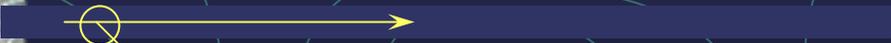


Experiments in Geomorphic Reclamation on AML Sites in New Mexico



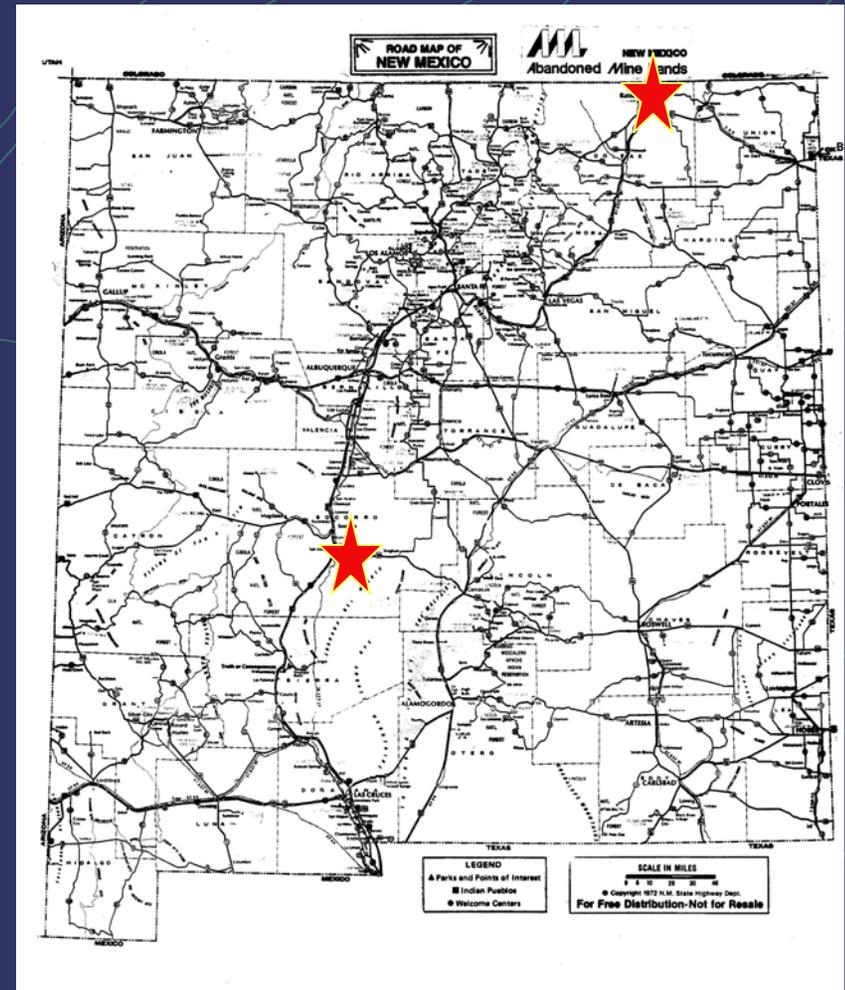
John A. Kretzmann, P.E.

Program Manager

New Mexico Abandoned Mine
Land Program

Three Reclamation Projects in Two Life Zones

- Sugarite Canyon and Yankee/Vukonich Coal Mines
 - Transition Zone
- Carthage Coal Mines
 - Lower Sonoran



Carthage Coal Mine Reclamation

Before (1999)



Kinney Mine #1

After (2006)



Carthage Coal Mine Reclamation



Kinney Mine #1 (2006)

Carthage Coal Mine Reclamation



After (2001)



Before (1995)



After (2006)

SAF Mine

Yankee/Vukonich Coal Mine Reclamation



Pre-Construction Channel

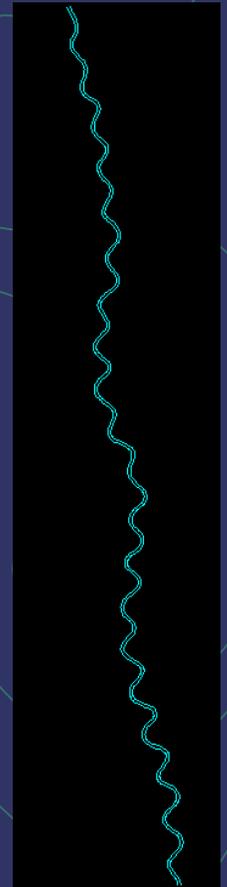
Yankee/Vukonich Coal Mine Reclamation



Yankee/Vukonich Coal Mine Reclamation

Stream Restoration Design Parameters

- Rosgen "B" Channel
- Bankfull Width, 5.0'
- Bankfull Depth, 8"
- Flood Prone Width, 7' to 11'
- Sinuosity, 1.22
- Meander Length, 56'
- Valley Meander Length, 46'
- Channel Slope, 4.5% to 8.5%

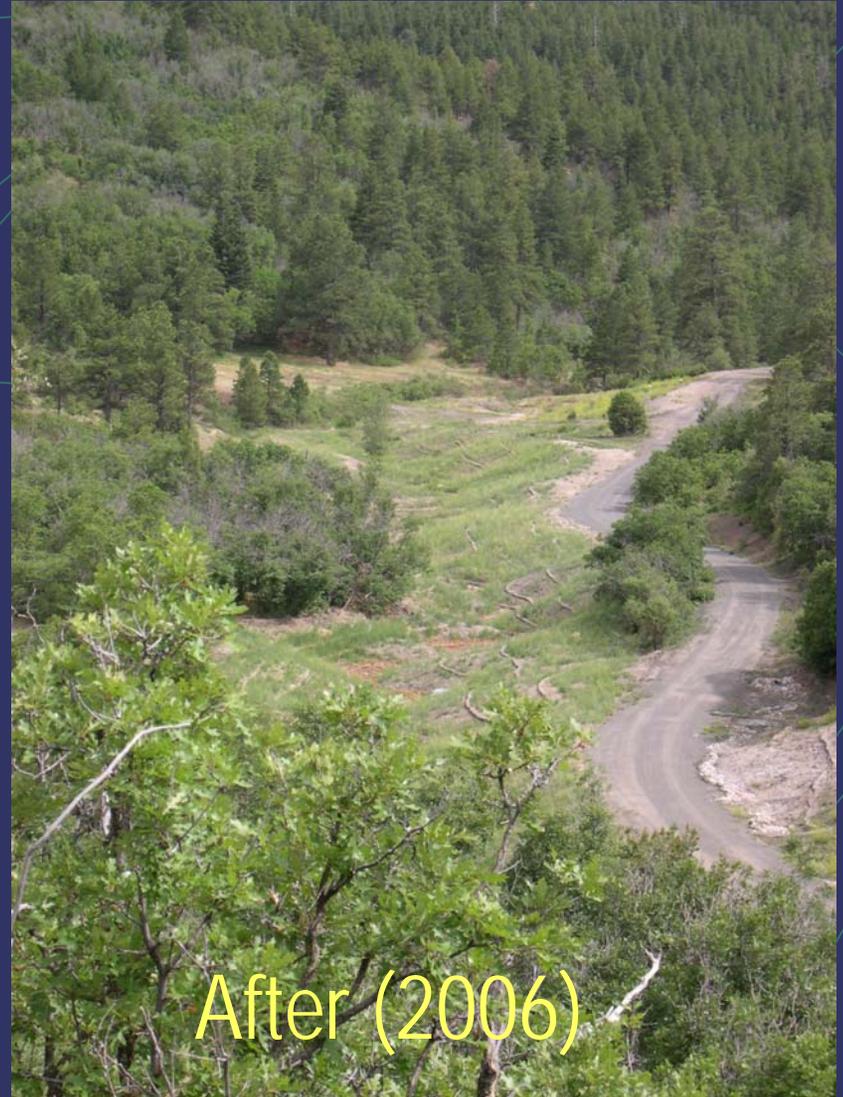


Yankee/Vukonich Coal Mine Reclamation

Wicker Weirs at Riffles



Yankee/Vukonich Coal Mine Reclamation



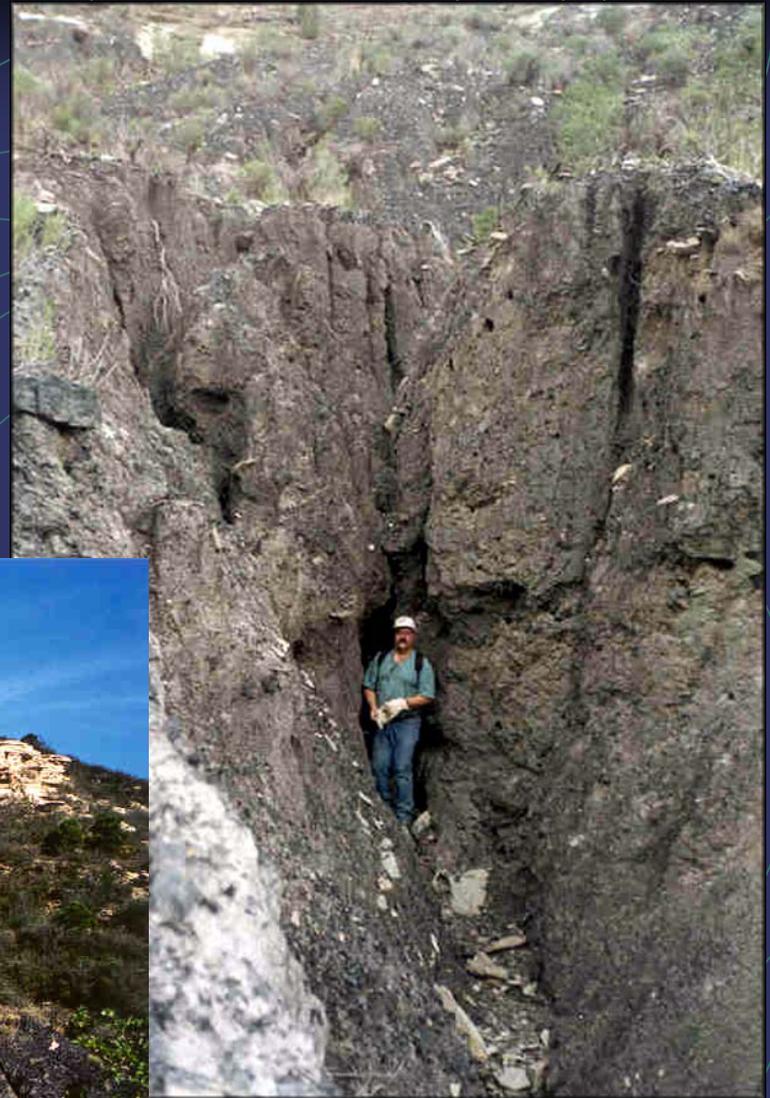
Sugarite Coal Mine Reclamation

Historic Sugarite



Sugarite Coal Mine Reclamation

Pre-Reclamation Conditions



Sugarite Coal Mine Reclamation

Pre-Reclamation Conditions



Sugarite Coal Mine Reclamation

Straw Bale Terracing



Branch Packing

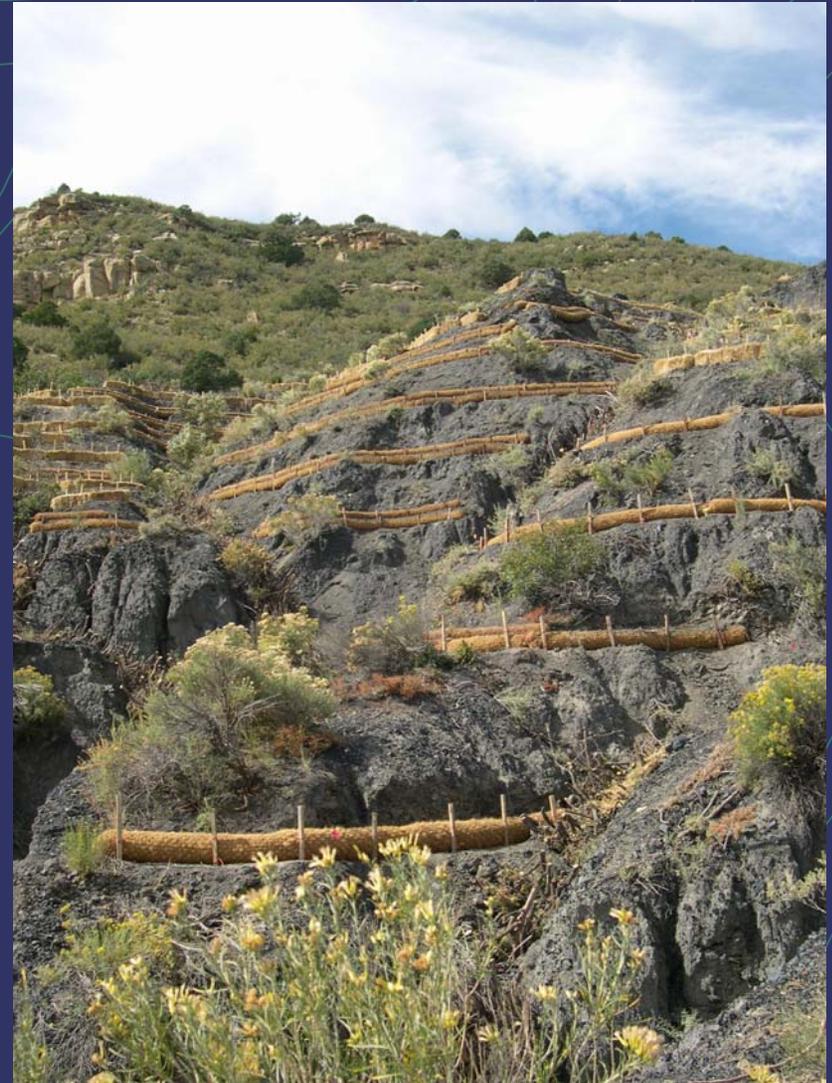
Sugarite Coal Mine Reclamation

Branch Packing



Sediment Control Logs

Sugarite Coal Mine Reclamation



Coir Roll Terracing

Sugarite Coal Mine Reclamation



Amendment
Incorporation



Sugarite Coal Mine Reclamation

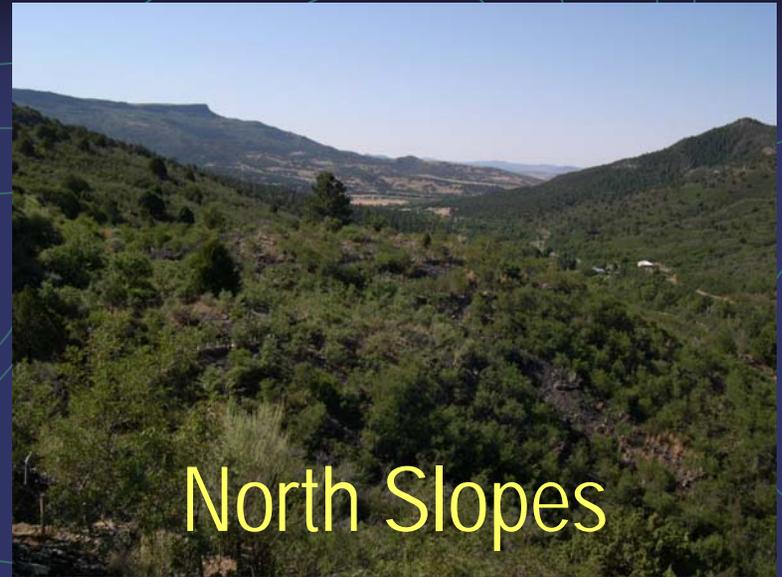
Hydroseeding



Seedling Planting

Sugarite Coal Mine Reclamation

Post-Construction
Results



Sugarite Coal Mine Reclamation



Post-Construction Results –
Chicorica Creek

