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# TECHNICAL MEMORANDUM

## Utah Coal Regulatory Program

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March 3, 2011

TO: Internal File

THRU: Jim Smith, Permit Supervisor, Team Lead *JS 06/06/11*

FROM: Priscilla Burton, CPSSc, Environmental Scientist, III. *PWB km S&S*

RE: Phase II and III Bond Release for 9<sup>th</sup> East Portal Breakout, PacifiCorp, Deer Creek Mine, C0150018, Task ID #3726

### SUMMARY:

This application, received January 11, 2011 requests Phase II and III bond release for 0.6 acres at the 9<sup>th</sup> East Portal site in Grimes Wash, but no reduction in surety. The Permittee has met the minimum requirements of these regulations for Phase I (see Priscilla Burton memo Task 2674, December 2006) and Phase II/III bond release. Phase III Bond release is recommended, pending the outcome of the Division site visit, scheduled for late spring 2011.

The reclaimed site includes five portals and an access road, reclaimed in the fall of 1999, shown on the drawing in Attachment 4. The Phase II/III Bond release application contains:

- Attachment 1: Notarized certification;
- Attachment 2: Draft letters to interested parties;
- Attachment 3: Draft public notice;
- Attachment 4: Legal Description and map
- Attachment 5: Reclamation treatments
- Attachment 6: General History of the site
- Attachment 7: Current Total Bond Amount and Incremental Amount Requested for Release (No bond release requested).
- Attachment 8: Vegetation analysis
- Attachment 9: Demonstration that Area is not contributing Suspended Solids Outside Permit Area.
- Attachment 10: Demonstration that Responsibility Period has been Met
- Attachment 11: Demonstration that Post Mining Land Use has Been Achieved.

Phase II bond may be released after revegetation is successfully accomplished and sediment is controlled such that there is no contribution of suspended solids to streamflow or runoff outside the permit area. Phase III bond release may be achieved at the end of the responsibility period of ten years. The Bond Release Directive Tech-006 (dated September 5,

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2000) and Utah Regulations R645-301-880.100 through 880.330 guided this review of the Phase II (sediment control) portion of the bond release application.

**TECHNICAL ANALYSIS:**

**RECLAMATION PLAN**

**TOPSOIL AND SUBSOIL**

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

**Analysis:**

**Redistribution**

The Utah rule R645-301-880.310 through 330 allows for phased bond release. Phase I release occurs after the completion of backfilling and regrading and drainage control of the bonded area in accordance with the approved plan. The Phase I bond release application was previously reviewed in December 2006 (reviewed under Tasks 2674 and 2755), pertinent information on soils is repeated below.

*A description of the reclamation is found in the MRP Volume 2, R645-301-500 Engineering Appendix R645-301-500-B and Volume 3, Appendix XIV, R645-301-500 Appendix A, Photos.*

*Task 2674 filed in the fall of 2006 provided Reclamation Map DS1785D (providing an account of mass balance) and Bond Release Map DS1889D providing final contours, final mass/balance, and seeded areas.*

*No topsoil was applied. Surrounding soil berms were graded to provide fill and seeded. Approximately 1,500 yd<sup>3</sup> was moved. Soils analysis of an adjacent area taken in 1982, 2001, and 2006 indicate that the surrounding surface soils are not high in salts or pH. Soil sample locations are provided on Map DS1891D (and MRP Vol 2, Part 4).*

*Also pertinent is the overburden testing reported in Volume 3, App. XIV R645-301-600 Appendix. A, Overburden. These in-mine samples provide an indication of the mine spoil characteristics. According to these analyses, the SAR, EC, Se and Boron content of the spoil is within tolerable limits for native vegetation. Some of these 1994 to 1999 samples indicate that*

*the oxidation of pyrite could create acidity. If so, it will be quickly neutralized by the native soils that are calcareous, with a neutralization potential of 250 to 400 t/1000t of soil (App. F.).*

**Findings:**

The information provided meets the requirements for bond release. Phase I bond release was granted on July 31, 2007 (Outgoing document 0042).

**STABILIZATION OF SURFACE AREAS**

Regulatory Reference: 30 CFR Sec. 817.95; R645-301-244.

**Analysis:**

The Phase I bond release review stated the following:

*Erosion control for the 9<sup>th</sup> east portals was accomplished by gouging 1 ton/acre noxious weed-free hay into the surface soil and 1ton/acre blown straw on the surface and 500 lbs/ac of bonded fiber matrix hydromulch and tackifier. The seed mix is described in MRP Volume 2, R645-301-500 Engineering Appendix R645-301-500-B. The Permittee has monitored the site twice a year for 8 years and has not reported any erosion problems (Reclamation Schedule in Appendix R645-301-500-B).*

*The site is predominately vegetated with sagebrush. There are no erosion rills. Photographs were taken of the site during an April 17, 2007 site inspection.*

Attachment 9 of the Phase II bond release application summarizes the results of vegetation cover, diversity and density analysis conducted in 2009 (and provided in Attachment 10). The reclaimed site exceeds the reference area cover percentage and density and is equivalent in the species diversity percentages. The RUSLE2 erosion calculation analysis provided in Attachment 2 indicates that the soil loss from the reclaimed area is significantly less (1.5 ton/ac/yr) than from the reference area (4.7 ton/ac/yr). The difference being the average slope steepness, 9.0% on the reclaimed site, compared with 27% in the reference area.

**Findings:**

The information provided in the bond release application meets the requirements for bond release.

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**RECOMMENDATIONS:**

The application meets the requirements for Phase II bond release. A site visit must be conducted prior to the Division granting bond release.

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