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

Richard DeLong, Chairman (Large-Scale Mining)
Dennis Bryan, Vice-Chairman (Small-Scale Mining and Prospecting)
Nigel Bain (Large-Scale Mining)
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Division of Minerals Staff

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Mike Visher - Deputy Administrator
Garrett Wake - Chief, Southern Nevada Operations
Linda Wells - Program Officer II

Cover photo: Mineral Ridge Gold’s Mineral Ridge mine (foreground) and Rockwood Lithium’s Silver Peak lithium brine operations (background, upper right), Esmeralda County (Mike Visher photo).
This is the twenty-eighth of an annual series of summary reports on major mines of Nevada. Sand and gravel operations are not included. Information on employment and production for the calendar year 2016 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.
## Section I

### Lyon County

**Adams Claim Gypsum Mine (1)**  
Operator:  
Art Wilson Co.  
P.O. Box 20160  
Carson City, NV 89721  
775-882-0700  Fax: 882-0790  
Company employees: 48  
Production:  
Gypsum - 416,898 tons  
Limestone - 10,068 tons

**NCC Fernley Operations (2)**  
Operator:  
Nevada Cement Co.  
P.O. Box 840  
Fernley, NV 89408  
775-575-2281  Fax: 575-4387  
Company employees: 117  
Production:  
Limestone - 104,999 tons

### Storey County

**Clark Mine (3)**  
Operator:  
EP Minerals, LLC  
640 Clark Station Rd.  
Sparks, NV 89434  
775-824-7700  Fax: 824-7715  
Company employees: 4  
Production:  
Diatomite - 62,972 tons

**Lucerne Mine (4)**  
Operator:  
Comstock Mining, Inc.  
P.O. Box 1118  
Virginia City, NV 89440  
775-847-5272  Fax: 847-4762  
Company employees: 25  
Contract employees: 2  
Production:  
Gold - 4,086 oz  
Silver - 75,657 oz

### Washoe County

**NCC Flanigan Mine (5)**  
Operator:  
Nevada Cement Co.  
P.O. Box 840  
Fernley, NV 89408  
775-575-2281  Fax: 575-4387  
Production:  
Specialty clays - 25,391 tons
Section II

Humboldt County

Hycroft Mine (1)
Operator:

Hycroft Mining Company
P.O. Box 3030
Winnemucca, NV 89446
775-623-5260 Fax:623-0215

Company employees: 66
Contract employees: 21

Production:
Gold - 32,265 oz
Silver - 235,934 oz

Lone Tree Complex (2)
Operator:

Newmont Mining Corp.
1655 Mountain City Highway
Elko, NV 89801
775-778-4000

Company employees: 67
Contract employees: 48

Production:
Gold - 31,884 oz
Marigold Mine (3)
Operator:
  Silver Standard Resources, Inc.
  P.O. Box 160
  Valmy, NV 89438
  775-635-2317  Fax: 635-2551
  Company employees: 378
  Contract employees: 7
Production:
  Gold - 205,116 oz
  Silver - 2,349 oz

MIN-AD Mine (4)
Operator:
  MIN-AD, Inc.
  P.O. Box 39
  Winnemucca, NV 89446
  775-623-5944  Fax: 623-9028
  Company employees: 15
Production:
  Dolomite - 44,452 tons (shipped)

Turquoise Ridge Joint Venture (5)
Operator:
  Barrick Gold Corporation
  2055 Getchell Mine Road
  Golconda, NV 89414
  775-529-5001  Fax: 748-3125
  Company employees: 529
  Contract employees: 89
Production:
  Gold - 354,560 oz

Twin Creeks Mine (6)
Operator:
  Newmont Mining Corp.
  1655 Mountain City Highway
  Elko, NV 89801
  775-778-4000  Fax: 778-4360
  Company employees: 490
  Contract employees: 241
Production:
  Gold - 367,528 oz
  Silver - 227,814 oz
Pershing County

Coeur Rochester Mine (7)
Operator:
Coeur Rochester, Inc.
P.O. Box 1057
Lovelock, NV 89419
775-273-7995   Fax: 273-7423
Company employees: 302
Contract employees: 14
Production:
Gold - 50,750 oz
Silver - 4,564,139 oz

Colado Mine (8)
Operator:
EP Minerals, LLC
P.O. Box 959
Lovelock, NV 89419
775-824-7591   Fax: 824-7595
Company employees: 35
Production:
Diatomite - 194,974 tons

Empire Gypsum Mine (9)
Operator:
Empire Mining Co., LLC
P.O. Box 157
Gerlach, NV 89412
775-600-9886   Fax: 702-921-9552
Company employees: 50
Contract employees: 2
Production:
Gypsum - 95,722 tons

Florida Canyon Mine (10)
Operator:
Rye Patch Mining U.S.
P.O. Box 330
Imlay, NV 89418
775-538-7300
Company employees: 126
Contract employees: 30
Production:
Gold - 10,873 oz
Silver - 21,898 oz

Nassau Mine (11)
Operator:
American Colloid Company
P.O. Box 428
Lovell, WY 82431
307-548-6521   Fax: 548-6449
Company employees: 5
Production:
Bentonite - 4,486 tons

Relief Canyon Limestone Mine (12)
Operator:
Nevada Cement Company
P.O. Box 840
Fernley, NV 89408
775-575-2281   Fax: 575-4387
Company employees: 6
Production:
Limestone - 60,164 tons

Sunrise Placer Mine (13)
Operator:
Sunrise Minerals, LLC
9405 Betty Lane
Winnemucca, NV 89445
775-340-7044   Fax: 623-5043
Company employees: 5
Production:
Gold - 668 oz
Silver - 121 oz
Basalite’s Naturalite aggregate quarry, Lyon County (Mike Visher photo).

Silver Standard’s Marigold Mine, Humboldt County (Courtney Brailo photo).
Section III

Eureka County

Betze-Post Mine (1)
Operator:
Barrick Goldstrike Mines, Inc.
P.O. Box 29
Elko, NV 89803
775-748-1001  Fax: 748-1240
Company employees: 1,045
Production:
Gold - 544,736 oz
Silver - 134,283 oz

Eastern Nevada Operations
(Carlin Operations) (2)
Operator:
Newmont Mining Corp.
1655 Mountain City Highway
Elko, NV 89801
775-778-4000  Fax: 778-4360
Company employees: 2,264
Contract employees: 476
Production:
Gold - 943,823 oz
Silver - 101,475 oz

Ruby Hill Mine (3)
Operator:
Ruby Hill Mining Co.
P.O. Box 676
Eureka, NV 89316
775-401-6435
Company employees: 14
Production:
Gold - 6,472 oz
Silver - 7,791 oz
Lander County

**Argenta Mine (4)**
Operator:
   Baker Hughes, Inc.
   P.O. Box 277
   Battle Mountain, NV 89820
   775-625-8700 Fax: 635-5455
   Company employees: 17
Shipped:
   Barite - 33,533 tons

**Cortez Hills Mine (5)**
Operator:
   Barrick Cortez, Inc.
   HC66 Box 1250
   Crescent Valley, NV 89821
   775-468-4400 Fax: 468-4496
   Company employees: 322
   Contract employees: 130
Production:
   (underground only, excluding the open-pit)
   Gold - 338,275 oz
   Silver - 6,294 oz

**Fire Creek Mine (6)**
Operator:
   Klondex Gold and Silver Mining Co.
   P.O. Box 1867
   Elko, NV 89803
   775-738-6070
   Company employees: 76
   Contract employees: 110
Production:
   Gold - 101,284 oz
   Silver - 80,593 oz

**Greystone Mine (7)**
Operator:
   M-I Swaco
   P.O. Box 370
   Battle Mountain, NV 89820
   775-635-5135
   Company employees: 6
Shipped:
   Barite - 114,808 tons

**Mountain Spring Mine (8)**
Operator:
   M-I Swaco
   P.O. Box 370
   Battle Mountain, NV 89820
   775-635-5135
   Company employees: 27
Shipped:
   Barite - 62,487 tons

**Pipeline Mine (9)**
Operator:
   Barrick Cortez, Inc.
   HC66 Box 1250
   Crescent Valley, NV 89821
   775-468-4400 Fax: 468-4496
   Company employees: 932
   Contract employees: 425
Production:
   (includes the Cortez Hills open-pit)
   Gold - 850,312 oz
   Silver - 22,565 oz

**Phoenix Mine (10)**
Operator:
   Newmont Mining Corp.
   P.O. Box 1657
   Battle Mountain, NV 89820
   775-635-9000 Fax: 778-4600
   Company employees: 507
   Contract employees: 275
Production:
   Gold - 176,756 oz
   Silver - 1,175,126 oz
   Copper - 41,806,950 pounds
Drill rigs at Ormat's McGinness Hills geothermal field, Lander County (Lowell Price photo).

Haul trucks at KGHM’s Robinson Mine, White Pine County (Courtney Brailo photo).
Section IV

Elko County

Arturo Mine (1)
Operator:
Barrick Goldstrike Mines, Inc.
P.O. Box 29
Elko, NV 89803
775-748-1001
Company employees: 177
Production:
Gold - 223,145 oz

Big Ledge Mine (2)
Operator:
National Oilwell Varco
247 Bluffs Ave., Suite 101
Elko, NV 89801
775-738-7171  Fax: 738-7196
Company employees: 12
Shipped:
Barite - 19,286 tons

Jerritt Canyon Mine (3)
Operator:
Jerritt Canyon Gold, LLC
HC31 Box 78
Elko, NV 89801
775-738-5600  Fax: 758-9233
Company employees: 240
Contract employees: 210
Production:
Gold - 140,990 oz

Elko and White Pine continued on page 15 after the centerfold
Rock bolting at Barrick’s Turquoise Ridge Joint Venture underground gold mine, Humboldt County (Courtney Brailo photo).
Major mines, oil fields, and geothermal plants, 2016.
Blasthole drilling at Barrick's Turquoise Ridge Joint Venture underground gold mine, Humboldt County (Courtney Brailo photo).
Section IV (continued)

Long Canyon Mine (4)
Operator: Newmont USA, Ltd.
1655 Mountain City Highway
Elko, NV 89801
775-778-4000
  Company employees: 216
  Contract employees: 110
Production: Gold - 22,500 oz

Meikle Mine (5)
Operator: Barrick Goldstrike Mines, Inc.
P.O. Box 29
Elko, NV 89803
775-748-1001 Fax: 748-1240
  Company employees: 595
Production: Gold - 417,438 oz
Silver - 37,615 oz

Midas Mine (6)
Operator: Klondex Mining Operations, Inc.
HC Box 125
Midas, NV 89414
775-299-5046
  Company employees: 140
  Contract employees: 14
Production: Gold - 29,577 oz
Silver - 1,345,990 oz

Pilot Peak Quarry (7)
Operator: Graymont Western US, Inc.
P.O. Box 2520
West Wendover, NV 89883
775-483-5460
  Company employees: 66
Production: Limestone - 1,236,227 tons

Rossi Mine (8)
Operator: Halliburton Energy Services
912 Dunphy Ranch Rd.
Battle Mountain, NV 89820
775-468-0515 Fax: 468-2060
  Company employees: 6
No mine production in 2016

White Pine County

Bald Mountain Mine (9)
Operator: KG Mining (Bald Mountain), Inc.
P.O. Box 2706
Elko, NV 89803
775-237-7100 Fax: 237-7101
  Company employees: 500
  Contract employees: 205
Production: Gold - 129,282 oz
Silver - 864 oz

Mt. Moriah Quarry (10)
Operator: Mt. Moriah Stone Quarries
#10 Hatch Rock Rd.
Baker, NV 89311
435-855-2232 Fax: 855-2332
  Company employees: 34
Production: Quartzite - 2,831 tons

Pan Mine (11)
Operator: GRP Pan, LLC
P.O. Box 150278
Ely, NV 89315
  Company employees: 26
  Contract employees: 127
Production: Gold - 8,714 oz

Robinson Mine (12)
Operator: KGHM International, Ltd.
P.O. Box 382
Ruth, NV 89319
775-289-7000 Fax: 289-7349
  Company employees: 570
  Contract employees: 8
Production: Copper - 118,411,099 pounds
  Gold - 49,217 oz
  Molybdenite - 823,659 pounds
Section V

Churchill County

Churchill Mine (1)

Operator:
Nevada Cement Co.
P.O. Box 840
Fernley, NV 89408
775-575-2281 Fax: 575-4387
Company employees: 6

Production:
Limestone - 544,048 tons
Fernley Diatomite Operations (2)
Operator:
EP Minerals, LLC
P.O. Box 860
Fernley, NV 89408
775-423-6668 Fax: 423-6411
Company employees: 35
Production:
Diatomite - 31,486 tons

Hazen Mine (3)
Operator:
EP Minerals, LLC
640 Clark Station Rd.
Sparks, NV 89434
775-824-7700 Fax: 824-7715
Company employees: 2
Contract employees: 4
Production:
Diatomite - 9,343 tons

Huck Salt (4)
Operator:
Huck Salt Company
2900 Phritzie Ln.
Fallon, NV 89406
775-423-2055 Fax: 423-0467
Company employees: 9
Shipped:
Salt - 19,110 tons

Nightingale Mine (5)
Operator:
Imerys Minerals California, Inc.
100 Front Street
Fernley, NV 89408
775-575-2536 Fax: 575-1570
Company employees: 15
Contract employees: 5
Production:
Diatomite - 21,950 tons

Perlite Mine (6)
Operator:
EP Minerals, LLC
640 Clark Station
Sparks, NV 89434
775-824-7700 Fax: 824-7715
Company employees: 5
Production:
Perlite - 17,476 tons

Mineral County

Borealis Mine (7)
Operator:
Borealis Mining Company, LLC
P.O. Box 549
Hawthorne, NV 89415
775-826-7567
Company employees: 6
Production:
Gold - 618 oz
Silver - 1,511 oz

Denton-Rawhide Mine (8)
Operator:
Rawhide Mining, LLC
P.O. Box 2070
Fallon, NV 89407
775-945-1015 Fax: 945-1213
Company employees: 66
Contract employees: 8
Production:
Gold - 17,972 oz
Silver - 105,413 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
Production:
Diatomite - 4,851 tons
Heart of Nature (2)
Operator:
Heart of Nature, LLC
3055 Saint Rose Parkway #778203
Henderson, NV 89052
702-462-6690
Company employees: 1
Contract employees: 4
Production:
Gypsum/sulfur soil amendment
- 24,632 tons

Mineral Ridge Mine (3)
Operator:
Mineral Ridge Gold, LLC
1515 7th St.
Elko, NV 89801
702-799-9273 Fax: 775-753-4780
Company employees: 70
Contract employees: 20
Production:
Gold - 36,879 oz
Silver - 16,950 oz

Silver Peak Lithium Operations (4)
Operator:
Rockwood Lithium, Inc.
P.O. Box 98
Silver Peak, NV 89047
775-937-2222 Fax: 937-2250
Company employees: 68
Contract employees: 10
Shipped:
Lithium compounds - 9,334,629 lbs

Nye County

IMV Nevada (5)
Operator:
Lhoist North America of Arizona
P.O. Box 86
Amargosa Valley, NV 89020
775-372-5341 Fax: 372-5320
Company employees: 28
Contract employees: 6
Production:
Specialty clays - 68,870 tons

New Discovery Mine (6)
Operator:
Vanderbilt Minerals, LLC
P.O. Box 6660
Pahrump, NV 89041
775-537-6976 Fax: 537-6879
Company employees: 4
Production:
Specialty clays - 1,700 tons

Premier Magnesia (7)
Operator:
Premier Magnesia, LLC
P.O. Box 177
Gabbs, NV 89409
775-285-2601 Fax: 285-4021
Company employees: 115
Contract employees: 3
Shipped:
Magnesium compounds - 110,000 tons

Smoky Valley Common Operation (8)
Operator:
Round Mountain Gold Corp.
P.O. Box 480
Round Mountain, NV 89045
775-377-2366 Fax: 377-3224
Company employees: 795
Contract employees: 227
Production:
Gold - 371,484 oz
Silver - 721,465 oz

Sterling Mine (9)
Operator:
Sterling Gold Mining Corp.
P.O. Box 549
Beatty, NV 89003
866-608-4381 Fax: 775-981-9044
Company employees: 7
Production:
Gold - 350 oz
Section VII

Clark County

Apex Quarry (1)
Operator:
Lhoist North America
12101 N. Las Vegas Blvd.
North Las Vegas, NV 89165
702-643-7702   Fax: 643-9517
Company employees: 110
Contract employees: 2
Production:
Limestone - 1,260,000 tons
Dolomite - 283,000 tons

Blue Diamond Hill Mine (2)
Operator:
Gypsum Resource Materials, LLC
P.O. Box 147
Blue Diamond, NV 89004
702-830-3378   Fax: 441-7148
Company employees: 101
Contract employees: 1
Production:
Gypsum - 1,290,640 tons

Lima Nevada Gypsum Mine (3)
Operator:
H. Lima Nevada, LLC
704 E. Yosemite
Manteca, CA 95336
661-549-0784   Fax: 363-2294
Company employees: 8
Contract employees: 1
Production:
Gypsum - 72,000 tons

PABCO Gypsum Mine (4)
Operator:
PABCO Building
Products, LLC
P.O. Box 364329
North Las Vegas, NV 89036
702-407-3700   Fax: 643-6249
Company employees: 17
Contract employees: 1
Production:
Gypsum - 1,375,612 tons

Rainbow Quarry (5)
Operator:
Las Vegas Rock, Inc.
P.O. Box 19118
2 Jean Prison Rd.
Jean, NV 89019
702-791-7625   Fax: 896-4533
Company employees: 45
Production:
Meta-quartzite - 66,335 tons

Simplot Silica Products (6)
Operator:
J.R. Simplot Company
P.O. Box 308
Overton, NV 89040
702-397-2667   Fax: 397-2798
Company employees: 41
Shipped:
Silica sand - 754,852 tons

Lincoln County

Tenacity Perlite Mine (7)
Operator:
Wilkin Mining & Trucking, Inc.
HC 34 Box 199
Caliente, NV 89008
775-728-4463
Company employees: 13
Production:
Perlite - 2,408 tons
Summary of 2016 production

Gold 5,467,646 ounces
Silver 8,885,873 ounces
Barite (shipped) 230,114 tons
Copper 160,218,049 pounds
Diatomite 218,642 tons
Dolomite 323,483 tons
Gypsum 3,179,781 tons
Limestone 3,215,506 tons
Lithium compounds (shipped) 9,334,629 pounds
Magnesium compounds (shipped) 110,000 tons
Molybdenite 823,659 pounds
Perlite 19,884 tons
Salt (shipped) 19,110 tons
Silica sand (shipped) 754,852 tons
Specialty clay 98,747 tons
Nevada’s mining industry recorded approximately $8.14 billion in total value of all commodities in 2016, representing a 10.4% increase from the $7.37 billion value in 2015. Nearly 86% of the value was driven by gold and silver, which contributed nearly $7 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 2016 were $1,250.74 and $17.14 per troy ounce, respectively. Nevada led the nation in 2016 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, diatomite, dolomite, geothermal energy, gypsum, lapidary and gem stones, 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 5,467,646 troy ounces in 2016 compared to 5,339,659 troy ounces in 2015, a very slight increase of 0.02%. According to the USGS, Nevada remains the nation’s top gold producer with about 81% (170 metric tons) of the U.S. total (209 metric tons) and would rank 4th in world gold production behind China, Australia and Russia. A summary of 2016 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 12,474 people in 2016. The average pay for mineral industry employees during this time was $94,744 per year, the second highest average of any employment sector in the state. Mining employment has remained an important factor in Nevada.

### Table 1. Summary of 2016 Nevada Mineral Commodity Production

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Production Amount</th>
<th>Unit</th>
<th>YOY Change (%)</th>
<th>Value ($)</th>
<th>YOY Value Change (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gold</td>
<td>5,467,646</td>
<td>ounces</td>
<td>2.4%</td>
<td>$6,838,603,558</td>
<td>10.4%</td>
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<tr>
<td>Silver</td>
<td>8,885,873</td>
<td>ounces</td>
<td>-6.4%</td>
<td>$152,334,964</td>
<td>2.3%</td>
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<tr>
<td>Barite (shipped)</td>
<td>230,114</td>
<td>tons</td>
<td>-55.4%</td>
<td>$22,023,940</td>
<td>-63.3%</td>
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<tr>
<td>Copper</td>
<td>160,218,049</td>
<td>pounds</td>
<td>-9.8%</td>
<td>$370,610,759</td>
<td>-7.6%</td>
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<tr>
<td>Diatomite</td>
<td>262,604</td>
<td>tons</td>
<td>15.6%</td>
<td>$44,195,420</td>
<td>2.5%</td>
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<tr>
<td>Dolomite</td>
<td>323,483</td>
<td>tons</td>
<td>-2.8%</td>
<td>$4,194,360</td>
<td>11.4%</td>
</tr>
<tr>
<td>Gypsum</td>
<td>3,275,503</td>
<td>tons</td>
<td>-3.6%</td>
<td>$37,247,488</td>
<td>-0.1%</td>
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<tr>
<td>Limestone</td>
<td>3,215,506</td>
<td>tons</td>
<td>-58.8%</td>
<td>$34,456,064</td>
<td>-6.7%</td>
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<tr>
<td>Lithium compounds (shipped)</td>
<td>9,334,629</td>
<td>pounds</td>
<td>-20.3%</td>
<td>$23,253,978</td>
<td>-9.2%</td>
</tr>
<tr>
<td>Magnesium compounds (shipped)</td>
<td>110,000</td>
<td>tons</td>
<td>1.0%</td>
<td>$6,870,237</td>
<td>2.6%</td>
</tr>
<tr>
<td>Molybdenite</td>
<td>823,659</td>
<td>pounds</td>
<td>-9.0%</td>
<td>$5,428,662</td>
<td>-25.9%</td>
</tr>
<tr>
<td>Perlite</td>
<td>19,884</td>
<td>tons</td>
<td>-23.3%</td>
<td>$1,359,539</td>
<td>-50.9%</td>
</tr>
<tr>
<td>Salt (shipped)</td>
<td>19,110</td>
<td>tons</td>
<td>64.0%</td>
<td>$611,526</td>
<td>34.6%</td>
</tr>
<tr>
<td>Silica sand (shipped)</td>
<td>754,852</td>
<td>tons</td>
<td>-3.0%</td>
<td>$20,412,834</td>
<td>-3.7%</td>
</tr>
<tr>
<td>Specialty clays</td>
<td>98,747</td>
<td>tons</td>
<td>34.3%</td>
<td>$8,013,613</td>
<td>6.5%</td>
</tr>
<tr>
<td>Geothermal energy (sold)</td>
<td>3,344,233</td>
<td>megawatt hours</td>
<td>7.4%</td>
<td>$258,187,350</td>
<td>7.6%</td>
</tr>
<tr>
<td>Oil (sold)</td>
<td>278,599</td>
<td>barrels</td>
<td>-1.2%</td>
<td>$10,333,936</td>
<td>-18.0%</td>
</tr>
<tr>
<td>Aggregates</td>
<td>37,800,000</td>
<td>tons</td>
<td>35.0%</td>
<td>$298,000,000</td>
<td>146.3%</td>
</tr>
<tr>
<td><strong>Total Value</strong></td>
<td><strong>$8,136,138,228</strong></td>
<td></td>
<td></td>
<td><strong>10.4%</strong></td>
<td></td>
</tr>
</tbody>
</table>
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 enhancement, recreation opportunities, or other natural resource uses. To ensure that reclamation is complete, mine operators are required to post reclamation bonds that are held by government agencies. The bonds are released only after the mined area is stabilized and the reclamation goals have been met. According to the Nevada Division of Environmental Protection, approximately $2.66 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.

Gold Reserves

Gold reserves are defined as that portion of a gold ore deposit known to be economically feasible for extraction. The amount of reserves is always in a state of flux, due to some reserves being lost to production, additions of new reserves through new discoveries, and changing economic conditions. The price of gold and the cost of production are the main factors in determining whether a reserve is really a reserve or just a sub-economic resource. Extensive gold resources, not currently economic, 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 has the same effect as a lowering of the gold price, thus increasingly complex

Table 2. 2016 Nevada Metal Production, by Producer

<table>
<thead>
<tr>
<th>Operator</th>
<th>Gold (ozs)</th>
<th>Silver (ozs)</th>
<th>Copper (lbs)</th>
<th>Moly (lbs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barrick</td>
<td>2,639,826</td>
<td>200,757</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Newmont</td>
<td>1,631,131</td>
<td>1,504,415</td>
<td>41,806,950</td>
<td></td>
</tr>
<tr>
<td>Kinross</td>
<td>500,766</td>
<td>722,329</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Silver Standard Resources</td>
<td>205,116</td>
<td>2,349</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jerritt Canyon</td>
<td>140,990</td>
<td>NR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Klondex</td>
<td>130,861</td>
<td>1,426,583</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coeur Rochester</td>
<td>50,750</td>
<td>4,564,139</td>
<td></td>
<td></td>
</tr>
<tr>
<td>KGHM International</td>
<td>49,217</td>
<td>NR</td>
<td>118,411,099</td>
<td>823,659</td>
</tr>
<tr>
<td>Mineral Ridge Gold</td>
<td>36,879</td>
<td>16,950</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hycroft</td>
<td>32,265</td>
<td>235,934</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rawhide Mining</td>
<td>17,972</td>
<td>105,413</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Florida Canyon Mining</td>
<td>10,873</td>
<td>21,898</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GRP Pan</td>
<td>8,714</td>
<td>NR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ruby Hill Mining</td>
<td>6,472</td>
<td>7,791</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comstock Mining</td>
<td>4,086</td>
<td>75,657</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sunrise Minerals</td>
<td>668</td>
<td>121</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Borealisk Mining</td>
<td>618</td>
<td>1,511</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sterling Gold Mining</td>
<td>350</td>
<td>NR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dun Glen Mining</td>
<td>43</td>
<td>NR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Geo-Nevada</td>
<td>24</td>
<td>18</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A.U. Nevada</td>
<td>21</td>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bernell Lloyd</td>
<td>4</td>
<td>NR</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>5,467,646</strong></td>
<td><strong>8,885,873</strong></td>
<td><strong>160,218,049</strong></td>
<td><strong>823,659</strong></td>
</tr>
</tbody>
</table>
and expensive regulations can reduce reserves. For the larger operating mines, the publicly reported reserves for the year ending 2016 were approximately 56 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, particularly gold, is an ongoing effort by both the operating companies and many others who do not 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, like gold reserves, are closely tied to economic conditions and commodity prices. In order 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 2017 using 2015 and 2016 data. This informative report, which can be downloaded at [http://pubs.nbmg.unr.edu/NV-exploration-survey-2016-p/es2016.htm](http://pubs.nbmg.unr.edu/NV-exploration-survey-2016-p/es2016.htm), revealed that gold exploration accounted for 86 percent ($278 million) of $325 million total exploration spending, down slightly from $348 million in 2015. Two large companies accounted for 38 percent of the total spending. Approximately 808 people were directly employed by companies doing exploration activities in Nevada in 2016, up from 745 in 2015. Interestingly, exploration for lithium was second in total exploration spending at $20.9M in 2016, followed closely by exploration for geothermal energy at $16.6M.

### Oil and Geothermal Activity

Economic activity from oil and gas exploration and production is relatively minor when compared to mining, but are 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. Exploration activity and production were both negatively impacted by the price of crude in 2016. According to the U.S.

---

### Table 3. Nevada Mine Reserves (Proven and Probable) Reported for End of Year 2016

<table>
<thead>
<tr>
<th>Company</th>
<th>Mine</th>
<th>Gold (ozs)</th>
<th>Silver (ozs)</th>
<th>Copper (lbs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Newmont</td>
<td>Carlin Operations</td>
<td>15,000,000</td>
<td>60,910,000</td>
<td>1,260,000,000</td>
</tr>
<tr>
<td>Newmont</td>
<td>Phoenix</td>
<td>4,340,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Newmont</td>
<td>Twin Creeks</td>
<td>4,930,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Newmont</td>
<td>Turquoise Ridge (25%)</td>
<td>1,340,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Newmont</td>
<td>Long Canyon</td>
<td>1,170,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Barrick</td>
<td>Goldstrike (OP and UG)</td>
<td>8,077,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Barrick</td>
<td>Cortez</td>
<td>10,220,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Barrick</td>
<td>Turquoise Ridge (75%)</td>
<td>4,029,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Barrick</td>
<td>South Arturo (60%)</td>
<td>122,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coeur</td>
<td>Rochester</td>
<td>803,000</td>
<td>112,045,000</td>
<td></td>
</tr>
<tr>
<td>Kinross</td>
<td>Round Mountain (100% as of 1/11/16)</td>
<td>1,267,000</td>
<td>1,232,000</td>
<td></td>
</tr>
<tr>
<td>Kinross</td>
<td>Bald Mountain (100% as of 1/11/16)</td>
<td>2,133,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Silver Standard</td>
<td>Marigold</td>
<td>2,840,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Klondex</td>
<td>Midas</td>
<td>140,000</td>
<td>2,475,000</td>
<td></td>
</tr>
<tr>
<td>Klondex</td>
<td>Fire Creek</td>
<td>291,000</td>
<td>225,000</td>
<td></td>
</tr>
<tr>
<td>KGHM</td>
<td>Robinson</td>
<td>565,400,000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Totals** 56,702,000 176,887,000 1,825,400,000
Energy Information Administration, the price for a barrel of West Texas Intermediate crude in 2016 ranged from a monthly average low of $26.11 to a high of $43.90 and averaged $36.86 for the year, versus $44.54 in 2015. Nevada’s oil production in 2016 was relatively unchanged from 2015 at 278,599 barrels (42 gallons per barrel), with 276,328 barrels sold worth approximately $10.3 million. Table 4 summarizes the number of barrels sold and wells by operator and field in 2016.

Nevada is rich in geothermal resources and is second only to California in the production of geothermal energy. For 2016, Nevada had 24 plants at 16 fields that sold approximately 3.3 million megawatt hours of electricity worth approximately $258 million (Table 5). According to the U.S. Energy Information Association, this is enough to power about 280,000 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.

**Conclusion**

Nevada’s mineral industry continued to be a major economic force in the state with a total value of over $8 billion in 2016. 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 that can provide opportunities for economic development well into the future.

### Table 4. Nevada Oil Production in 2016

<table>
<thead>
<tr>
<th>Operator</th>
<th>Producing Field</th>
<th># of Producing Wells</th>
<th>Total Barrels Sold</th>
</tr>
</thead>
<tbody>
<tr>
<td>Makoil</td>
<td>Trap Spring</td>
<td>27</td>
<td>114,644</td>
</tr>
<tr>
<td>Grant Canyon</td>
<td>Blackburn</td>
<td>5</td>
<td>45,387</td>
</tr>
<tr>
<td>Grant Canyon</td>
<td>Grant Canyon</td>
<td>3</td>
<td>41,822</td>
</tr>
<tr>
<td>Kirkwood</td>
<td>Eagle Springs</td>
<td>10</td>
<td>26,897</td>
</tr>
<tr>
<td>Western General</td>
<td>Kate Spring</td>
<td>3</td>
<td>18,280</td>
</tr>
<tr>
<td>Kirkwood</td>
<td>Ghost Ranch</td>
<td>3</td>
<td>8,503</td>
</tr>
<tr>
<td>Makoil</td>
<td>Kate Spring</td>
<td>1</td>
<td>5,616</td>
</tr>
<tr>
<td>Grant Canyon</td>
<td>Bacon Flat</td>
<td>1</td>
<td>5,375</td>
</tr>
<tr>
<td>Makoil</td>
<td>Ghost Ranch</td>
<td>1</td>
<td>5,155</td>
</tr>
<tr>
<td>Western General</td>
<td>Taylor Federal</td>
<td>1</td>
<td>1,478</td>
</tr>
<tr>
<td>Frontier Exploration</td>
<td>Munson Ranch</td>
<td>5</td>
<td>1,433</td>
</tr>
<tr>
<td>Andromeda</td>
<td>Tomera</td>
<td>2</td>
<td>960</td>
</tr>
<tr>
<td>Grant Canyon</td>
<td>Sans Spring</td>
<td>1</td>
<td>531</td>
</tr>
<tr>
<td>Kirkwood</td>
<td>Sand Dune</td>
<td>1</td>
<td>246</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td></td>
<td>64</td>
<td><strong>276,328</strong></td>
</tr>
</tbody>
</table>

### Table 5. Nevada Geothermal Production in 2016 by Company

<table>
<thead>
<tr>
<th>Company</th>
<th>Total Output (Sales) MWh</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ormat Nevada Inc.</td>
<td>2,016,715</td>
</tr>
<tr>
<td>Terra-Gen Power Holdings II, LLC</td>
<td>583,687</td>
</tr>
<tr>
<td>Enel North America Inc.</td>
<td>238,779</td>
</tr>
<tr>
<td>NGP Blue Mountain 1 LLC</td>
<td>234,904</td>
</tr>
<tr>
<td>Patua Project LLC</td>
<td>115,973</td>
</tr>
<tr>
<td>USG Nevada LLC</td>
<td>75,049</td>
</tr>
<tr>
<td>Cyrq Energy</td>
<td>70,002</td>
</tr>
<tr>
<td>Homestretch Energy</td>
<td>9,125</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>3,344,233</strong></td>
</tr>
</tbody>
</table>
Commission on Mineral Resources visit to lithium brine exploration project at Columbus Salt Marsh, Esmeralda County (Rich Perry photo).

J.R. Simplot’s silica sand quarry, Clark County (Courtney Brailo photo).
Adams Claim Gypsum Mine  5
Apex Quarry   21
Argenta Mine   12
Arturo Mine   14
Bald Mountain Mine  15
Basalt Diatomite Mine  18
Betze-Post Mine  11
Big Ledge Mine   14
Blue Diamond Hill Mine  21
Borealis Mine   17
Carlin Operations  11
Churchill Mine   16
Clark Mine     5
Coeur Rochester Mine  8
Colado Mine    8
Cortez Hills Mine  12
Denton-Rawhide Mine  17
Empire Gypsum Mine  8
Fernley Diatomite Operations  17
Fire Creek Mine  12
Florida Canyon Mine  8
Greystone Mine  12
Hazen Mine     17
Heart of Nature 19
Huck Salt      17
Hycroft Mine   6
IMV Nevada     19
Jerritt Canyon Mine  15
Lima Nevada Gypsum Mine  21
Lone Tree Complex  6
Long Canyon Mine  15
Lucerne Mine   5
Marigold Mine   7
Meikle Mine    15
Midas Mine     15
MIN-AD Mine    7
Mineral Ridge Mine  19
Mt. Moriah Quarry  15
Mountain Spring Mine  12
Nassau Mine    8
NCC Flanigan Mine  5
NCC Fernley Operations  5
New Discovery Mine  19
Nightingale Mine  17
PABCO Gypsum Mine  21
Pan Mine       15
Perlite Mine   17
Phoenix Mine   12
Pilot Peak Quarry  15
Pipeline Mine   12
Premier Magnesia 19
Rainbow Quarry  21
Relief Canyon Limestone Mine  8
Robinson Mine  15
Rossi Mine     15
Ruby Hill Mine  11
Silver Peak Lithium Operations  19
Simplot Silica Products  21
Smoky Valley Common Operation  19
Sterling Mine  19
Sunrise Placer Mine  8
Tenacity Perlite Mine  21
Turquoise Ridge Joint Venture  7
Twin Creeks Mine  7
The Nevada Bureau of Mines and Geology

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http://www.nbmg.unr.edu

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