



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

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April 4, 2000

TO: Internal File

FROM: Wm. J. Malencik, Reclamation Specialist, Team Lead *Sm for WJM*

RE: Miller Canyon Portal Reclamation, PacifiCorp, Cottonwood/Wilberg Mine, ACT/015/019-99B, Folder #3, Emery County, Utah

**SUMMARY:**

The three Miller Canyon intake portals were developed in October of 1981. They are located on steep rock outcrops. The portals have been permanently sealed since 1987. Portal #1 discharges water occasionally and is the site of a UPDES Permit. The total acreage of the portals is 0.02 acres, each portal is 8 x 20 ft. PacifiCorp proposes to reclaim the Miller Canyon portals in 1999 using a helicopter to transport the backfill and manually raking and seeding the area. To ensure reclamation success, this project should be conducted in late autumn to take advantage of the meager precipitation during late fall, winter and early spring.

**TECHNICAL ANALYSIS:**

**ENVIRONMENTAL RESOURCE INFORMATION**

Regulatory Reference: Pub. L 95-87 Sections 507(b), 508(a), and 516(b); 30 CFR Sec. 783., et. al.

**SOILS RESOURCE INFORMATION**

Regulatory Reference: 30 CFR Sec. 783.21, 817.200(c); R645-301-411, -301-220.

**Analysis:**

As there is currently no reclamation plan for the Miller Canyon portals, this submittal has been added to the MRP as Appendix XXII.

The submittal is not entirely complete as the figure and map mentioned on page 2 which were to be located in Attachment #2 were not found. The soils analyses were found in Attachment #2, not in Attachment #3 as described.

The soils which will be used to reclaim the site originated at the Cottonwood Fan Portals and have been stockpiled at the Cottonwood /Wilberg waste rock site since 1995. According to

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the MRP Order-III survey, the Cottonwood Fan Portal soils fall within map unit AbG, very stony sandy loams derived from sandstone and shale. The Order-I survey in volume 11 describe the fan portal soils as similar to the "Map Unit A, Lithic Ustorthents." Characteristics of this soil are a very stony sandy loam about four inches thick and pale brown, very cobbly silt loam about 10 inches thick. The soil has a low water holding capacity. The erosion hazard is very high when the soil is bare.

Soil pile "B" will be utilized for this project. Approximately 7 CY of topsoil will be required to replace 18" of topsoil on each opening. Appendix #2 contains 1995 soil sampling information from piles "A", "B", and "C." Although it is not clear which of the reported samples is "B," all of the results reported are satisfactory. A more complete discussion of the soils is found in Volume 11 of the MRP.

### Findings:

The permittee provided the following, prior to approval, in accordance with the requirements of:

**R645-301-223, R645-301-120 and R645-301-130, Attachment #2 and Attachment #3** have been provided and meets the Utah Coal Rules.

## OPERATION PLAN

### TOPSOIL AND SUBSOIL

Regulatory Reference: 30 CFR Sec. 817.22; R645-301-230.

### Analysis:

Topsoil salvaged from the Cottonwood fan-portal area and stored at the Cottonwood Wilberg site will be used for the Miller Canyon reclamation.

Please present information which outlines the volumes of available soil stored at the Cottonwood/Wilberg waste rock site after the Miller Canyon project is completed.

### Findings:

The permittee has provided the following, prior to approval, in accordance with the requirements of:

**R645-301-231 and R645-301-120, A tally in tabular form of the remaining soil stockpiled at the Cottonwood Wilberg waste rock site.**

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## **HYDROLOGIC INFORMATION**

Regulatory Reference: 30 CFR Sec. 773.17, 774.13, 784.14, 784.16, 784.29, 817.41, 817.42, 817.43, 817.45, 817.49, 817.56, 817.57; R645-300-140, -300-141, -300-142, -300-143, -300-144, -300-145, -300-146, -300-147, -300-147, -300-148, -301-512, -301-514, -301-521, -301-531, -301-532, -301-533, -301-536, -301-542, -301-720, -301-731, -301-732, -301-733, -301-742, -301-743, -301-750, -301-761, -301-764.

### **Analysis:**

#### **Sediment Control Measures**

The history of the portal breakout and alternative sediment control is as follows:

- (1) It was developed as an intake portal in 1981.
- (2) I was told a violation was issued as a result of the unauthorized breakout.
- (3) Because of the Wilberg fire, the portals were sealed in 1984.
- (4) The portals were opened in 1985.
- (5) The seals were permanently sealed and approved by MSHA 1987.
- (6) Runoff control was treated by silt fences as approved by the Division.

### **Findings:**

This meets the requirements of the aforementioned Utah Coal Rules.

## **RECLAMATION PLAN**

### **BACKFILLING AND GRADING**

Regulatory Reference: 30 CFR Sec. 785.15, 817.102, 817.107; R645-301-234, -301-537, -301-552, -301-553, -302-230, -302-231, -302-232, -302-233.

### **Analysis:**

The Permittee's backfilling and grading plan for the Miller Canyon portals consist of sealing the portals with rock and then covering the rocks with topsoil. The topsoil will then be seeded. The vegetation will reduce erosion thereby protecting the backfill.

The Division considers the backfilling and grading plan adequate because:

- 1) The rock backfill is stable. The Permittee plans to hand place the rock backfill which will give the material a high safety factor.
- 2) The plan will eliminate any highwalls. The portals were constructed as breakouts. There was very little surface disturbance caused when the portals were constructed. The backfilling plan calls for the elimination of any highwalls (steep surfaces) caused by mining.

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### Findings:

The Permittee met the minimum requirements of this section.

### MINE OPENINGS

Regulatory Reference: 30 CFR Sec. 817.13, 817.14, 817.15; R645-301-513, -301-529, -301-551, -301-631, -301-748, -301-765, -301-748.

### Analysis:

The Applicant proposes to seal the Wilberg mine portals in Miller Canyon. The portals were used for air intakes until the Wilberg Mine fire in December 1984. At that time, the portals were temporarily sealed. The more easterly portal (portal #1) was reopened in 1985 for exploration purposes after the mine fire. The portals were permanently sealed in 1987. Portal #1 has a 2-inch water monitoring pipe. Small quantities of discharge occur at that point. Recent field investigation of the portals revealed that there has been some caving of the portal openings. The pipe in portal #1 has been pinched off allowing mine discharge water to flow freely over the rock ledge onto the canyon floor.

Backfill material will be transported to the site by helicopter. A staging area will be located along the side of County Road 506 in Cottonwood Canyon. Approximately 48 CY of material will be needed to backfill each portal. Most of the backfill material will be rock of various sizes.

French drains will be constructed in each portal. The French drains will be constructed by placing rocks in the portals and then wrapping filter fabric around the French drain. The existing 2-inch water monitoring pipe will be removed by the helicopter and disposed.

R645-301-551 requires the Permittee to seal all underground openings as required by the Division and be consistent with MSHA, 30 CFR 75.1711. The intent of R645-301-551 is to prevent access to the underground working and to keep acid or other toxic drainage from entering ground or surface water. The Division is concerned that over time caving will continue and entrances could be created.

The Abandoned Mine Reclamation staff reviewed the portal closure plan. They believe that the backfill and seal will be adequate. The AMR staff recommends that native material be used as backfill when possible because of the lower cost.

### Findings:

The Permittee met the minimum requirements of this section.

### TOPSOIL AND SUBSOIL

Regulatory Reference: 30 CFR Sec. 817.22; R645-301-240.

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**Analysis:**

Each portal will be filled with 41 CY of rock material to create a French Drain. The rock will be covered with a filter liner. On top of the liner, approximately 7 CY of soil will be placed to a depth of 18 inches. Litter and branches will be incorporated into the slope to add stability. The surface will be roughened, seeded, and raked by hand.

The seed mixture to be sown is similar to that described on page 4-19 of Part 4 of the MRP with the following improvements:

Intermediate wheatgrass has been replaced with Great Basin Wildrye (2 lbs/ac).

Needle and thread grass will be seeded at 1 lb/ac rather than 2 lbs/ac.

Small burnet has been replaced with Palmer penstemon at (1 lb/ac).

Yellow sweetclover has been replaced by Yarrow (0.5 lb/ac).

Wyoming big sagebrush (0.5 lb/ac) has been added.

After seeding, hay mulch with netting or an erosion control blanket should be applied to the soil as described on page 4-20, Part 4 of the MRP.

If it is the intention of the permittee to proceed with the reclamation as soon as possible, the timing is poor for seeding. Table 8 of Appendix XX clearly indicates that there is very little precipitation in June and July. The best time to conduct this reclamation would be in September or October, when precipitation increases. If the seeding fails, then it should be repeated in the fall.

**Findings:**

The permittee has provided the following, prior to approval, in accordance with the requirements of:

**R645-301-355**, Adding mulching to the reclamation steps described on page 3 of the submittal.

**R645-301-354**, Seeding will be conducted again in late autumn.

**HYDROLOGIC INFORMATION**

Regulatory Reference: 30 CFR Sec. 784.14, 784.29, 817.41, 817.42, 817.43, 817.45, 817.49, 817.56, 817.57; R645-301-512, -301-513, -301-514, -301-515, -301-532, -301-533, -301-542, -301-723, -301-724, -301-725, -301-726, -301-728, -301-729, -301-731, -301-733, -301-742, -301-743, -301-750, -301-751, -301-760, -301-761.

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**Analysis:**

**Sediment Control Measures**

One of the approved design practices in the MRP includes only roughening the area by making depressions that would hold runoff. The work was done in June and the late field inspection showed no evidence of surface runoff. The depression also make a macro-climate for vegetal establishment. The exception being the small amount of ground water that never leaves the immediate site.

**Findings:**

This meets the requirements of the aforesaid Utah Coal Rules.

**MAPS, PLANS, AND CROSS SECTIONS OF RECLAMATION OPERATIONS**

Regulatory Reference: 30 CFR Sec. 784.23; R645-301-323, -301-512, -301-521, -301-542, -301-632, -301-731.

**Analysis:**

The applicant submitted a set of maps in Attachments 1, 4 and 5 depicting the location, setting and condition of the portal site.

**Findings:**

The applicant has submitted sufficient information to address this issue.

**BONDING AND INSURANCE REQUIREMENTS**

Regulatory Reference: 30 CFR Sec. 800; R645-301-800, et seq. (-301-880.)

**Analysis:**

There are three permanent stages to a coal mine bond release.

Phase 1 - demolition, regrading, topsoiling, and hydrologic.

Phase 2 - revegetation.

Phase 3 - vegetal establishment, 5/10 years depending on amount of precipitation.

Because of the successful reclamation, the permittee is entitled to Phase I & II bond release. This amounts to 60% of the bond. However, since this is less than 15% of the total bond, no adjustment is made to the bond, no adjustment is made to the bond under current guidelines.

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On the matter of Phase III bond release, the area was seeded in June of 1999. The seeding has not had a chance to mature and demonstrate how it will meet the Phase III release requirements.

However, there are ameliorating circumstances in this matter that are briefly mentioned below.

- (1) The original inside the mine breakout uncovered coal and the permanent seals approved by MSHA in 1987 covers the coal.
- (2) USFS discussed seeding and vegetal establishment. It was their opinion that vegetation was a minor component of the successful reclamation. They recommend approval of the bond release.
- (3) BLM also recommended approval.
- (4) The record will show the permittee, because of the availability of a company helicopter, performed reclamation work over and above what was included in the approved MRP.
- (5) The area is very small (0.02 acres), extremely steep, very rocky, and vegetation is a minor part of the total successful reclamation.

**Findings:**

I recommend (1) a period of two years to evaluate whether or not the vegetation, in light of the five foregoing items, will meet the Phase III requirements and (2) that Phase III bond release be delayed until June of 2001 for an evaluation of the vegetation success.

The Utah Coal Rules state, "However, no bond will be released under the provisions of this section until reclamation requirements of the Act and permits are fully met." The permittee has met the Phase I & II requirements, but has not met the Phase III total requirements.

**RECOMMENDATIONS:**

The recommendation is to approve the submitted amendment.