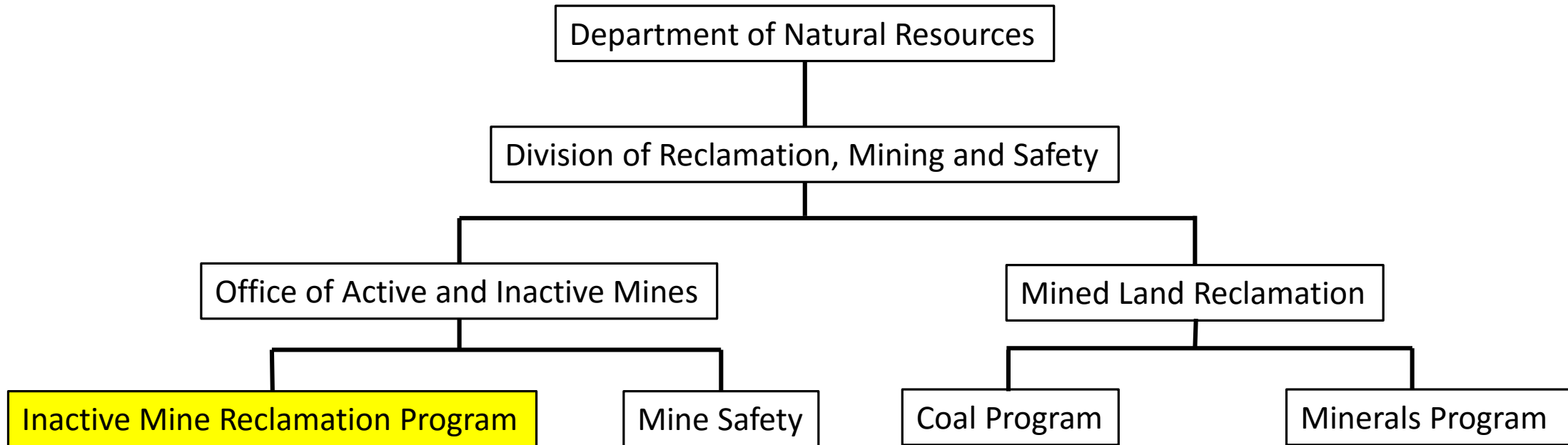


State Government Considerations for AML Cleanups

JEFF GRAVES, PROGRAM DIRECTOR, INACTIVE MINE RECLAMATION PROGRAM
COLORADO DIVISION OF RECLAMATION, MINING AND SAFETY

DRMS



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

Abandoned Mine Lands/Inactive Mines/Legacy Mines



- 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.

Considerations for Project Implementation

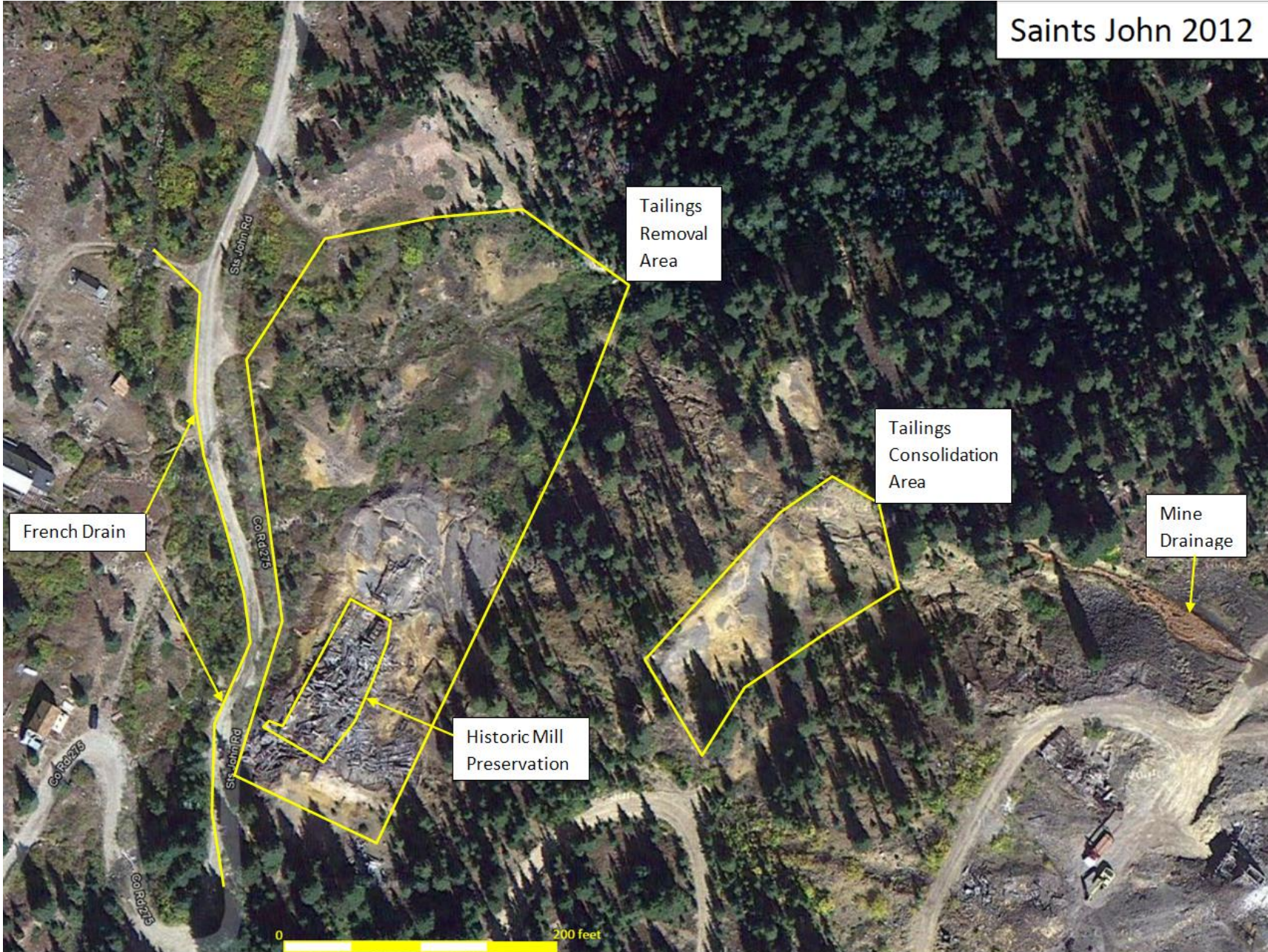
1. Adequate Characterization
2. Appropriate Remedy Selection
3. Expectations/Achievability
4. Risk
5. Partnerships
6. Operations and Maintenance





Appropriate Remedy

- Proven BMP
- Pragmatic
- Cost effective
- Low O&M
- Address the identified problem
- Effectiveness of addressing the problem



Expectations/Achievability

- Set reasonable expectations based on:
 - Characterization results
 - Remedy selection
- Establish appropriate metrics
- Function of funding
 - Biggest bang for the buck



-
- Reduce three pounds per day zinc entering stream from Saints John tailings
 - Restore wetlands
 - Consolidate, cap and revegetate tailings



Risk

- Authority for implementation (CERCLA?).
- Non-point Source vs Point Source Discharge.
- Uncontrolled release potential.
- Downstream users.
- Likelihood of success.



Partnerships

- Cooperative landowners
- Leverage funding
- Involve local stakeholders
- Utilize various expertise
- Diversify project ownership

**SAINTS JOHN
RECLAMATION PROJECT**

RETURNING LAND TO BENEFICIAL USE

PROJECT PARTNERS:

FREEMONT MCMORAN COPPER & GOLD, INC.	THE TOLEN FAMILY
COLORADO DEPARTMENT OF PUBLIC HEALTH AND THE ENVIRONMENT, WATER QUALITY CONTROL DIVISION	TROUT UNLIMITED
THE UNITED STATES FOREST SERVICE	SNAKE RIVER TASK FORCE
ENVIRONMENTAL PROTECTION AGENCY	KEYSTONE CENTER
COLORADO WATER RESOURCES & POWER DEVELOPMENT AUTHORITY	SUMMIT COUNTY
	TOWN OF MONTEZUMA
	UNITED STATES GEOLOGICAL SURVEY

PROJECT MANAGED AND DEVELOPED BY:

COLORADO
DIVISION OF
RECLAMATION
MINING
&
SAFETY

2380529

Operations and Maintenance

- Who's responsible?
- Operations requirements?
- Maintenance needs?
 - \$\$\$
- Long term monitoring?

Sts. John Mine Reclamation



Sts. John Mine Reclamation

BEFORE RECLAMATION



AFTER RECLAMATION



Thank You.

Questions?



COLORADO

Division of Reclamation,
Mining and Safety

Department of Natural Resources