

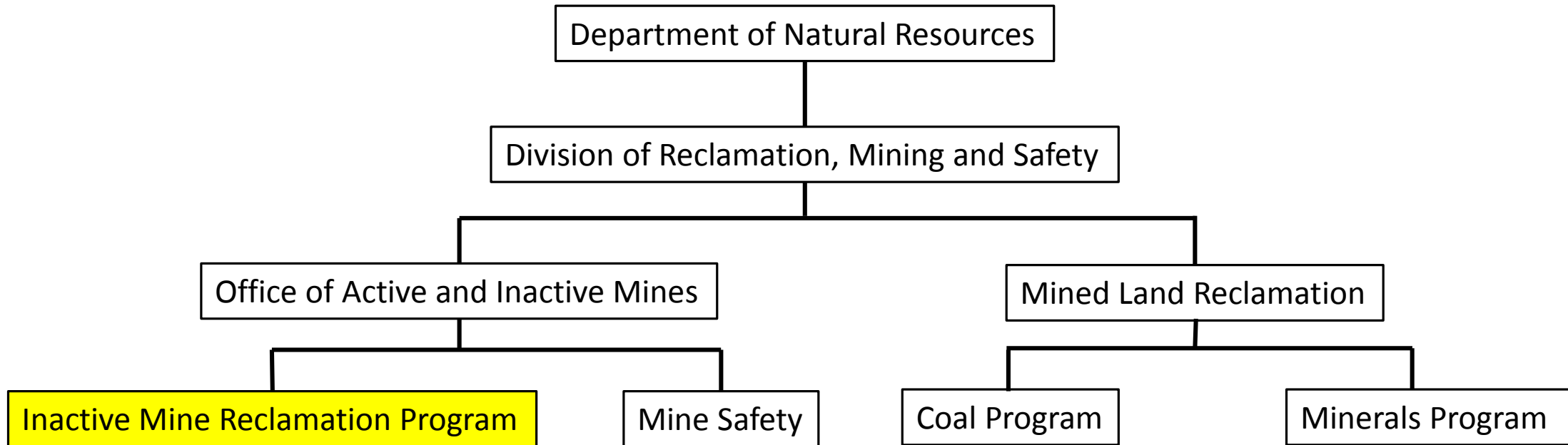
# Colorado's AML Cleanups: What works, what doesn't and challenges to come

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# DRMS

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Mission: Undertake reclamation aimed at reducing hazardous situations associated with past mining activities.

# Abandoned Mine Lands/Inactive Mines/Legacy Mines

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- Operated prior to 1977 (coal) or prior to 1980 (non-coal).
  - Not bonded with State for reclamation.
- No broad State level regulatory framework for AML sites.
  - Clean Water Act, CERCLA, RCRA, State Engineer, possibly others.
- Inactive Mine Reclamation Program
  - Not regulatory.
  - Design and Implement cleanup projects.

# What Works – Addressing Liability

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1. Cleanups accomplished under EPA-CDPHE-DRMS MOU providing time critical removals through CERCLA to address partner's liability concerns.
2. Avoiding CWA liability by focusing on non-point source issues and not treating mine discharge.
3. Developing strong stakeholder partnerships that ensure all interested parties are at the table.
4. Working through local communities and watershed groups to develop priorities and projects.
5. Clearly outlining expectations for success.

# What Works – Implementing Projects

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1. Adequately characterizing site conditions to develop appropriate remedies and expectations.
2. Applying site specific designs, not a “one size fits all” mentality.
3. Using proven Best Management Practices (BMPs).
4. Balancing remedy selection with possible O&M requirements.
5. Pragmatically approaching project design and implementation to reduce cost while cleaning up the site. Best bang for the buck mentality.
6. Measuring success based on implementation of BMPs (performance criteria), not just chemical criteria downstream.



# What Doesn't Work

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1. Treating water without incurring CWA liability.
2. Measuring success merely by downstream water chemistry.
3. A cumbersome or complex process to implement work or provide liability relief.
4. Unrealistic expectations regarding cleanup goals.

# Future Challenges

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1. Willingness of EPA to provide liability protection through time critical removals or other adequate means.
2. Significantly improving AML impacted watersheds without addressing mine related point sources.
3. Inherent uncertainty and risk associated with AML cleanups.
4. Potential cost of AML cleanups.