



Hardrock Mining in Region 9

June 19, 2007

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Presentation Outline

- Background
- Active Mines
- Abandoned Mines
- State/Tribal Issues

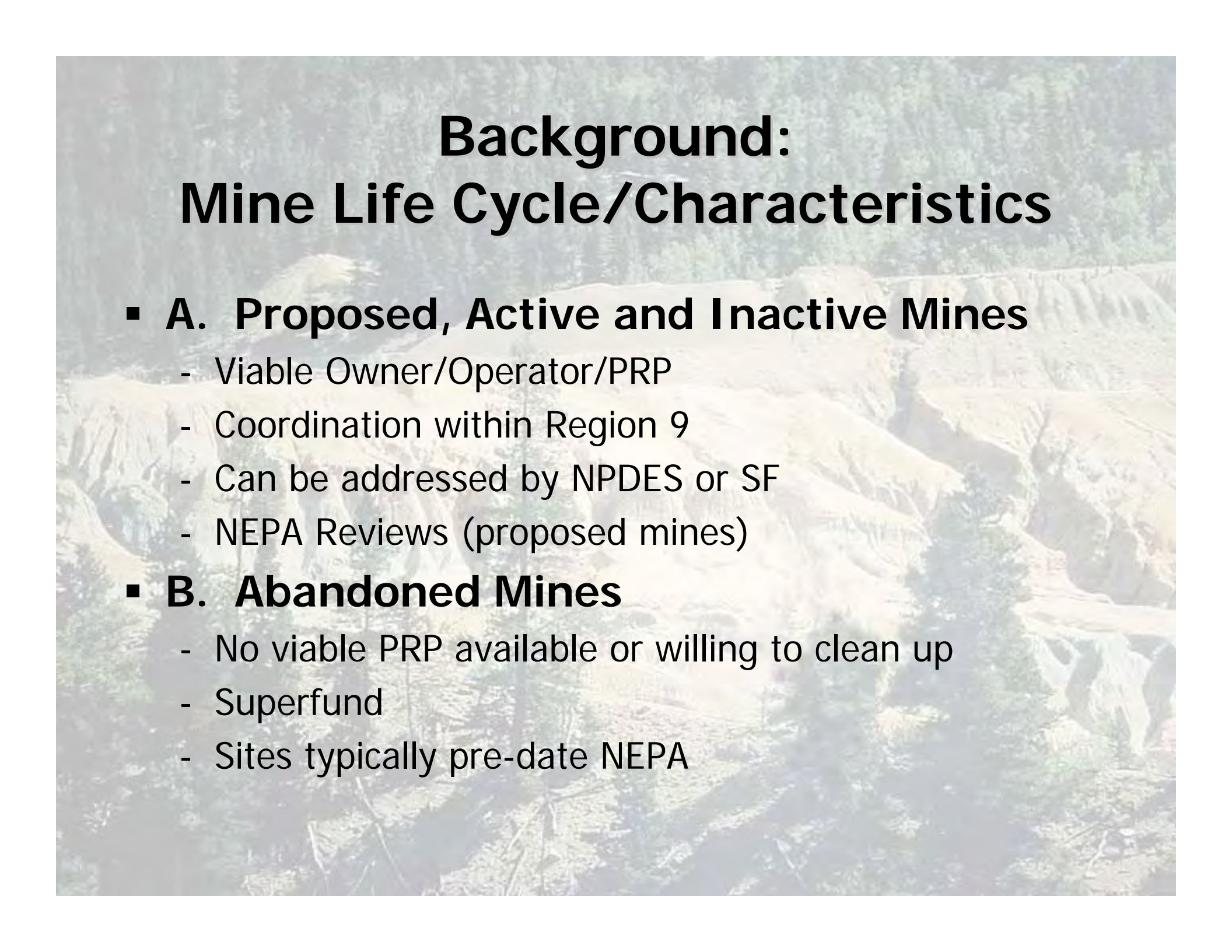
Background: What's current in mining

▪ Nation wide

- Great American West mining priority
- Good Samaritan Legislation
- EPA review of international mine sites
- Financial responsibility
- Population growth in former mining areas
- Metals price increase:
 - New mines
 - Additional permit and NEPA workload

Background: FTE for Mining

	R7 '06	R8 '06	R9 '99	R9 '06	R10 '06
Superfund	11.2		10.1	15.6	14.25
Water	0.62	not available		1.8	6.0
Air & RCRA	0.62		0.3	2.3	0.6
ORC	2		2.0	3.1	3.5
NEPA, tribal, public affairs, other	0.5		1.0	0.75	2.65
TOTAL	15	24- 32	19	23.5	26.5



Background: Mine Life Cycle/Characteristics

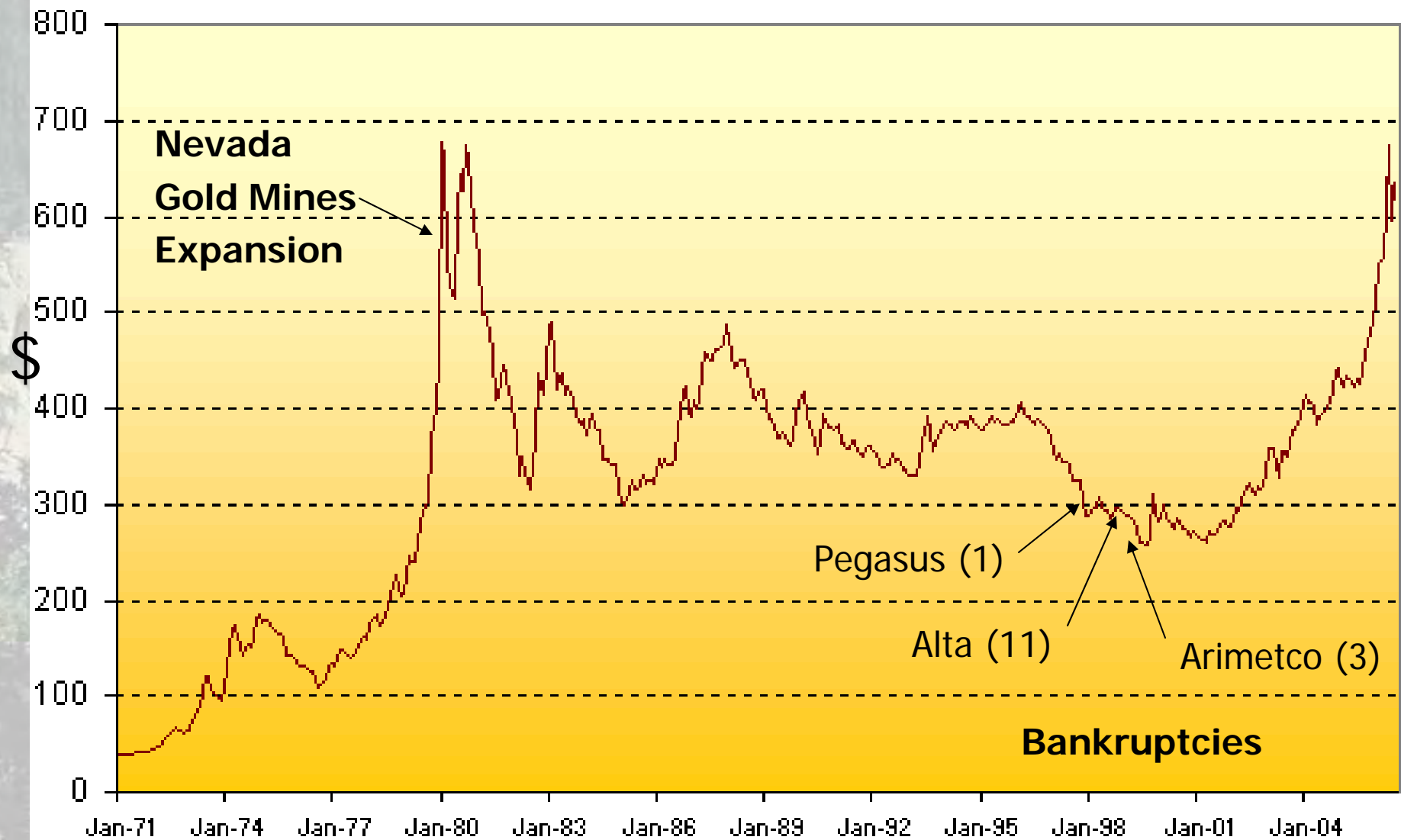
■ **A. Proposed, Active and Inactive Mines**

- Viable Owner/Operator/PRP
- Coordination within Region 9
- Can be addressed by NPDES or SF
- NEPA Reviews (proposed mines)

■ **B. Abandoned Mines**

- No viable PRP available or willing to clean up
- Superfund
- Sites typically pre-date NEPA

Gold Price, \$ per ounce (London pm fix)
Price of Gold vs. time



CED

▪ **Recurring NEPA issues**

- Acid Mine Drainage (AMD)
- Groundwater drawdown
- Mercury air emissions
- Coordination with federal land managers
- Financial assurance/prevention of SF sites

CED

▪ **Financial Assurance**

- National importance; subject of IG and GAO reports
- EIS should describe:
 - Reclamation bond activities and amount
 - Long-term trust fund
- Essential to determining whether project will be environmentally acceptable

CED

- **Dec 2006 Earthworks Report on NEPA sites**
 - 104 hard rock mines were studied, 25 in depth
- **100 percent of mines predicted compliance with water quality standards**
 - 76% of mines studied in depth exceeded water quality standards
 - 64% of Mitigation measures to protect water quality failed
 - Of the sites that did develop AMD 89% predicted they would not

Water Division

- **NPDES permits**

26 Effluent Limitation Guidelines permits

- **TMDLs**

- **Nevada dispute over need for NPDES permits**

- **Trading Policy**

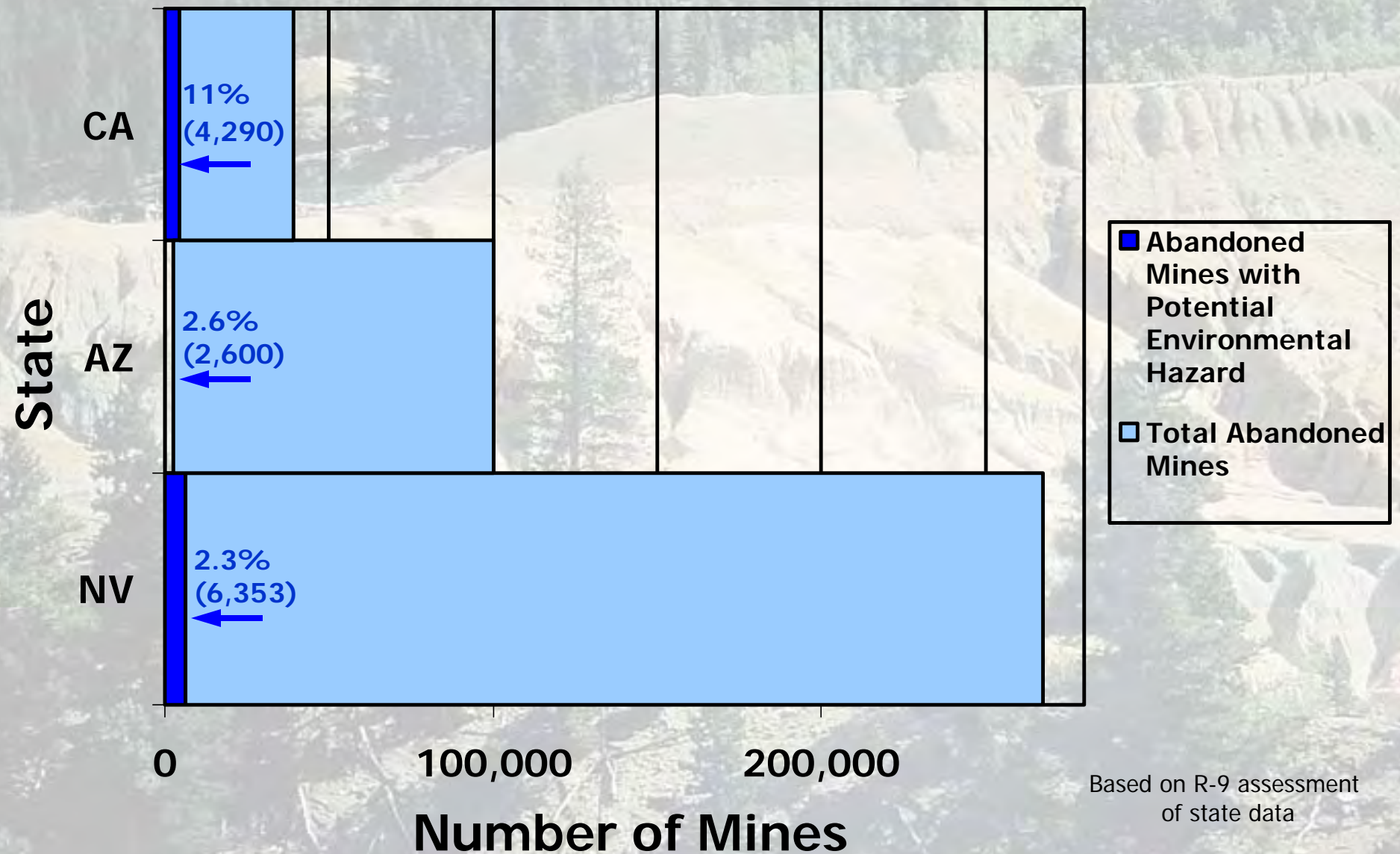
Air Division

- Nevada's regulatory program for mercury emissions from precious metal mining grew out of NDEP's & Region 9's voluntary program with the mines.
- R9/Nevada/R10/Idaho work group
- Notice of intent to sue for gold mines MACT
 - OAQPS preparing a technical document that summarizes the processes and controls in the gold mining industry.
- Current research efforts

Abandoned Mines

- **Major contaminants:**
 - Mercury and mercury deposition
 - Arsenic
 - Acid Mine Drainage
 - Uranium
- **Challenges in prioritizing sites**
- **Superfund action to address impaired watersheds**

Abandoned Hardrock Mines



Superfund

Mine Sites in CERCLIS:

Site assessment – 300+

Removal only – 33

Remedial NPL – 7

Remedial Non-NPL – 6

Brownfields – 4



Altoona Mine

Superfund -Remedial Sites

- **Nevada**

- Carson River Mercury Mine

- **California**

- Iron Mountain Mine
- Klau / Buena Vista Mine
- Lava Cap Mine
- Leviathan Mine
- Sulphur Bank Mercury Mine
- Atlas Asbestos



Klau/Buena Vista Mine

Superfund -NPL Caliber Sites

- **Nevada**

- Rio Tinto Mine
- Yerington Mine

- **Tribal**

- Cyprus Tohono
- Northeast Churchrock

- **Arizona**

- ASARCO Hayden
- Iron King/Humboldt Smelter



Yerington Mine

State Issues: California

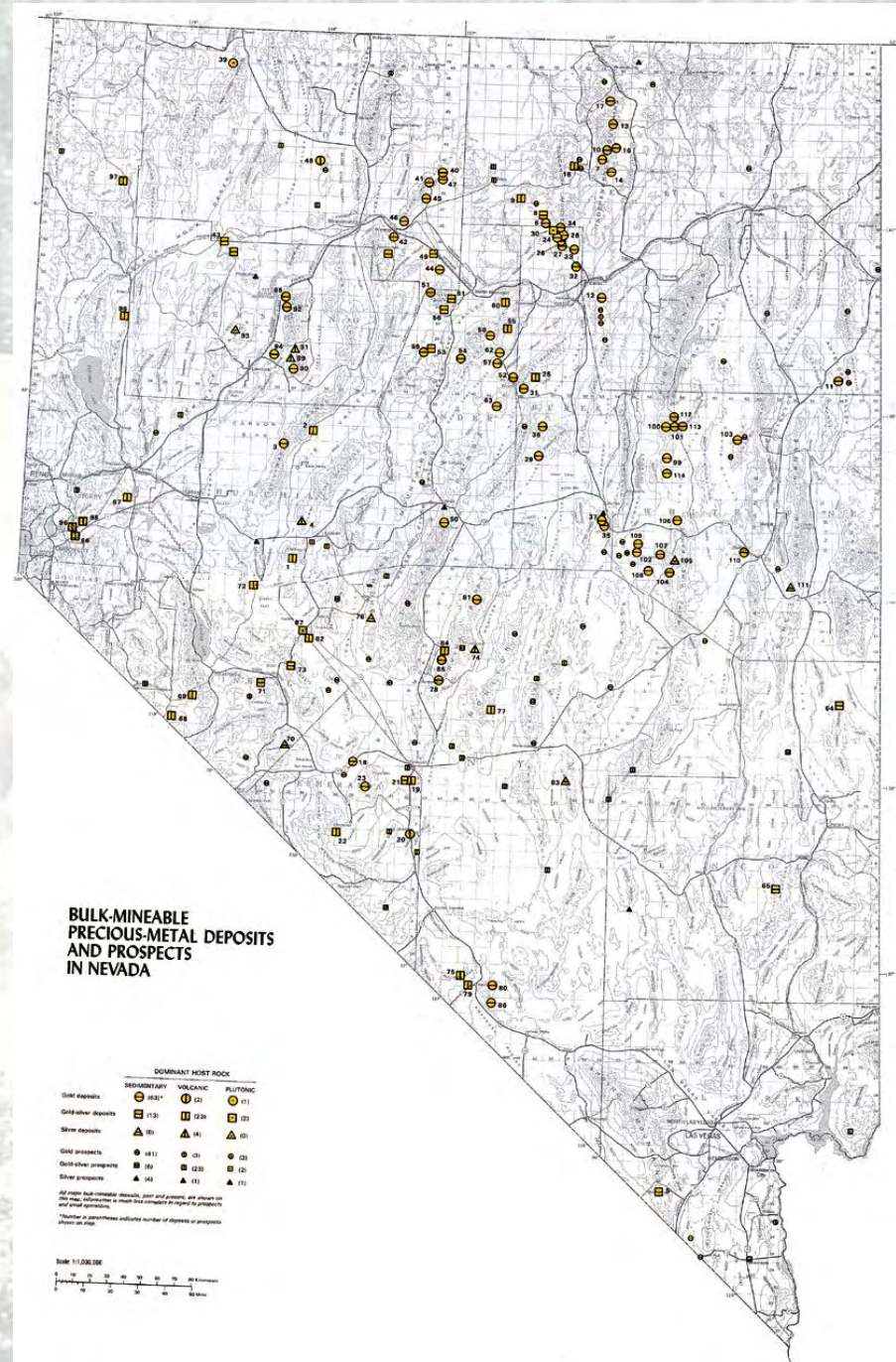
- **Abandoned mines**
- **Mercury**
 - Problems from coastal mercury mines and Mother Lode gold mines
- **Arsenic**
 - Mother Lode communities of California
- **Watersheds**
 - RWQCB wants Superfund removal actions to meet TMDLs for watersheds
- **CalFed money available for cleanups, but no one willing to perform work**

State Issues: California

- **List of worst mine sites in State**
 - Provided to Senator Feinstein staff
 - Collaborative effort with state and federal agencies
 - Listed 117 of the worst contaminated mine sites
- **EPA has listed, done removals at or assessed 28 out of the 117.**

State Issues: Nevada

- Proposed, active abandoned
- Has 44% of large active mines in US
- Federal lands
- Mercury air emissions



State Issues: Arizona

- **Active and abandoned mines**
- **Arizona DEQ retains NPDES program authority for the time being**
- **Smelting operations**
- **Potential NPL candidates:**
 - Iron King Mine/Humboldt Smelter
 - ASARCO Hayden

Tribal Issues

- **Many mines which potentially impact tribal lands**

Yerington, Leviathan, Cyprus Tohono, Sulphur Bank, Rio Tinto, Mission, NE Churchrock

- **Tribal participation helps promote cleanup**

- **EPA support in building tribal capacity is effective**

- GAP, CWA 106, SF Cooperative Agreement
- Financed a NDEP - tribal liaison
- Natives Impacted by Mining

National Hardrock Mining Team

- **Created as part of EPA's 1997 Hardrock Mining Strategy**
- **Serves as an information exchange between regions and HQ & ORD**
- **Tasks:**
 - Identify and resolve key technical and policy issues related to mining
 - Coordinate with other agencies and groups through regular calls
 - Promote a national consistency in decision-making

Region 9 Mining Group

- **Composition:**

- Staff of CED, SFD, WTR, ORC, RCRA and Air

- **Developed from Regional Mining Strategy**

- **Tasks:**

- Facilitate regional information exchange
- Coordinate mining issues and cross-divisional activities
- Leverage opportunities with other agencies
- Respond to national mining issues
- Hold monthly meetings