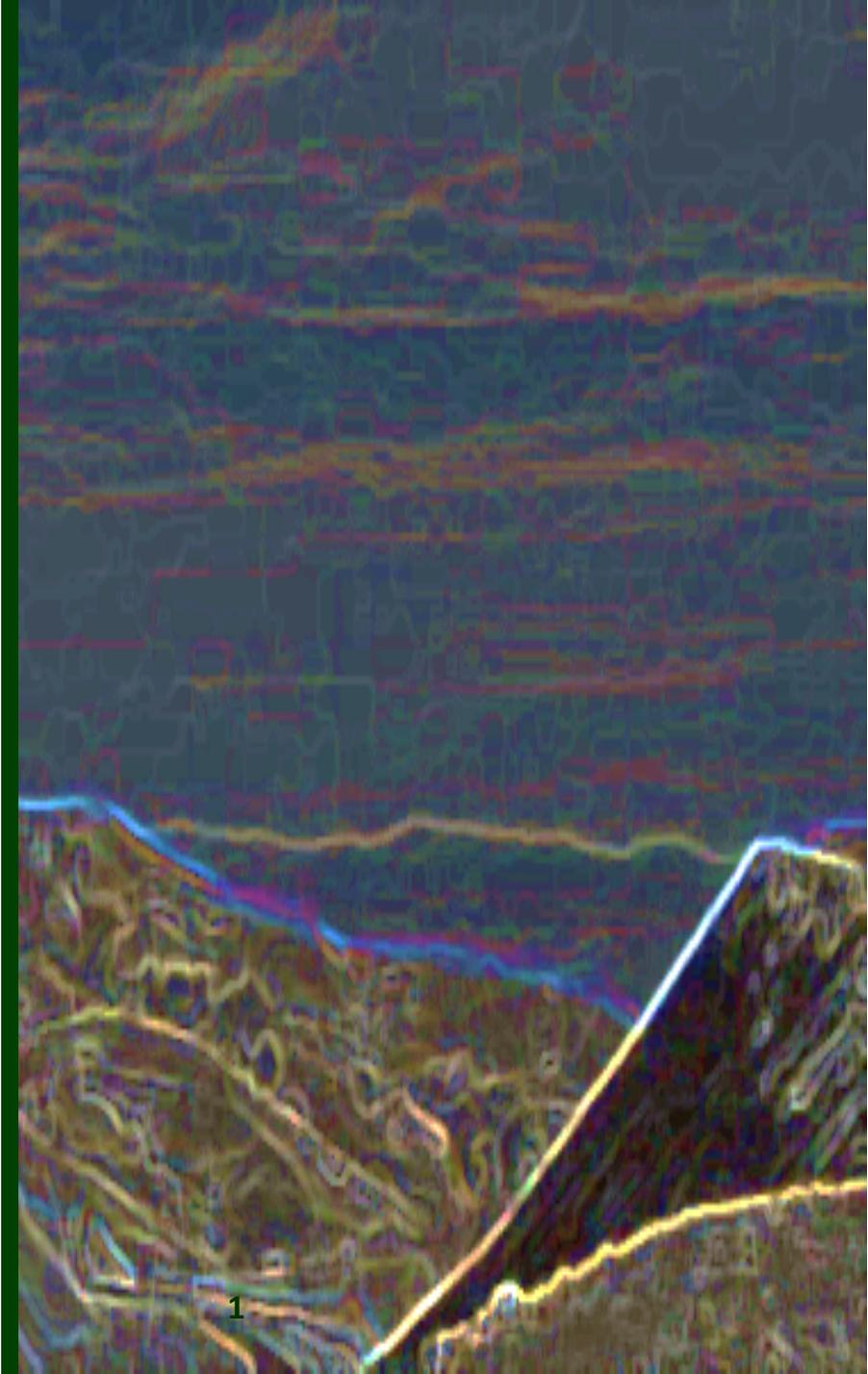


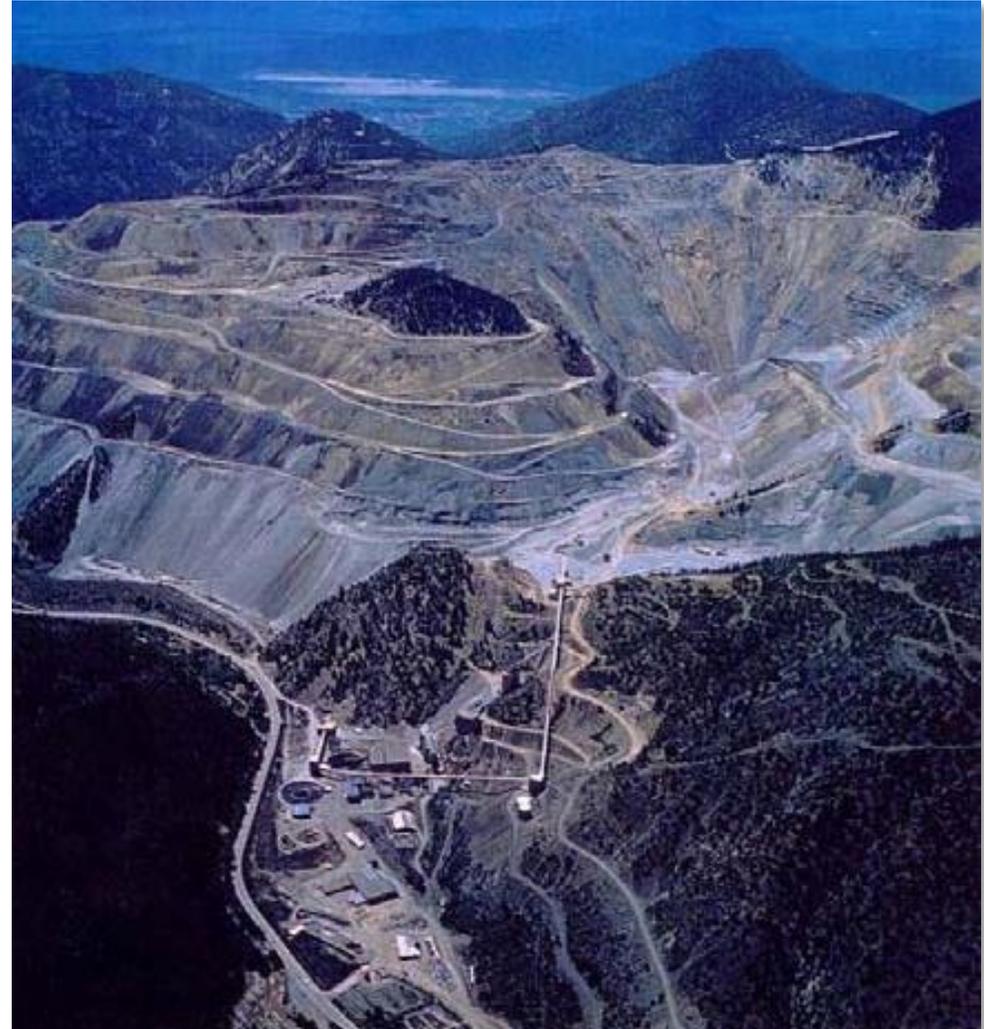
Ecological Revitalization at Mining Sites

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Common Challenges at Mining Sites

- Remote locations
- Mixed ownership
- Complex contaminant location and transport
- Multiple mines within a watershed



Common Challenges Cont.

- Huge volumes of waste
- Regulatory challenges
- Acid mine drainage
- Cleanup standards



Considering Green Remediation Techniques

Consider more sustainable and greener cleanup options, such as:

1. Revegetation with native plants
2. Soil amendments



Using Soil Amendments

- Why use Soil Amendments?
 - Soil amendments can:
 - Reduce contaminant exposure, bioavailability and phytoavailability
 - Improve soil health & ecosystem function
- What kind of mining sites are good candidates for soil amendments?
 - Hard rock mining sites
 - Coal mining sites
 - Smelting and refining sites



Restoring Hillsides at the Bunker Hill Site, Coeur d'Alene, Idaho



1993



2003



2014

Revitalizing Landscapes at California Gulch, Lake County and City of Leadville, Colorado



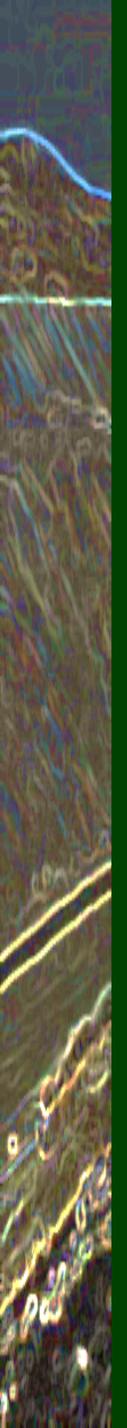
1996



2009

Resources

- EPA
 - https://clu-in.org/greenremediation/docs/GR_factsheet_miningsites.pdf
 - https://www.epa.gov/sites/production/files/2015-12/documents/mining_framework20030807signed.pdf
 - www.cluin.org/ecotools
 - www.cluin.org/mining
- Interstate Technology Regulatory Council (ITRC)
 - http://www.itrcweb.org/Documents/MiningWhitePaper_2008.pdf
 - http://www.itrcweb.org/miningwaste-guidance/reg_issues.htm
- BLM/Forest Service
 - http://www.blm.gov/style/medialib/blm/wo/MINERALS_REALTY_AND_RESOURCE_PROTECTION_/aml.Par.86533.File.dat/Final%20AML%20Report.pdf



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