

Sugarite Gob Reclamation Project

Raton, NM 1999 - 2002

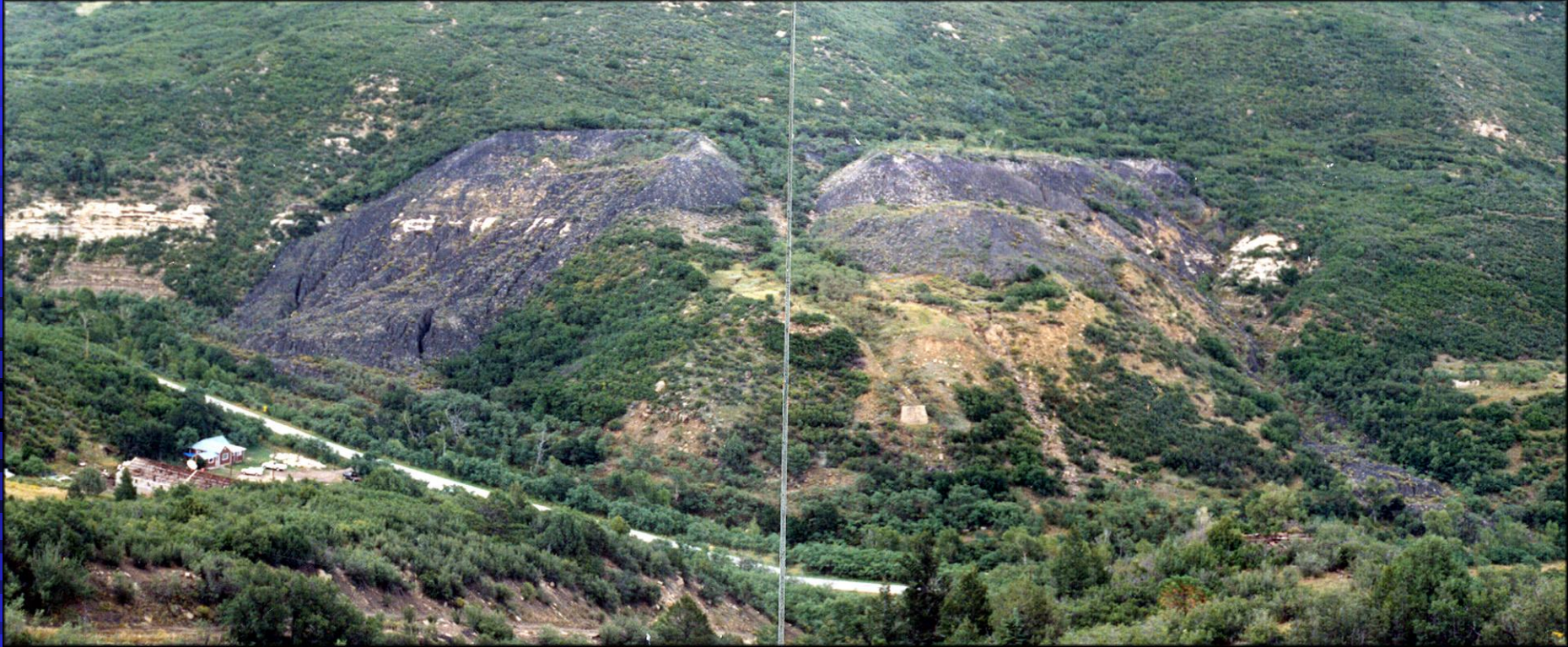
- New Mexico Abandoned Mine Land Bureau
 - John A. Kretzmann, P.E., Project Engineer
 - Randall Armijo, Project Manager
- Construction Contractors
 - St. Cloud Mining Company, T or C, NM
 - C&R Forestry Inc., Albuquerque, NM



Sugarite coal miners, ca. 1918



Town of Sugarite, 1932



Gob Piles A2N & A2S
(prior to reclamation)



Town site ruins and hiking trails

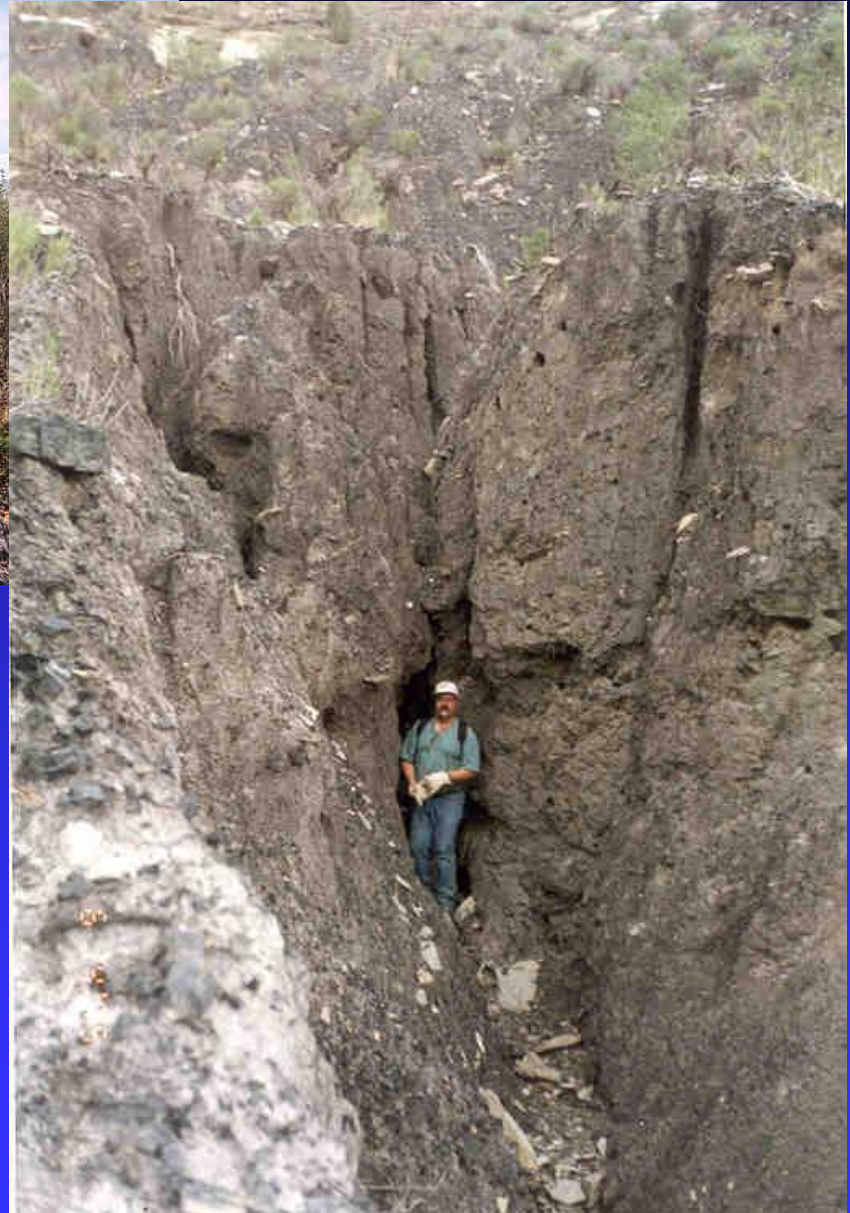
	<u>pH</u>	<u>EC</u> mmhos/ cm	<u>SAR</u>	<u>Sand</u> %	<u>Silt</u> %	<u>Clay</u> %	<u>Texture</u>
Mean	<u>5.8</u>	<u>4.54</u>	<u>24</u>	33	27	<u>40</u>	<u>Clay</u>
Median	<u>5.7</u>	3.25	<u>24</u>	33	26	<u>40</u>	<u>Clay</u>
Max.	7.8	<u>13.2</u>	<u>43</u>	60	38	<u>64</u>	
Min.	<u>4.2</u>	0.4	2.2	11	15	22	

■ Summary of 27 Gob Samples – Sugarite Canyon

Gob Soil Characteristics



Typical gob
slope and gully





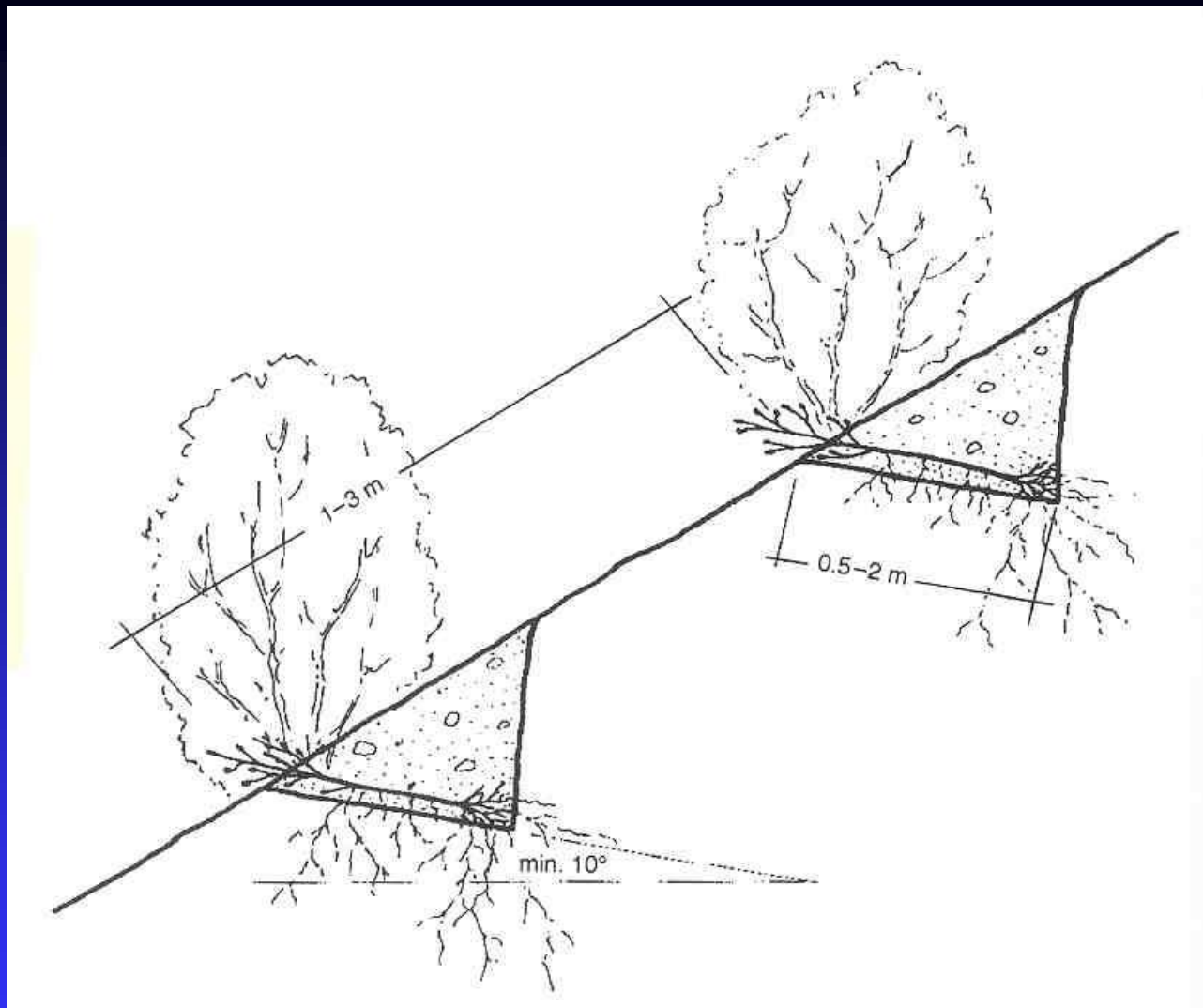
Landslide at Gob Pile A3



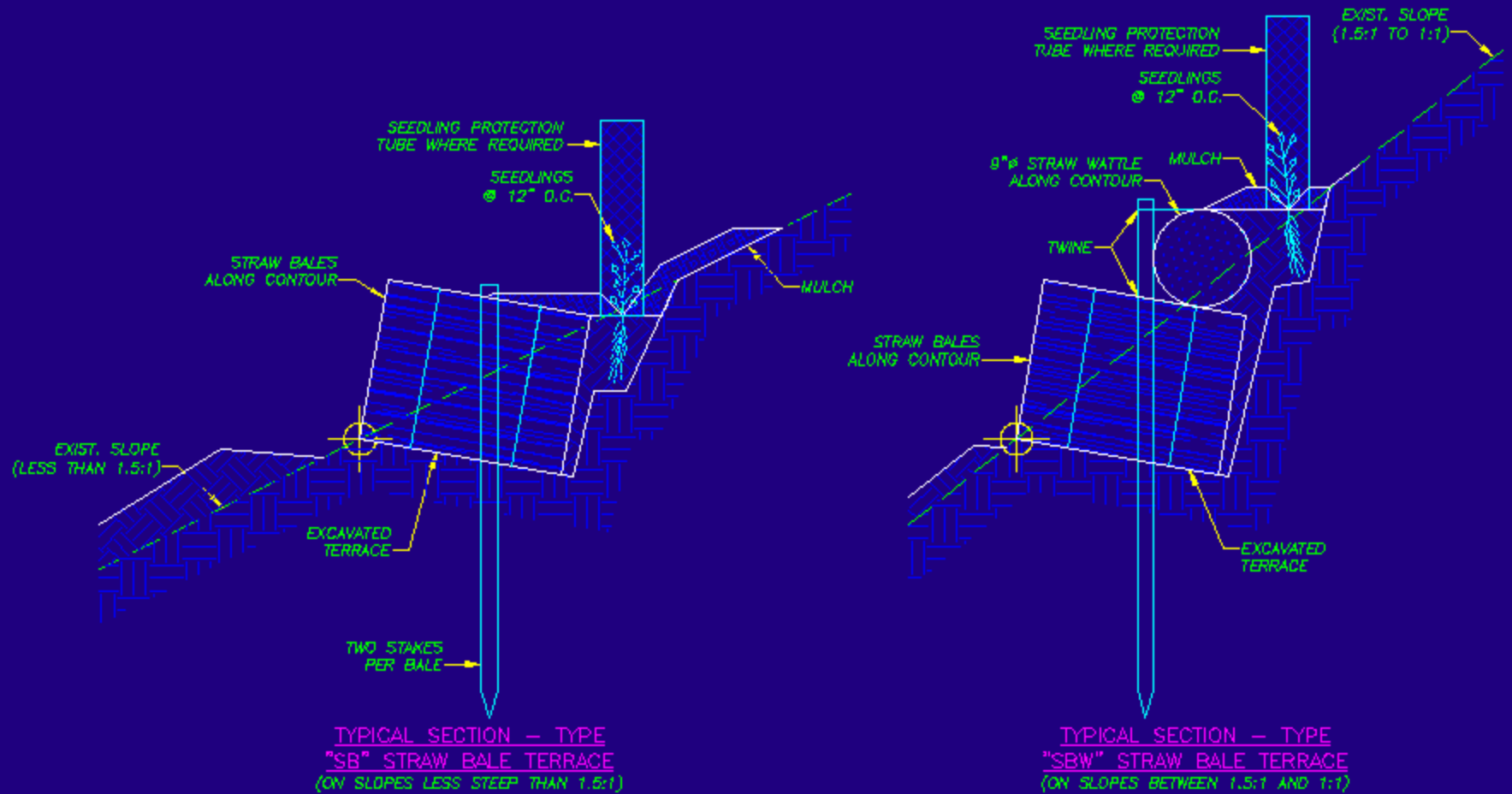
Gob material in creek



Straw bale terrace test installation



Hedge layer construction
(by Hugo Schiechl)



Straw bale terrace construction



Straw bale terraces on Gob Pile A2S

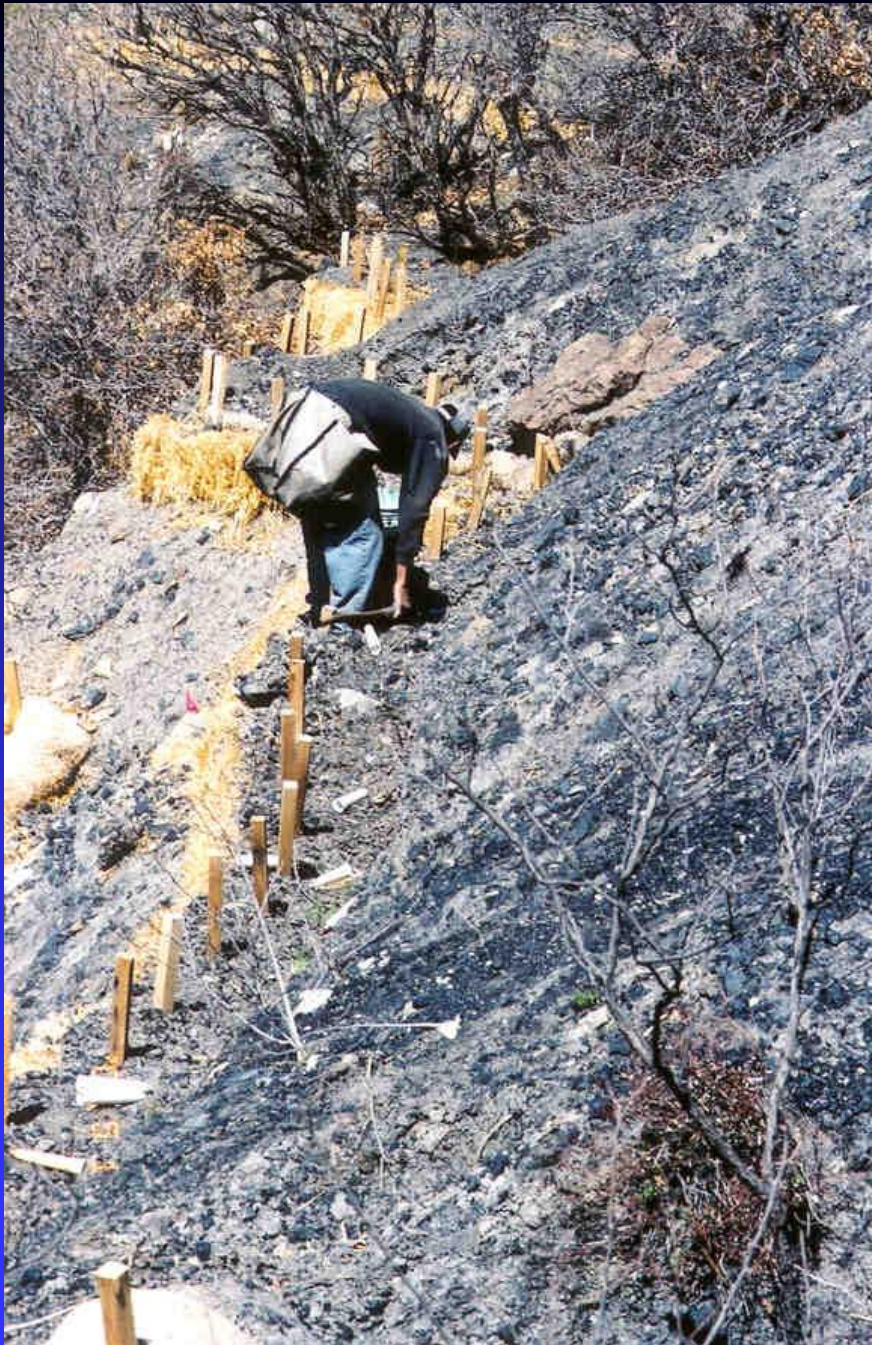


Hydroseeding with bonded
fiber matrix and gypsum



- Coir rolls on slopes between 1:1 and 0.75:1
- Straw bales with straw wattles on slopes between 1.5:1 and 1:1

Terraces on steeper slopes

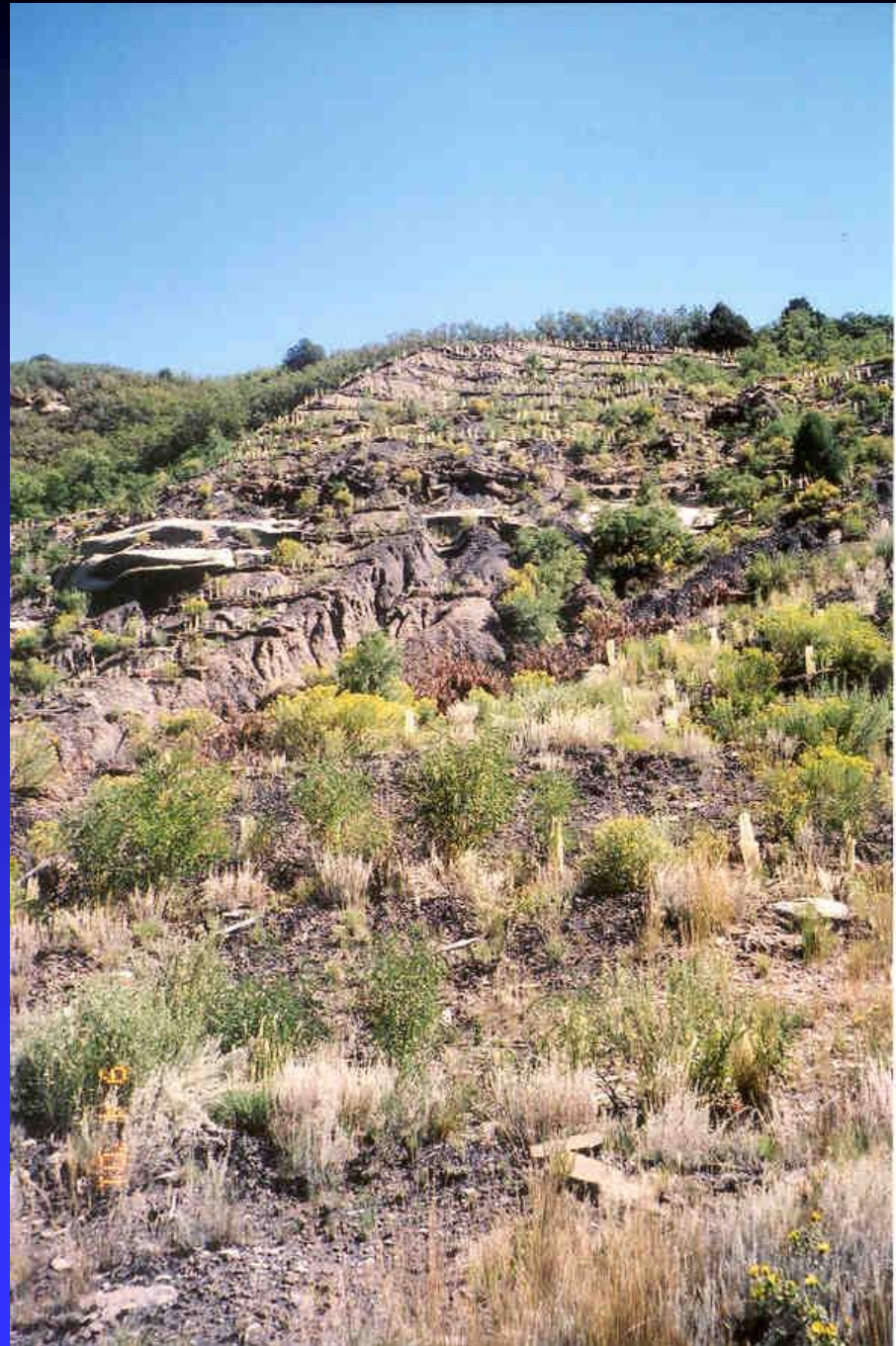


Planting tublings

■ Gob Pile A2S

Seedlings after one and three seasons of growth

■ Gob Pile A2N





Hydroseeded slopes
at Gob Pile A2N

- At base of
Gob Pile A7

Gabion drop structures



- At top of
Gob Pile A1





Branch packing of gullies



■ Gob Pile A2N



Sediment logs



■ June 1999



■ July 2002

Reclamation
results at Gob
Pile A2N





Hydroseeded slopes at Gob Piles A2S & A7

■ July 2002



Aerial photo of Gob Piles A2N & A2S

■ April 2002

Aerial photo of park and gob piles

■ April 2002





Gob Pile A2N

■ July 2002