Nevada Division of Minerals

An Update on Agency Activities and What Explorationists Should Watch For in 2021

Nevada Mineral Exploration Coalition
Annual Mineral Exploration Summit
October 20, 2020
Michael Visher, Administrator
Who are we?

• Fee-funded agency, with two offices and 11 employees, 8 of which are geologists with experience in the exploration side of the mineral industry

• Report to the Commission on Mineral Resources, composed of 7 Governor-appointed members

• State regulator for fluid minerals (oil and gas, geothermal, dissolved mineral resource exploration)
What do we do for you?

1. **Inform** the Governor, Legislature, state and federal agencies and the public on matters relating to the mineral industry:
   - Mining registry and annual production
   - Industry activities and outlook
   - Impacts from proposed land withdrawals, land use plans, new legislation or regulations
   - Critical minerals
   - Surveys, publications and maps
Nevada Gold

2019 Production
4.87 Moz, -13% vs. '18
51% from private lands
31 mining operations
18 operators
#1 producer in US
## 2019 NEVADA METAL PRODUCTION

**2019 NEVADA METAL PRODUCTION, BY PRODUCER - Final**

Ranked by gold production

<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>Nevada Gold Mines</td>
<td>3,673,631</td>
<td>1,070,177</td>
<td>30,585,072</td>
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<tr>
<td>Kinross</td>
<td>538,528</td>
<td>954,345</td>
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<tr>
<td>SSR Mining</td>
<td>220,227</td>
<td>4,223</td>
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<tr>
<td>Jerritt Canyon Gold</td>
<td>117,985</td>
<td>NR</td>
<td></td>
<td></td>
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<tr>
<td>Hecla (Klondex)</td>
<td>66,166</td>
<td>181,741</td>
<td></td>
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<tr>
<td>KGHM International</td>
<td>51,277</td>
<td>67,634</td>
<td>113,132,886</td>
<td>766,699</td>
</tr>
<tr>
<td>Florida Canyon Mining (Alio Gold)</td>
<td>43,305</td>
<td>30,877</td>
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<tr>
<td>Fiore Gold</td>
<td>40,499</td>
<td>NR</td>
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<td>Coeur</td>
<td>35,401</td>
<td>3,761,060</td>
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<td>McEwen Mining</td>
<td>30,709</td>
<td>614</td>
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<tr>
<td>Rawhide Mining</td>
<td>14,381</td>
<td>140,187</td>
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<tr>
<td>Gold Resource Corp.</td>
<td>10,810</td>
<td>9,574</td>
<td></td>
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<td>Hycroft Mining</td>
<td>8,916</td>
<td>56,783</td>
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<td></td>
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<tr>
<td>Premier Gold (40% of S. Arturo)</td>
<td>8,412</td>
<td>NR</td>
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<tr>
<td>Mineral Ridge Gold</td>
<td>3,863</td>
<td>2,324</td>
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<td>Ruby Hill Mining</td>
<td>3,356</td>
<td>2,540</td>
<td></td>
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<tr>
<td>Borealis Mining</td>
<td>605</td>
<td>387</td>
<td></td>
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<tr>
<td>Toquima Gold</td>
<td>15</td>
<td>NR</td>
<td></td>
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</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>4,868,086</strong></td>
<td><strong>6,282,466</strong></td>
<td><strong>143,717,958</strong></td>
<td><strong>766,699</strong></td>
</tr>
</tbody>
</table>
Nevada Gold Mines Production Comparison

2009 - 2019 Annual Gold Production in Nevada

- BARRICK & NEWMONT
  - Combined Production
  - 25%
- ALL OTHERS
  - 9%
EXPLORATION ON PUBLIC LAND STARTS WITH THE LOCATING OF A MINING CLAIM

207,497 Active Mining Claims in Nevada as of 6/18/2020, an increase of 1.4% from 6/21/2019

Annual Maintenance/Holding Fees:

BLM - $165 per 20 acre claim ($34M paid by NV claimants in FFY 2019)

County - $12 per claim, $10 of which is remitted to the Division of Minerals and represents 77% of all our funding.
Dissolved Mineral Resource Exploration Activity

- Lithium is a locatable mineral on Federal land under the General Mining Law
- Placer claims are used to locate potential lithium brine deposits, such as at Albemarle’s Silver Peak mine.
- Similar playas have seen significant claim staking and exploration since 2013.
Nevada Exploration Survey

Nevada Exploration Spend by Year

Expenditures (in millions USD)

- 2011 spend: $674M (n=169 companies)
- 2015 spend: $347M (n=163 companies)
- 2016 spend: $324M (n=163 companies)
- 2017 spend: $351M (n=172 companies)
- 2018 spend: $461M (n=172 companies)

Legend:
- Precious metals
- Energy metals
- Base metals
- Industrial minerals
- Geothermal
- Petroleum
Claims to Mine Pyramid
State of Nevada
10-Year Annual Average 2006-2015

1. New major mine of >$5 M annual

5.6 Mine Plans of Operation (BLM + USFS)
   New major mines + new minor mines +
extensions of existing mines

6.9 Exploration Plans of Operation (BLM + USFS)

99 Drill Projects (Federal + Private)

99.5 Notice of Intents (NOI’s) filed with BLM

2,161 Number of Entities or Individual Claimants

196,478 Number of Mining Claims on Federal Lands

Sources:
- BLM LR 2000 system
- USFS NEPA Project web site
- NBMG Annual Mineral Industry Reports
- John Muntean, NBMG State Economic Geologist
- David Davis, NBMG State Industrial Minerals Geologist
- NDOM annual report & files
CUMULATIVE MINING PERMITS AND DISTURBANCE ACREAGE IN NEVADA

2018 Plan-level Exploration Disturbance = 3,807.2 ac. or 2.7% of Total
Exploration Permits = 105 or 41.8% of Total
Nevada Land Withdrawals as of May, 2018

Line graph displaying the trend in the amount of land (in acres) withdrawn per year.
Critical Minerals Affected by Mineral Entry Withdrawals

- Aluminum
- Antimony*
- Arsenic*
- Barite*
- Beryllium*
- Bismuth
- Cesium & Rubidium
- Chromium
- Cobalt
- Fluorspar*
- Gallium
- Germanium
- Graphite
- Helium
- Indium
- Lithium*
- Magnesium*
- Manganese*
- Niobium
- PGM
- Potash
- REE
- Rhenium
- Scandium
- Strontium
- Tantalum
- Tellurium
- Tin
- Titanium
- Tungsten*
- Uranium*
- Vanadium
- Zirconium & Hafnium

**Bold** indicates known occurrences
* indicates past or present production

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Publications
2. **Assist** in the process of exploration:

- NDOM Open Data Site
  - Claims, Notices, Plans, Mineral Occurrences
- NBMG Nevada Mineral Explorer Web App
  - One stop shop consolidating decades of data in one location
- Reclamation Performance Bond Pool
Visit our Data Gallery Page to View Download Data

Visit one of our pages to view interactive maps and download data. Hover over any of the photos below and click on text box that appears.

For a general overview that includes demonstrations on the Open Data Site, CLICK HERE

To visit the Nevada Division of Minerals Home Page, CLICK HERE

To return to the Open Data Home Page, CLICK HERE

- Inferred Active Lithium Placer Claims in Nevada & DMRE
- Active mining claims in Nevada
- Nevada Claims, Notices, & POO
- Nevada Mineral Producers, Commodities & Occurrences
- Nevada Public Lands Issues
- Mining in Nevada
- OGG Drilling, Production, and Leases
- Education & Outreach
Nevada Mineral Explorer

This web application was developed as a tool for explorationists to identify and discover mineral resources throughout Nevada. Data in this web application are organized by category (upper right-hand side of map). Each category is indicated with a different symbol, which are outlined below.

User's guide
Video Presentation and Demo Presentation PDF

To view different categories, click on the icon for category type

Occurrences & Production - active mines and energy producers, MRDS.
Reclamation Performance Bond Pool

• An established $2.5M statewide bond with BLM allows for expedited notice-level bonding, ~1 hour

• Regulations updated 12/31/2019:
  – For notice-level bonds, annual premium reduced from 3% to 2%
  – For plan-level bonds, the premium amount refunded upon exit increased from 0% to a maximum amount of 75%
What do we do for you?

3. **Educate** the public on the importance of mining and minerals in our modern society:

   – Agency staff performed 480 presentations in 2019, including 348 in K-12 classrooms
   – Since March, 15 videos have been created to facilitate distance learning
   – 30 live virtual classroom presentations since 9/29
   – New page (in progress) devoted to the Mining Industry
     • Infographics and interactive viewer providing information on: employment, wages, exploration, permitting, surface disturbance, production, economics, and reclamation
Distance Learning Videos

The Basics of Mineral Identification

Lucia M. Patterson, Nevada Division of Minerals
Mining in Nevada

The purpose of this page is to present general information on the mining industry in Nevada from exploration to production, its regulatory oversight as well as its economic impacts and environmental stewardship. With a large and diverse mineral endowment, Nevada ranks #1 in US mineral production yet even today most people are surprised at the complexity and innovation involved in the process of modern mineral extraction and how commonplace and necessary these minerals are to society. Information on this page is intended to educate on the topics of exploration, permitting, surface disturbance, employment, production, economics, and reclamation.

Mining Employment in Nevada - 2019
Lucia M. Patterson, Nevada Division of Minerals

Percent of total Wages Paid (Private & Government) Attributable to Mining
0% Carson City, Douglas, Lincoln
0.07% Clark
0.17% Washoe
0.49% Churchill
0.62% Storey
6.77% Lyon
17.97% Nye
18.87% Elko
23.47% Mineral
43.39% Humboldt
48.55% White Pine
52.61% Esmeralda
52.69% Pershing
80.28% Lander
96.43% Eureka

2019 Average Number of Mining Employees Per County
What do we do for you?

3. **Showcase** the benefits of exploring and investing in Nevada, as well as outstanding examples of environmental stewardship:

   – Staff informational exhibits at GSN, AEMA, AME Roundup, and PDAC
   – Assist the Governor’s Office of Economic Development in outreach efforts
   – Nevada Excellence in Mine Reclamation Awards
Excellence in Mine Reclamation Award

• Purpose - to recognize and share examples of successes in the areas of reclamation, closure, planning, and wildlife protection and enhancement in Nevada

• Requires unanimous approval from Committee consisting of representatives from BLM, USFS, NDEP, NDOW and NDOM

• Not limited to mining operations; help us acknowledge the good reclamation work being done by the exploration community
2020 Award Winner
KGHM Robinson Mine
Lane City Waste Rock Facility
2020 Award Winner
Hudbay Minerals/Mason Resources
Mason Exploration Project
What should you be watching for in 2021?

- New legislators requiring knowledge of the industry and what you do; establish one-on-one communication
- Continued pressure on the industry to pay more, along with unintended consequences
- Continued updates and new content to our open data sites
- NDOM contracted site characterization and analysis of AML features proposed for hard closure
  - ~150 sites/yr
  - Assessment and assays to be made available on the Nevada Mineral Explorer
- After industry recovery from the pandemic, there will (eventually) be renewed demand for exploration successes
Diminishing pipeline for Au production

Gold production from new and existing sources, 2019-30

Data as of April 7, 2020.
Source: S&P Global Market Intelligence

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What should you be watching for in 2021?

- Escalation in investor interest on the value of environmental, social and corporate governance (ESG)
  - Proactively create your story before one is initiated against you
- More involvement at the community and county levels
- NDOM to add more information on open data site attributable to individual counties
- NDOM will reach out to county commissions and planning agencies to inform and educate them on natural resource assets and economic development opportunities
NDOM Homepage

- Under “Current Information”
  - Links to our Distance Learning Educational Videos
  - Recent Presentations
- Under “Important Links - Open Data Site”
  - Interactive web mapping application to display and download information related to the minerals industry.
  - Location of mining claims, current and historical exploration activity and mineral production.
  - Public lands issues
  - The new Nevada Mineral Explorer for explorationists (co-developed with NBMG)
  - New Mining Industry page