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MARGARET H. OLSON

October 29, 1992

Copy Tom M.
Susan

Dianne Nielson
DIVISION OF OIL, GAS & MINING
Three Triad Center
355 West North Temple
Salt Lake City, Utah 84180

Re: *Hidden Valley Coal Company / Abatement of C92-26-1-2*

Dear Director Nielson:

Enclosed is the Plan of Abatement for the above Cessation Order and Notice of Violation No. N91-26-8-2 prepared by JBR Consultants Group. Please notify me immediately if this does not meet the requirements of your Cessation Order.

Very truly yours,

MARGARET H. OLSON

MHO/kg
Enclosure

RECEIVED

OCT 29 1992

DIVISION OF
OIL GAS & MINING

HIDDEN VALLEY COAL COMPANY
PLAN FOR ABATEMENT
OF
NOTICE OF VIOLATION NO. N91-26-8-2

September 28, 1992

Submitted by

Hidden Valley Coal Company
1801 University Drive
Phoenix, Arizona 85034

Prepared by

JBR Consultants Group
8160 South Highland Drive, A-4
Sandy, Utah 84093

HIDDEN VALLEY COAL COMPANY NOV ABATEMENT PLAN

Introduction

The proposed plan is intended to satisfy the violations under NOV N-91-26-8-2 recorded at the Hidden Valley reclamation site owned and operated by Hidden Valley Coal Company. The Hidden Valley site is considered difficult to stabilize due to the inherent instability of the landscapes and soils and the erratic scattered precipitation events that include intense convection storms. Thus, significant plant growth is short-lived and erratic and erosion events from convection storms are characteristic of this terrain.

Following several heavy precipitation events that caused erosion in the reclaimed areas, the repairs and modifications of reclamation techniques have somewhat stabilized the site considering the natural erosion rate in the area. The seeded vegetation has responded to spring moisture in 1991 and 1992 and has become established on the roadbed and the fill slopes of A and B seams. In particular, species seeded only in 1986 during the initial revegetation efforts have now appeared five growing seasons later as immature plants.

The establishment of any seeded plant species in the roadbed has been difficult even with repeated seeding, fertilizing, mulching and covering with netting. Now that some desirable vegetation is becoming established, we will avoid further disturbances on the roadbed. This would include the prohibition against bringing machinery onto the roadbed, either to alter waterbar outfalls or to aid in revegetation.

The following sections describe plans to abate the two violations within the constraints given above. The first addresses the violation for erosion of road slopes and the second addresses seeding of disturbed areas associated with the road.

Erosion Control

Hidden Valley Coal Company plans to abate the first violation by performing repair work on the outfall locations using non-mechanical, hand labor. A description of the repair work follows.

First, the outfalls will be groomed or shaped within the confines of the existing gulleys by rearranging loose rock and slump features. Due to the nature of the unengineered fill in which these gulleys occur, the reshaping will not result in a uniform channel down the steep slope, but will provide the best possible "foundation" for further repairs.

Next, small, porous check dams will be installed at frequent intervals along the outfall channels. These dams will be constructed of a fiber barrier using a product equivalent to the fiberdam material constructed by Synthetic Industries. The material is a flexible, moldable mass of fibers that, although irregular in shape, can be molded to fit within a non-uniform cross sectional area. It will be shaped to about a 1-foot thickness, with maximum height approximately two feet. The center of the dams will be lower than the edges, functioning as a spillway. The dams will be held in place with wooden or metal stakes.

The function of these porous dams will be to reduce velocity of runoff in the outfall, causing deposition of sediments behind and within the fiber dams. Water will pass through the dams, as well as over the spillways; the porous nature of the dams will not block flow or set up conditions whereby forces against the dams are excessive. Allowing water to pass through the dams also reduces the chance of erosion around the edges of the dams, causing failure. Over time, sediments will eventually clog the dams. This, in combination with deposition behind the dams, will in effect, build back up the gulley floor to some reasonable elevation. The retention of the fine sediments will, in turn, allow greater moisture retention and these areas will have a greater opportunity for plant colonization.

These dams will be spaced closely down the channel, at a distance determined from field conditions. As needed, a synthetic fiber erosion matting may be laid in the channel between the check dams to provide additional protection.

The goal of the repair work is to enable development of a series of steps down the outfall, with the flat sections vegetated and the steep sections stabilized.

Revegetation

The revegetation techniques to answer the second violation will be limited to hand distribution methods only. The history of revegetation at Hidden Valley has shown that seedings only respond when sufficient moisture is available during the spring growing season. The use of mulching, netting and erosion blankets has not significantly altered the local environment conditions to foster plant growth. Thus, the revegetation attempts will utilize hand methods to increase moisture retention without severely damaging the surface of the steep slopes.

The areas requested for seeding will be broadcast seeded with the included seed mixture.

1. The sites requested for seeding and pitting will be done by broadcast seeding and pitting with a pulaski hand tool at the rate of one pit per square yard.
2. The sites requested for seeding, pitting, mulching and netting will be broadcast seeding after pitting as described in #1. The use of mulch and netting has not been beneficial at Hidden Valley.
3. The sites requested for seeding, pitting, mulching, crimping will not be revegetated. This site was seeded prior to the 1986 reclamation work, and through natural succession, is now progressing towards a natural colonized site.

The revegetation work will be accomplished in the fall, 1992 season when soil conditions permit. Those acceptable soil conditions defined as less than 10% snow cover, frost free in the upper six inches and is sufficiently dry in the upper six inches to not clod when worked.

The following seed mixture and rates will be used:

<u>Common Name</u>	<u>Scientific Name</u>	<u>PLS lbs/acre</u>
Indian ricegrass	<i>Oryzopsis hymenoides</i>	3
Russian wildrye	<i>Elymus junceus</i>	3*
Ephraim crested wheat squirreltail	<i>Agropyron cristatum</i>	3**
yellow sweetclover	<i>Sitanion hystrix</i>	1
fourwing saltbush	<i>Melilotus officinalis</i>	3
shadscale	<i>Atriplex canescens</i>	3
winterfat	<i>Atriplex confertifolia</i>	2
	<i>Ceratoides lanata</i>	3
	Total	<u>21.0</u>

* exotic used in first mixture in 1986

** exotic but an excellent soil binder and better suited for this site than other native seeds available

This mixture varies from that listed in the Interim Plan. The species selection is based on what has grown and survived at Hidden Valley in the last five years.