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State of Utah  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

Michael O. Leavitt  
Governor

Ted Stewart  
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James W. Carter  
Division Director

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April 18, 1994

Mr. Robert Burnham, President  
Sunnyside Coal Company  
P.O. Box 99  
Sunnyside, Utah 84539

Re: Portal and Shaft Closure Required, Sunnyside Coal Company, Sunnyside Mine, ACT/007/007, Folder #2, Carbon County, Utah

Dear Mr. Burnham:

It has been brought to the attention of the Division that the power for the pumps and fans may be shut off soon at the Sunnyside Mine. If breakouts are not sealed before this occurs, proper closure may not be possible due to their inaccessibility. It appears that backfilling and sealing the breakouts can only be accomplished inside the mine. Since no one will be allowed to enter the mine unless the fans are operating, it is imperative for Sunnyside Coal Company to seal and backfill these portals soon, and in any event, before the pumps and fans are shut down. The mine is gassy and the entire mine will need to be properly sealed to protect the public's health and safety.

Currently, Sunnyside has proposed to blast the entrances closed, instead of backfilling. This procedure is unacceptable. It has been the Division's experience that blasting usually does more harm than good. Instead of sealing the mine, blasting usually moves the opening back 25 feet. If the seal is damaged, there could be a direct opening into the mine. The Division requires that all slope or drift openings be backfilled to the stopping to prevent unauthorized entry and reduce vandalism.

A Division Order is enclosed which requires Sunnyside Coal Company to provide an adequate closure plan for the breakouts. Since time is of the essence, the Sunnyside Coal Company must submit a closure plan which addresses sealing and reclaiming the breakouts which is acceptable to the Division and MSHA by April 25, 1994. The plan must include backfilling the portal with at least 25 feet of non-combustible material and installing an MSHA approved seal. This submittal should also contain the date that the breakouts will be sealed.

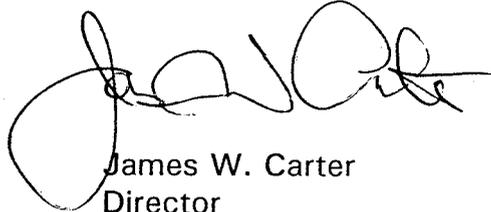


Page 2  
ACT/007/007  
April 18, 1994

Additionally, the current plan for shaft sealing is to place a cap consisting of six inches of concrete and a steel plate on top of the shaft. A 25-foot steel vent pipe will be installed in the cap. While this shaft sealing plan may meet MSHA requirements, it is doubtful that it is adequate for permanent reclamation of the shafts; therefore, it is strongly suggested that the shafts be plugged. Plugs have proven to be more resistant to vandalism and can be backfilled.

If you have any questions, please call me.

Very truly yours,



James W. Carter  
Director

mbm  
Enclosure  
cc:/enc.      J. Carter  
                  P. Grubaugh-Littig



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TO: Daron Haddock, Permit Supervisor  
FROM: Wayne H. Western, Reclamation Engineer  
DATE: April 15, 1994  
RE: Sealing West Ridge Portal Breakouts, Sunnyside Coal Company,  
Sunnyside Mine, ACT/007/007, Folder #2, Carbon County, Utah

#### Operator's Currently Approved Mine Closure Plan

The plan for sealing mine openings is located in Section 3.5.3.1, page 47, of the approved Mining and Reclamation Plan (MRP). The current mine closure plan was incorporated into the MRP on October 31, 1993.

*Slope or drift openings will be sealed with an MSHA approved seal or be completely filled with noncombustible material for a distance of at least 25 feet into such openings.*

*There are 41 mine portals and shafts within the Sunnyside permit area that will be permanently sealed during abandonment. These portals are specifically located on Plate III-1.*

*At most mine openings, highwall reduction will place sufficient material over any concrete portal material to eliminate any additional work. In instances where the concrete portal material may be visible after regrading, the portal structure will be demolished and placed inside the portal against the permanent seal.*

*There are a limited number of portals that were broken to the surface from workings inside the mine. Many of these portals are located on top of sandstone cliffs and are inaccessible except by walking and pack horse. These portals will be blasted shut at least 25 feet from the portal, if possible, to prevent access.*



### **The Division Requirements for Closing Slope or Drift Openings**

**R645-513.500.** Each shaft, drift, adit, tunnel, exploratory hole, entryway or other opening to the surface from the underground will be capped, sealed, backfilled or otherwise properly managed consistent with MSHA, 30 CFR 75.1771 (see R645-301-551).

**R645-529.** Management of Mine Openings. The permit application will include a description of the measures to be used to seal or manage mine openings within the proposed permit area.

**R645-542.700.** Final Abandonment of Mine Openings and Disposal Areas.

**R645-542.710.** A description, including appropriate cross sections and maps, of the measures to be used to seal or manage mine openings, and to plug, case or manage other openings within the proposed permit area, in accordance with R645-301-529, R645-301-551, R645-301-631, R645-301-738, and R645-301-765.

**R645-551.** Casing and Sealing of Underground Openings. When no longer needed for monitoring or other use approved by the Division upon a finding of no adverse environmental or health and safety effects, each shaft, drift, adit, tunnel, or other opening to the surface from underground will be capped, sealed and backfilled, or otherwise properly managed, as required by the Division and consistent with MSHA, 30 CFR 75.1771. Permanent closure measures will be designed to prevent access to the mine workings by people, livestock, fish and wildlife, machinery and to keep acid or other toxic drainage from entering ground or surface waters.

**Note:** *MSHA, 30 CFR 75.1771 should be 30 CFR 75.1711 Sealing of mines*

**75.1711-2** *Sealing of slope or drift openings.*

**Slope or drift openings required to be sealed under 75.1711 shall be sealed with solid, substantial, incombustible material, such as concrete blocks, bricks or tile, or shall be completely filled with incombustible material for a distance of at least 25 feet into the openings.**

**Federal Register Vol. 57, No. 95 Friday, May 15, 1992 Rules and Regulations**

**75.355 Construction of seals**

**(a)(1) Each seal constructed after August 15, 1992 shall be-**

**(i) Constructed of solid concrete blocks at least 6 by 8 by 16 inches, laid in a transverse pattern with mortar between all joints;**

**(ii) Hitched into solid ribs to a depth of at least 4 inches and hitched at least 4 inches into the floor;**

**(iii) At least 16 inches thick. When the thickness of the seal is less than 24 inches and the width is greater than 16 feet or the height is greater than 10 feet a pilaster shall be interlocked near the center of the seal. The pilaster shall be at least 16 by 32 inches; and**

**(iv) Coated on all accessible surfaces with flame-retardant material that will minimize leakage and that has a flamespread index of 25 or less, as tested under ASTM E162-87, "Surface Flammability of Materials Using a Radiant heat Energy Source."**

**(2) Alternative methods or materials may be used to create a seal if they can withstand a static horizontal pressure of 20 pounds per square inch provided the method of installation and the material used is approved in the ventilation plan. If the alternative methods or materials include the use of timbers, the timbers also shall be coated on all accessible surfaces with flame-retardant material having a flame-spread index 25 or less, as tested under ASTM E162-87.**

**(b) A sampling pipe or pipes shall be installed in each set of seals for a worked-out area. Each pipe shall**

**(1) Extend into the sealed area a sufficient distance (at least 15 feet) to obtain a representative sample from behind the seal;**

**(2) Be equipped with a cap or shut-off valve; and**

**(3) Be installed with the sampling end of the pipe about 12 inches from the roof.**

**(c)(1) A corrosion-resistant water pipe or pipes shall be installed in the seals at the low points of the area being sealed and at all other locations necessary when water accumulation within the sealed area is possible; and**

**(2) Each water pipe shall have a water trap installed on the outbye side of the seal.**

**Analysis of Closure Plan**

R645-513.500, R645-542.710 and R645-551 require that sealing of all underground openings be consistent with MSHA 30 CFR 75.1771 (should be 30 CFR 75.1711). On November 1, 1991 the Division amended the Mining and Reclamation Plan to allow the breakouts to be blasted in order to completely fill the drift for a least 25 feet from the entrance as required by the regulations. However, blasting is not a method approved by MSHA for sealing mine entrances which

makes the breakout closure plan void.

An MSHA variance to allow blasting to seal the mine should not be approved by the Division because it would not guarantee proper mine closure. The Abandoned Mine Lands staff has experimented with blasting to close mine openings. In general they have found that blasting does more harm than good. Blasting drifts creates large areas of surface disturbance and often does not seal the opening adequately to prevent human access.

30 CFR 76.1711 list backfill and stoppings as the two approved methods for sealing portals. R645-301-551 also requires that all underground openings will be sealed and backfilled as required by the Division to prevent access to the mine workings by people. Backfilling at least 25 feet is effective in preventing access.

To meet the approximate original contour requirements for final mine reclamation the breakout areas of the portals must be backfilled. Over time the roof near the breakout weather becomes unstable and eventually collapse. Collapse of the portal entrance will not only cause surface damage but is a safety hazard.

Block stoppings are effective in preventing gas, acid or other toxins from reaching the surface. The Sunnyside mine has high levels of methane gas. To prevent methane ignition air tight seals must be placed in the breakouts.

Seals are vulnerable to vandalism. Vandals often create openings in the seals that allow access to the mine workings. Backfilling the portals is an effective means of protecting the seal from vandalism.

### **Findings**

1. The current breakout closure plan does not meet the requirement of the MSHA or the Division.
2. Blasting the portals closed will prevent the breakout areas from being reclaimed to their approximate original contours as required by the Division.
3. Blasting may not adequately seal the portals.
4. The Operator must submit a closure plan to MSHA and the Division for approval.

Page 5  
Sealing West Ridge Portal Breakouts  
ACT/007/007  
April 15, 1994

5. The closure plan must meet the requirements of MSHA and the Division.
6. The plan must:
  - a. require that seal be installed to control ground and surface water contamination and prevent methane gas from reaching the surface.
  - b. the seals must be placed at least 25 feet from the opening.
  - c. the area from the seal to the surface must be completely backfilled with noncombustible materials.
  - d. the sealed portal entrance must meet the requirements for restoring the breakout areas to their approximate original contour.

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STATE OF UTAH  
DIVISION OF OIL, GAS AND MINING

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PERMITTEE

Mr. Robert Burnham, President

Sunnyside Coal Company  
P. O. Box 99  
Sunnyside, Utah 84539

PERMIT NUMBER ACT/007/007  
DIVISION ORDER # 94A

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ORDER & FINDINGS  
of  
PERMIT DEFICIENCY

PURSUANT to R645-303-212, the DIVISION ORDERS the PERMITTEE, Sunnyside Coal Company (permittee), to make the permit changes enumerated in the findings of permit deficiency in order to be in compliance with the State Coal Program. These findings of permit deficiency are to be remedied in accordance with R645-303-220.

FINDINGS OF PERMIT DEFICIENCY

The Division finds the permit deficient in that plans for closure and sealing of portals are inadequate and unacceptable. (See attached Findings document.)

Regulation Cited: R645-301-513.500  
R645-301-550

Requirements

In order to comply with this regulation, the permittee must submit a closure plan which addresses sealing and reclaiming all breakouts which is acceptable to the Division and MSHA. The plan must include backfilling the portal with at least 25 feet of non-combustible material and installing an MSHA approved seal. The plan must also specify the date that the breakouts will be sealed.

ORDER

Sunnyside Coal Company (Permittee) is ordered to make the requisite permit changes in accordance with R645-303-220 and to submit a complete application for permit change to address the findings of permit deficiency by no later than April 25, 1994. Failure to appropriately respond to this order may result in a hindrance violation.

Ordered this 18th day of April, 1994, by the Division of Oil, Gas, and Mining.

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James W. Carter, Director  
Division of Oil, Gas and Mining

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