

## The Milsap Project – Central Colorado



### Project Description

The Milsap Mill Tailings Restoration Partnership addressed stabilization of mill tailings on a mixed ownership site involving both private and public lands within the Milsap Watershed. The material consisted of fine grained silt and sand that was left over following historic gold mining and milling. This material was unstable and had become highly erosive covering a site approximately 60 acres in size. Erosion of this material caused significant downstream damage to streams, streamside vegetation, and agricultural fields over the last 80 years on both private and public lands. These unstable tailings also caused large dust storms in the neighboring communities. The picture below shows the upper tailings area.



The project took approximately six years to develop, with construction work commencing in June of 2007. Major earth moving work was completed in October of 2007. The project resulted in movement of approximately 290,000 yards of material on site. Sixty thousand yards of cover material, 90 tons of certified weed free hay, and certified bio-solids were hauled in. The site was hydro-mulched with a seed mix developed by the Colorado Division of Reclamation, Mining, and Safety (CDRMS) based on their expertise and input from two major mining companies. The picture below shows the same location during construction.



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## Partnership



The Millsap Mill Tailings Restoration Partnership developed for the purpose of clean up of the Millsap Gulch mill tailings. The principal project organizers were Julie Anear and Al Amundson the Colorado Division of Reclamation, Mining, and Safety (DRMS) along with Dan Grenard of the BLM. An unexpected partnership developed during project development with the heavy equipment program under the Colorado Department of Corrections (CDOC). The crew is shown below with Julie Anear and Tom Bowen and Tom Forman.



Tom Bowen (shown below) and Tom Forman of the CDOC led the on the ground crew consisting of 20 inmates operating every type of heavy equipment possible.



A strong supporting portion of the partnership is discussed in the justification write up. This effort was initially greeted with some level of skepticism in the area but by the end was being celebrated as a unique historic achievement.



The partnership was recently recognized in an informal luncheon attended by numerous local officials and former Senator Ken Salazar, at which inmates from the Colorado Department of Corrections received award packages. In addition to repairing a significant environmental problem at low costs, an unexpected result was making a significant change in the life of the twenty inmates. Their efforts were something that everyone involved with the project will always appreciate!

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## The Issue

The Milsap mill tailings are located in an area just south of Victor Colorado. These tailings became unstable in the last 15 years and extensive erosion began to take place. Damage from these unstable tailings was causing extensive damage downstream and had become a local hazard from unsafe ground conditions and airborne dust.



Over the summer and fall of 2007, a massive erosion control effort took place in which approximately 290,000 yards of material was moved. The sediment from this site was washing downstream in large quantities causing extensive downstream damage for a distance of approximately 10 miles.

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## One Year Later!



The project work is about 95% complete in this picture. Compare this photograph with the first picture on this web page. The site reclamation is complete for 2007. A small amount of work will be done along the edges of the site to further control erosion and it is anticipated that some additional seeding and erosion control on a relatively small scale will continue over the next few years.

Over the summer they learned to run everything from an excavator to a sheep's foot Roller. The overall site work involved difficult wet ground conditions, adverse weather, a labor force on a learning curve, and limited budgets, but the construction crew was able to overcome all the hardships.



The success of this project is one of several (but this is the largest) conducted by the Buena Vista Heavy Equipment program. This is an incredibly beneficial use of human resources as these inmates will soon be released with job placement in good construction jobs. The Bureau of Land Management wishes to express a sincere thank you to the Colorado Department of Corrections and the Colorado Division of Reclamation, Mining, and Safety for tremendous dedication and skill in seeing this project through to completion. Al Amundson, the mining engineer who designed the project and provided engineering expertise is shown below.



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## **The Partnership**

This project was possible in large part because of four key individuals: Julie Annear and Al Amundson of the Colorado Division of Reclamation, Mining, and Safety, Tom Bowen of the Colorado Department of Corrections and Dan Grenard of the BLM RGFO.



This photo shows Julie Annear on site and making the project happen. Julie took on the complicated

role of facilitating the partnership. Julie and Al were strongly supported by Loretta Pineda with the Division of Reclamation, Mining, and Safety who worked behind the scenes to make this project possible.

The DOC partnership includes an outstanding public servant, Tom Bowen with the Colorado Department of Corrections in Buena Vista along with his right hand man, Tom Forman, and twenty inmates who had their lives changed forever. In addition to the primary contributions of the Colorado Division of Reclamation, Mining, and Safety and the Department of Corrections there are two other components of the partnership that should be acknowledged.

The first is the Cripple Creek and Victor Gold Mining Company that assisted with water for the project and provided all the cover material (60,000 yards) for site work. This was a substantial contribution and made a significant difference in project costs. It should also be noted that the Cripple Creek and Victor Gold Mining Company took on a similar but much smaller project known as the Independence Mill tailings about a half mile north of the Milsap Project. This project resulted in stabilization of similar highly eroding mill tailings that were impacting Wilson Creek.

The Bureau of Land Management supported this project at local, state, and national levels. The overall abandoned mine program has been made possible by the leadership of George Stone. In Colorado, Rob Robinson has made projects of this magnitude possible. It should also be noted that the Milsap Project was supported by the Resource Advisory Council through a resolution of support.

On a local level at the Royal Gorge Field Office, management and employees worked together to find ways to provide funding and assistance where possible. Special thanks would go to Jan Lownes, Dave Gilbert, John Smeins, Dan Grenard, and Melissa Smeins. That's Dan below trying to convince the rest of the crew about something!

