Nevada Department of Conservation and Natural Resources
Nevada Division of Environmental Protection
Bureau of Mining Regulation and Reclamation

Protect public health, protect the environment and promote a vibrant economy
The Division includes 10 Environmental Bureaus and 1 Administrative Bureau
Our Mission:

BMRR was created in 1989 with three specialized regulatory branches entirely funded with permit fees:

- **Regulation Branch** – Provides protection of “waters of the State” enforcing water pollution control regulations at mining facilities.
- **Reclamation Branch** – Ensure land disturbed by mining operations are reclaimed to safe and stable conditions to promote a productive post-mining land use includes a bonding program.
- **Closure Branch** – Ensure that all components are left chemically stable for the long term.
Organization Chart:
BMRR three branches Regulation, Reclamation and Closure

Joe Sawyer P.E., Bureau Chief

Regulation
Rob Kuczynski, P.E., Supervisor

Permitting
Natasha Zittel, Staff II Engineer
Shawn Gooch, P.E., Prof. Engineer
Michelle Griffin, Staff I Engineer
Matt Schulenberg, Staff I Engineer

Inspection and Compliance
Christine Olson, Env Scientist III
Patrick Goldstrand, PhD, Env. Scientist III
Steve Fischenich, Env Scientist III

Debbie Berger Administration II

Temp.
Hilary Guinn, Data Management

Closure
Tom Gray, Supervisor

Permitting, Inspection and Compliance
Debbie Berger Administration II

BLM Bonding
Liaison
Daniel Atkinson

Reclamation
Todd Process Supervisor

Permitting, Inspection and Compliance

Bethany Graeser, Admin Assistant III

Jane Boomhower, Admin Assistant III

Karl McCrea, Env Scientist III
Lisa Kreskey, Env Scientist III
Connor Newman, Env Scientist III

Matt Donaldson, Env Scientist III
Shane Martin, Env Scientist III
Todd Suessmith, Env Scientist III
Susan Yang, PhD, PE, Prof. Engineer
Ellie Leavitt, PhD, Env Scientist III
Multiple Federal, State, and Local Permits required in Nevada before Mining or Milling can occur
BMRR Permitted Facilities and Exploration Projects

- 261 Reclamation Projects
- 92 Operating Mines
- 38 Mines Not Yet Built
- 23 Mines in Temporary Closure
- 34 Mines in Closure
Regulation Branch

- Prevent degradation of the waters of the State due to mining
- Administer mining regulations and State water pollution control law, by Issuing Water Pollution Control Permits
- Govern the Site Characterization, Design, Construction, and Operation, of mining facilities in the State of Nevada
Mining Regulated Activities

- Any mining or processing activity that has the potential to degrade waters of the State.
- Includes both public and private lands.
- Includes all mines in the state except for industrial minerals such as Sand and gravel, clay, slate, and gypsum.
Site Characterization

- Before permitting begins, the site must be characterized.
- Potential to create acid and mobilize contaminants due to mining evaluated.
- Complete geologic and hydrologic studies to predict future groundwater impacts to direct facility design and closure plans.
Facility Design

- Must contain 25 year 24 hour storm event
- Designed by professional engineers
- Approval prior to construction

- Zero discharge requirement for all process fluids during operations
- Process fluid containment
- Minimum design standards
Construction

Quality control and quality assurance built to approved design
Operations Compliance and Enforcement

• Facility Monitoring and Reporting
• Quarterly Inspections
• Enforcement for non-compliance
Reclamation Branch

Mining operations and exploration projects are properly reclaimed to be safe and stable and provide a productive post-mining land use.

- Issue Reclamation Permits
- Oversee Financial Assurance

261 Active Reclamation Permits (Exploration Projects and Operating Facilities)
Acceptable Post-Mining Land Use

- Wildlife Habitat
- Cattle Grazing
- Recreation
- Industrial Site/Business Park
- Future Mineral Exploration and Development
- Renewable Energy Creation and Storage
Financial Assurance  Project Bond

• Standardized Reclamation Cost Estimator (SRCE)
  Third Party costs
  Cost Data file annual update
• Process Fluid Stabilization Costs
  Heap Leach Pads; Tailings Impoundments;
  and Mine Impacted Waters
• Closure Costs for Process Components
## Nevada Financial Assurance

**In Millions of Dollars**

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*At beginning of Year*
Coordination with Federal Land Managers

- MOU with BLM and USFS
- Concurrent Agency Review
- Approval from all Agencies Required
“Waters of the state” are not degraded and components are left chemically stable for the long term.
Challenges for Final Closure

• Long-term active and/or passive treatment
• Process solution draindown/disposal
• Pit lake water quality
• Acid rock drainage
• Groundwater contamination
• Long-term funding mechanism may be required
Inhibit the migration of precipitation through closed facility components

- Install engineered soil and or synthetic covers
- Maintain the zero discharge condition for the long term
- Utilize ponds and then ultimately Evaporation Cells to capture draindown over the long term
Site Closure Monitoring

- Regular site inspections
- Quarterly monitoring and reporting (monitoring well data, component draindown volumes and quality)
- Annual monitoring reports
Overall Program Trends

- Increasing focus on mine closure early on
- Robust modeling for pit lakes and groundwater
- Heap leach facility draindown and cover performance
- Rock characterization and waste rock management plans
- Process fluid stabilization
- Improving access to information and automated data reporting
- New technologies drone sampling, data gathering
Questions:
Nevada Division of Environmental Protection: www.ndep.nv.gov
Bureau of Mining Regulation and Reclamation: www.ndep.nv.gov/land/mining

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