Norman H. Bangerter
Governor
Dee C. Hansen
Executive Director
Dianne R. Nielson, Ph.D.
Division Director

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203
801-538-5340

4 1991

COPY

August 28, 1991

ATTN: Jay Marshall
Genwal Coal Company
P. O. Box 1201
Huntington, Utah 84528

Dear Jay:

RE: Vegetation Sampling, Crandall Canyon Mine, Genwal Coal Company, ACT/015/032, Folder #2, Emery County, Utah.

Here are the results of the vegetation sampling that was done yesterday above the parking lot and below what was the magazine bench.

Total Cover from Vegetation and Litter	83.5%
Perennial Grasses	39.5
Annual and Biennial Forbs (Weeds)	18.5
Litter	25.5
Bare Ground	8.5
Rock	8.0

12.59 samples were needed to achieve sample adequacy, and 20 transects were done.

I am continuing to work on some of the other issues we discussed, particularly sampling the stream for turbidity. I hope to be able to determine how mining activities could be expected to affect stream turbidity and how these can be measured given the variability associated with precipitation events.

Sincerely,

Paul B. Baker
Reclamation Biologist

an equal opportunity employer

COPY

GENWAL COAL COMPANY

-- M E M O --

TO: File

FROM: Randal Ralphs

DATE: October 7, 1991

SUBJECT: Mountain Shrub Grassland Survey

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Phone conversation between Pricilla Burton, DOGM, and Jay Marshall, Genwal Coal Company, on October 1, 1991.

Ms. Burton informed Jay that Genwal was not required to perform the Mountain Shrub Grassland Survey until the third quarter of 1992. On March 14, 1991, Randal Ralphs, Genwal, wrote a letter to the SCS requesting the study. Mr. George Cook came by on June 28, 1991, to do the study, but could not find the study area. Again on September 10, 1991, we were rained out.

I again tried to contact Mr. Cook by telephone on September 30, and October 1, 1991, to get an up-date on his progress.

P.O. Box 1201 • Huntington, Utah 84528 Telephone (801) 687-9813

GENWAL COAL COMPANY

May 14, 1991

Mr. Jan Anderson
Soil Conservation Service
350 North 400 East
Price, UT 84501

RE: Monitor of Genwal Coal Company's Mountain Shrub Grassland Community Reference Area

Dear Mr. Anderson:

According to Genwal Coal Company's Mining Permit, Chapter 3 page 3-36 and 3-37, requires us to have the Soil Conservation Service monitor the Mountain Shrub Grassland community reference area every five years. The last record of monitoring by the Soil Conservation Service was in July, 1986. Our permit states that this must be done every five (5) years.

We are requesting the Soil Conservation Service schedule a time to monitor and collect the data on the above mentioned reference area. When arrangements can be made by your office, would you please notify me so that a representative of our company can be present during this study. Also representatives of the Division of Oil, Gas, and Mining would like to be present when the study is undertaken.

Should you have any questions or need additional information, please contact me at 687-9813.

Sincerely,

GENWAL COAL COMPANY

Randal J Ralphs
Surface Foreman

tr

cc: Pricilla Burton
DOGM

P.O. Box 1201 • Huntington, Utah 84528 Telephone (801) 687-9813

REVEGETATION IN THE CRANDALL CANYON AREA FOR THE GENWAL COAL COMPANY

-October 1991-

by
MT. NEBO SCIENTIFIC

INTRODUCTION

Seeding was done in several small areas of Crandall Canyon for Genwal Coal Company. The permanent seed mix as described in Genwal's MRP was used because some of the areas may not be redisturbed in the future. The purpose of this report is to describe the general areas, seeding rates and methods used for the seeding.

AREAS SEEDED

Several areas were seeded near the haul road and around the general mine site area of Crandall Canyon. Following is a general description of the areas that were seeded beginning from the Huntington Canyon / Crandall Canyon junction and continuing to the general mine area. For more specific locations of the seeded areas contact Jay Marshall at the Crandall Canyon Mine or Patrick Collins from Mt. Nebo Scientific.

Location 1:

Barely past the bridge there were areas on both sides of the road that were previously disturbed. On the left-hand side (as one travels up Crandall Canyon), a small area was seeded. This area was around a large cottonwood tree and in close proximity to the river that flows down Huntington Canyon.

On the right side of the road, another small area was seeded. This area also included two short reclaimed dirt roads that were also seeded.

Location 2:

As one continues up the canyon, two other areas were seeded

on the right side of the road (between the road and the river). These areas were seeded to decrease sediment that could enter the river. One area had been disturbed previously a piece of heavy equipment that slide down the hillside.

Just up the canyon, another area was seeded. This area was steep and adjacent to slopes that had been reinforced to prevent slippage and erosion of the hillside.

Location 3:

The next areas to be seeded were around the coal loading facilities. First, and almost directly across from the loadout, was a small area that had been disturbed by drainage control measures. Next to be seeded, were some steep slopes on the same side of the road as the loading structures.

Location 4:

This seeding area was the access road behind the shop. This road was seeded up to the straw bales (approximately 200 ft).

Location 5:

The last area to be seeded were the cut slopes that surround the parking area for the Crandall Canyon Trail Head.

METHODS

The areas were seeded on October 18, 1991. This was late enough in the season to prevent seeds for early germination and also from being eaten by many local wildlife species. Seedbed conditions were ideal for seeding. The ground was not frozen and moisture content of the soil was minimal which facilitated seed coverage.

The steep slopes of Locations 3, 4 and 5 were scarified prior to seeding. Small pockets to act as seed catches were placed by hand tools on the steep slopes of Location 3.

Erosion control structures placed perpendicular to the access road of Location 4 were designed to control erosion and runoff. These structures were implemented by using the loader bucket to create indentions on the road and soil mounds on the

downhill side of them.

At location 5, the loader bucket was again used to place contour furrows on the cut slopes. The furrows were regularly spaced and should hold the seed on the slope, decrease erosion and collect water to enhance plant establishment.

The areas were hand seeded by a Cyclone seeder. Following seeding, the seed was slightly covered with soil by hand-raking the areas. A copy of the certified seed list that includes purity, origin, and supplier was included with this report. Application rates were according to the permanent seed mix dated January 4, 1989 in Genwal's MRP (p. 3-15). The only species that was deleted from the list for this seeding was Rocky Mountain Juniper (*Juniperus scopulorum*) because access may still be necessary on some areas. Because it is a tree, vehicular access would have been difficult when individuals became larger.

SEED INFORMATION FOR REVEGETATION IN CRANDALL CANYON

by
MT. NEBO SCIENTIFIC

October 1991

GENWAL COAL MIX

MIX # 1585

PURE SEED %	SPECIE	GERM/ORIGIN
16.77	WESTERN WHEATGRASS	92/WA
16.60	MOUNTAIN BROMEGRASS	93/MT
15.75	SLENDER WHEATGRASS	98/MT
11.42	BLUEBUNCH WHEATGRASS	90/WA
5.77	MOUNTAIN SNOWBERRY	90/UT
5.77	WOODS ROSE	90/UT
5.65	BLUE FLAX	91/WA
5.43	OAKBRUSH SUMAC	95/UT
5.42	SMALL BURNET	95/OR
3.22	BLUELEAF ASTER	80/UT
2.81	YELLOW SWEETCLOVER	90+2=92/CAN
2.69	PAUITE ORCHARDGRASS	95/OR
.15	OTHER CROP	TESTED: 9/90
2.08	INERT MATTER	
.47	WEED SEED	NOXIOUS:

NET WEIGHT: 29.15 LBS BULK
26.25 LBS PLS

FOULGER SEED COMPANY
6950 SOUTH 400 WEST #1
MIDVALE UT 84047