limestone	3,220,860	tons
Lithium compounds (shipped)	6,902,966	pounds
Magnesium compounds (shipped)	124,088	tons
Molybdenite	426,538	pounds
Perlite	2,715	tons
Pozzolan	30,634	tons
Quartzite	3,490	tons
Salt (shipped)	15,042	tons
Silica sand (shipped)	570,097	tons
Specialty clays	191,689	tons



Economic Impacts of Mining in Nevada—2020

Nevada's mining industry recorded approximately \$9.5 billion in total value of all commodities in 2020, representing a 17% increase from the \$8.1 billion dollar value recorded in 2019. Nearly 88% of the value was driven by gold and silver, which contributed over \$8.4 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 2020 were \$1,769.64 and \$20.55, per troy ounce respectively. Nevada led the nation in 2020 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 4,632,690 troy ounces in 2020 compared to 4,868,086 troy ounces in 2019, a decrease of 4.8%. According to the U.S. Geological Survey, Nevada remains the nation's top gold producer with about 74% (141 metric tons) of the U.S. total (190 metric tons) and would rank 4th in world gold production behind China (380), Australia (320), and Russia (300). A summary of 2020 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 15,136 people in 2020. The average yearly pay for mineral industry employees during this time was \$104,205, 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.

Table 1. Summary of 2020 Nevada Mineral Commodity Production

Commodity	Production Amount	Unit	YOY Change (%)	YOY Value (\$)	YOY Value Change (%)
Gold	4,632,690	ounces	-4.8%	\$8,198,192,912	20.9%
Silver	6,127,438	ounces	-2.5%	\$125,888,212	23.6%
Barite (shipped)	166,136	tons	-3.5%	\$23,850,943	-51.8%
Copper	154,264,931	pounds	7.3%	\$431,941,807	10.5%
Diatomite	419,893	tons	52.1%	\$50,859,212	6.9%
Dolomite	37,075	tons	-16.7%	\$4,346,029	-4.4%
Gypsum	2,416,874	tons	25.2%	\$41,371,950	43.6%
Limestone	3,220,860	tons	-15.8%	\$34,676,174	-6.7%
Lithium compounds (shipped)	6,902,966	pounds	-12.5%	\$28,540,089	-20.8%
Magnesium compounds (shipped)	124,088	tons	4.7%	\$8,584,903	34.0%
Molybdenite	426,538	pounds	-44.4%	\$3,868,700	-57.3%
Perlite	2,715	tons	22.7%	\$668,199	-3.8%
Salt (shipped)	15,042	tons	-38.7%	\$511,428	-38.7%
Silica sand (shipped)	570,097	tons	-7.7%	\$14,323,690	-17.2%
Specialty clays	191,689	tons	60.9%	\$11,152,387	-19.6%
Geothermal energy (sold)	3,961,951	megawatt hours	2.7%	\$313,956,383	1.0%
Oil (sold)	218,372	barrels	-17.3%	\$7,329,877	-47.8%
Aggregates	24,700,000	tons	-26.3%	\$197,000,000	-22.7%
Total Value				\$9,497,062,895	

Permitting and Reclamation

Before mining can begin, plans of operation must be submitted and permits obtained from federal and state agencies 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 \$3.3 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 2020, two operators received Nevada Excellence in Mine Reclamation Awards for their exemplary efforts. KGHM Robinson Mine received an award for Legacy Waste Rock Reclamation for their work at the Lane City Waste Rock Facility in White Pine County and Hudbay Minerals/Mason Resources (US) Inc. received an award for Concurrent Exploration Reclamation for their work at the Mason Exploration Project in Lyon County. Information on the award and past award winners can be found at <https://minerals.nv.gov/Programs/Mining/MiningExcMineRec/>.

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 as some reserves are mined out and 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

Table 2. 2020 Nevada Metal Production, by Producer

Operator	Gold (ozs)	Silver (ozs)	Copper (lbs)	Moly (lbs)
Nevada Gold Mines	3,469,998	1,289,700	41,957,856	
Kinross	503,950	998,257		
SSR Mining	234,443	3,329		
Jerritt Canyon Gold	112,749	NR		
Argonaut Gold	46,866	27,490		
Fiore Gold	46,516	NR		
KGHM International	38,801	199,382	109,639,248	426,538
Hecla	31,800	37,400		
Fortitude	28,542	26,961		
McEwen Mining	27,910	NR		
Hycroft Mining	27,392	178,836		
Coeur	27,147	3,174,529		
Rawhide Mining	24,078	159,049		
Gold Aquisition	5,072	14,330		
Ruby Hill Mining	3,252	5,153		
Mineral Ridge Gold	2,800	1,358		
Manhattan Gulch	745	NR		
Borealis Mining	310	896		
Nevada Copper	293	10,757	2,667,827	
Geo-Nevada	18	11		
Toquima Gold	8	NR		
Totals	4,632,690	6,127,438	154,264,931	426,538

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 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 2020 totaled approximately 54 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 early 2021, using 2019 and projected 2020 data. This informative report, which can be downloaded at <http://pubs.nbmgs.unr.edu/NV-exploration-survey-2020-p/es2020.htm>, revealed that precious metals exploration accounted for 63 percent (\$164 million) of \$261 million total exploration spending, down significantly from \$461 million total spent in 2018. Two large companies accounted for nearly 40 percent of the total spending. Approximately 599 people were directly employed by companies doing exploration activities in Nevada in 2019, down from 784 in 2018. Exploration for base metals accounted for 21 percent (\$55 million) and exploration for lithium and other energy metals continues to be significant at 16 percent (\$42 million).

Table 3. Nevada Mine Reserves (Proven and Probable) Reported for End of Year 2020

Company	Mine	Gold (ozs)	Silver (ozs)	Copper (lbs)
Argonaut Gold	Florida Canyon	954,000		
Coeur	Rochester	1,219,000	185,508,000	
Fiore Gold	Pan	290,500		
Gold Aquisition	Relief Canyon	610,000	1,572,000	
GRC	Isabella Pearl	159,600	1,055,000	
Hecla	Fire Creek	30,600	28,500	
Hecla	Hollister			
KGHM	Robinson			959,000,000
Kinross	Bald Mountain	1,143,000		
Kinross	Round Mountain	2,245,000	1,414,000	
McEwen	Gold Bar	843,000		
Nevada Copper	Pumpkin Hollow	1,170,000	36,035	6,503,000
NV Gold Mines	Carlin Operations (Includes Goldstrike & Arturo)	19,512,195		
NV Gold Mines	Cortez & Goldrush	9,756,098		
NV Gold Mines	Long Canyon	357,724		
NV Gold Mines	Phoenix	2,926,829	34,146,341	845,528,455
NV Gold Mines	Turquoise Ridge & Twin Creeks	12,520,325		
SSR	Marigold	3,425,000		
Totals		54,249,371	221,096,841	1,804,528,455

Oil and Geothermal Activity

Economic activity from oil and gas exploration and production is relatively minor when 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 2020 ranged from a monthly average low of \$16.55 to a high of \$57.52 and averaged \$39.23 for the year, versus \$43.51 in 2019. Nevada's oil production in 2020 decreased by 17.3% from 264,115 barrels (42 gallons per barrel) in 2019 to 218,372 barrels sold, worth approximately \$7.3 million. This decrease was largely due to prolonged low oil prices requiring many operators to shut-in uneconomic wells. Table 4 summarizes the number of wells

and barrels sold by operator and field in 2020.

Nevada is rich in geothermal resources and is second only to California in the production of geothermal energy. For 2020, Nevada had 26 plants at 17 fields that sold approximately 4 million megawatt hours of electricity worth approximately \$314 million, (table 5). According to the U.S. Energy Information Association, this is enough to power about 376,000 Nevada residential homes 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.

Table 4. Nevada Oil Production in 2020

Operator	Producing Field	# of Producing Wells	Total Barrels Sold
Makoil	Trap Spring	30	93,908
Grant Canyon	Grant Canyon	3	34,603
Kirkwood	Eagle Springs	12	26,566
Grant Canyon	Blackburn	6	23,012
Western General	Kate Spring	4	14,402
Grant Canyon	Three Bar	6	13,897
Grant Canyon	Bacon Flat	1	4,598
Kirkwood	Ghost Ranch	3	3,045
Makoil	Kate Spring	1	1,521
Makoil	Ghost Ranch	1	1,446
Grant Canyon	Sans Spring	1	1,166
Tomera Oil Fields	Tomera Ranch	1	208
Totals		69	218,372

Table 5. Nevada Geothermal Production in 2020 by Company

Company (including all subsidiaries)	Total Output (Sales) MWh	% of Total
Ormat Nevada Inc.	2,709,327	68%
Terra-Gen Dixie Valley LLC	605,162	15.3%
Cyrq Energy	467,982	11.8%
Enel North America Inc.	154,966	3.9%
Homestretch Energy/Whitegrass No. 1 LLC	24,514	0.6%
Total	3,961,951	

Conclusion

Nevada's mineral industry continued to be a major economic force in the state. Given the many challenges the world faced in 2020, the minerals industry managed to maintain comparable employment and production figures from 2019 while still following guidance and restrictions put forth due to the global pandemic with a total produced value of over \$9 billion dollars in 2020. Given a stable price and regulatory environment, this situation should continue for many years to come. Nevada is a major natural resource producer and has significant mineral and energy resources. Major risks to the stability of the minerals industry are continued withdrawal of federal lands from mineral entry and leasing, and the potential for new taxes imposed on mineral production.



*Drilling Three Bar Federal 25-2 in the
Three Bar oil field, Eureka County
(Lowell Price photo).*



*Tungsten Mountain geothermal plant, Lander County
(Courtney Brailo photo).*

Index

Adams Claim Gypsum Mine	5	Maggie Creek Operation	11
Amargosa Clay Operation	19	Manhattan Gulch	19
Apex Quarry	21	Marigold Mine	7
Argenta Mine	12	Meikle Mine	15
Arturo Mine	14	Midas Mine	15
Aurora Mine	17	MIN-AD Mine	7
Bald Mountain Mine	15	Mineral Ridge Mine	19
Basalt Diatomite Mine	18	Mt. Moriah Quarry	15
Betze-Post Mine	11	Mountain Springs Mine	12
Blanco Mine	18	NCC Flanigan Mine	5
Borealis Mine	17	NCC Fernley Operations	5
Buff/Satin Mine	8	NCC Mustache Mine	5
Carlin Operations	11	New Discovery Mine	19
Churchill Limestone Quarry	16	Nightingale Mine	17
Clark Mine	5	PABCO Gypsum Mine	21
Coeur Rochester Mine	8	Pan Mine	15
Colado Mine	8	Perlite Mine	17
Cortez Hills Underground Mine	12	Phoenix Mine	13
Denton-Rawhide Mine	17	Pilot Peak Quarry	15
Empire Gypsum Mine	8	Pipeline Mine	12
Fernley Diatomite Operations	16	Premier Magnesia	19
Fire Creek Mine	12	Pumpkin Hollow	5
Florida Canyon Mine	8	Rainbow Quarry	21
Gold Bar Mine	11	Relief Canyon	8
Greystone Mine	12	Relief Canyon Limestone Quarry	8
Hazen Mine	17	Robinson Mine	15
Heart of Nature	19	Rossi Mine	15
Hollister Mine	14	Round Mountain Mine	19
Huck Salt	17	Ruby Hill Mine	11
Hycroft Mine	6	Silver Peak Lithium Operations	19
Isabella Pearl Mine	17	Simplot Silica Products	21
Jerritt Canyon Mine	14	Slaven Canyon Mine	13
Lima Nevada Gypsum Mine	21	Tenacity Perlite Mine	21
Lone Tree Complex	6	Turquoise Ridge Underground Mine	7
Long Canyon Mine	14	Twin Creeks Mine	7
Ludwig Mine	5		

Suggested Citation:

Visher, M., and Patterson, L., 2021, Major mines of Nevada 2020—mineral industries in Nevada's economy: Nevada Bureau of Mines and Geology Special Publication P-32, 28 p.

