

### Document Information Form

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Refer to:

- Confidential
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**TECHNICAL ANALYSIS**  
**OVERLAND CONVEYOR CONSTRUCTION**  
**PACIFICORP**  
**COTTONWOOD/WILBERG MINE**  
**ACT/015/019-94G**  
**March 23, 1995**

**SYNOPSIS**

The permittee first submitted this amendment for Division review on July 27, 1994. The Division found a number of deficiencies in this first amendment submittal and notified the permittee of those deficiencies. The permittee then resubmitted the amendment to the Division on February 2, 1995. The following analysis supplements the current Technical Analysis (TA) of this site and which should be updated to include the facilities and practices contained in this amendment.

By this amendment, the permittee proposes to build a conveyor to connect the Trail Mountain and Cottonwood/Wilberg mines, a conveyor portal and diesel access portal for the Cottonwood/Wilberg mine, and a small, temporary crane pad just below the conveyor portal. All of these new facilities are to be located either on or directly across Cottonwood Canyon from the Trail Mountain minesite.

The connection conveyor will be enclosed in a steel tube built atop support towers and will span the canyon between the Trail Mountain tippie and the Cottonwood/Wilberg mine. The conveyor will connect the coal handling systems of the two mines and will serve to transport run-of-mine coal from the Trail Mountain mine to the coal loadout system of the Cottonwood/Wilberg mine. The coal will then be loaded into trucks by the Cottonwood/Wilberg mine's coal handling facilities and hauled to the Hunter Power Plant.

The new conveyor portal will accommodate the connection conveyor. The new diesel access portal will provide direct access to the Cottonwood Mine from the Trail Mountain Mine. The road and pad will provide access for a crane which will be used in the construction of the conveyor.

**SUMMARY OF PERMIT CONDITIONS**

- 1) **R645-301-411.141**, Cultural and Historic Re submit for inclusion in the permit a map of t Cottonwood Fan Portal Surface Facilities Ma
- 2) **R645-301-230** Side slopes of topsoil stockpil

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Refer to Record No 0013 Date 3-23-95

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The new conveyor portal will accommodate the connection conveyor. The new diesel access portal will provide direct access to the Cottonwood Mine from the Trail Mountain Mine. The road and pad will provide access for a crane which will be used in the construction of the conveyor.

**SUMMARY OF PERMIT CONDITIONS**

- 1) **R645-301-411.141**, Cultural and Historic Resources Maps. The permittee must submit for inclusion in the permit a map of the entire Johnson Mine site on the Cottonwood Fan Portal Surface Facilities Map, Plate 3-16A.
- 2) **R645-301-230** Side slopes of topsoil stockpiles must be decreased to at least 2h:1v.

## **ENVIRONMENTAL RESOURCE INFORMATION**

### **HISTORIC AND ARCHEOLOGICAL RESOURCE INFORMATION**

Regulatory Reference R645-301-411.

#### **Analysis:**

The Old Johnson Mine is located approximately 350 feet down canyon from the proposed conveyor area (Appendix III, page 5). The Old Johnson Mine site has been recorded as an historic resource and provided with the Smithsonian registration number 42Em1633. An analysis of the site by F.R. Hauck of AERC concluded that this mine is of historic significance and has the potential for nomination to the National Register. The Johnson Mine site includes two walled-in portals, a mine terrace associated with the portals, the remnants of a coal slide or chute, a storage area under a rock walled boulder, an outhouse, and the old weigh house structure. The site is justified to the National Register Status as significant because it is an integral unit.

#### **Findings:**

A rough sketch of the Old Johnson Mine is given in the original 1983 site survey in Chapter 2 Attachment 6. Portals and "cabin" of the Old Johnson Mine are identified on Plate 3-16A. However, no single drawing shows the integral unit of the Old Johnson Mine in relation to the Cottonwood Fan Portal Area and proposed conveyor area.

Accordingly, the permittee has committed to comply with the requirements of the following Permit Condition, as specified, and in accordance with the requirements of:

**R645-301-411.141**, Cultural and Historic Resources Maps. The permittee must submit for inclusion in the permit a map of the entire Johnson Mine site on the Cottonwood Fan Portal Surface Facilities Map, Plate 3-16A.

### **VEGETATION RESOURCE INFORMATION**

Regulatory Reference: R645-301-320.

#### **Analysis:**

Appendix III contains a vegetation report of the Cottonwood/Trail Mountain Portal area. The report describes the vegetation survey conducted for the connection conveyor area

prior to disturbance. Total living cover for the proposed disturbed area was 35 percent. This compares statistically with the current Cottonwood Fan Portal Reference area which has a total living cover value of 42.75 percent. Total woody species density of the proposed connection conveyor area was 1,352 individuals per acre. The reference area survey indicated 624 individuals per acre. Productivity was estimated at 1800 pounds forage per acre based on the reference area in October 1989 (page 2-158.1).

**Findings:**

Sufficient information is provided to predict the potential for establishing vegetation and providing a success standard for revegetation.

**MAPS, PLANS, AND CROSS SECTIONS OF RESOURCE INFORMATION**

Regulatory Reference: 30 CFR Sec. 783.24, 783.25; R645-301-323, -301-411, -301-521, -301-622, -301-722, -301-731.

**Analysis:**

**Existing Structures and Facilities Maps**

The overland conveyor amendment (94G) consists of 5 facilities, all in Cottonwood Canyon adjacent to the Trail Mountain minesite: a diesel access portal, a belt portal, an aerial conveyor enclosed in a steel tube, and 2 steel support structures on concrete footings to support the aerial conveyor. The aerial conveyor spans Cottonwood Canyon from the Trail Mountain mine tippie to the belt portal and carries run-of-mine coal from the Trail Mountain mine to the coal loadout system of the Cottonwood/Wilberg mine. One of the conveyor support structures is on the Trail Mountain mine property and the other is on the Cottonwood/Wilberg property. The diesel access portal is on the Cottonwood/Wilberg property and provides direct access to the Cottonwood/Wilberg mine workings from the Trail Mountain property.

The overland conveyor facilities, along with the facilities of the Trail Mountain mine, are shown on Plate 3-16A--Cottonwood Fan Portal Surface Facilities Map. The overland conveyor facilities are also shown in greater detail on Plates C-5, GA-2, L-1 and L-4.

**Existing Surface Configuration Maps**

The surface configuration prior to the overland conveyor amendment (94G) is shown on Plate 3-16A--Cottonwood Fan Portal Surface Facilities Map and in greater detail on Plates L-1 and L-4. The predisturbance surface configuration, as it relates to the construction of

the overland conveyor facilities, is also represented in detail by cross sections on Plates L-6, L-7 and L-8.

### **Mine Workings Maps**

The only changes in the mine workings due to the overland conveyor amendment (94G) are the entries driven from the main workings to the belt portal and from the main workings to the diesel access portal. The location and alignment of these entries are shown on Plates 3-16A--Cottonwood Fan Portal Surface Facilities Map and on Plates GA-2 and L-4.

### **Findings:**

Information contained in this section of the submittal for this amendment meets the relevant requirements of the Federal regulations and the R645 rules.

## **OPERATION PLAN**

### **SOIL PROTECTION**

Rule Citation: R645-301-230. [topsoil will] Be protected from wind and water erosion through prompt establishment and maintenance of an effective, quick growing vegetative cover or through other measures approved by the Division;

### **Analysis**

The permittee topsoil stockpile designs for stockpiles A, B and C depict 1.5h:1.0v side slope. These must be decreased to at least 2.0h:1.0v side slopes.

The topsoil stockpiles will be left in a roughened condition and covered with erosion control blanket.

### **Findings:**

The permittee has not provided for adequate protection of topsoil resources in this area. The permittee must commit to the following permit condition.

**R645-301-230** Side slopes of topsoil stockpiles must be decreased to at least 2h:1v.

## **TOPSOIL REMOVAL**

Rule Citation: R645-301-232. All topsoil will be removed as a separate layer from the area to be disturbed, and segregated.

### **Analysis**

The projected area of new disturbance according to the plan is 0.05 acres. The soil series in the projected disturbed area has been mapped within the Reva Series. The permittee states that the A and/or AC horizon of the Reva series will not be salvaged. The permittee proposes to remove the unconsolidated lithologic material underlying the CFP subsoil stockpile and treating this material as topsoil for the reclamation of the Cottonwood Overland Conveyor. The upper portion of the lithologic material has fewer rocks and a slight color variation from material immediately below. These layers will be separately salvage, stockpiled and redistributed. The lithologic material will be separately stockpiled in Stockpile A (lower portion) and C (upper portion). The CFP Subsoil Pile will be separately stockpiled in Stockpile B.

In accordance with R645-301-232.710 the permittee is hereby granted an exception to the requirements of this section. The operator has adequately demonstrated that the removal of the Reva Series A-horizon in a separate layer from this area is impractical because of the slope, rockiness, limited depth of the Reva Series.

The lithologic material underlying the CFP subsoil pile may be removed and segregated, stockpiled, and redistributed as topsoil in accordance with the requirements of R645-301-234 and R645-301-242. This material will be used in the reclamation of the disturbance associated with the Cottonwood Overland Conveyor.

### **Findings:**

Information contained in this section of the submittal for this amendment meets the relevant requirements of the Federal regulations and the R645 rules.

In accordance with R645-301-232.710 the permittee is hereby granted an exception to the requirements of this section. The operator has adequately demonstrated that the removal of the Reva Series A-horizon in a separate layer from this area is impractical because of the slope, rockiness, limited depth of the Reva Series.

## **MINING OPERATIONS AND FACILITIES**

Regulatory Reference: 30 CFR Sec. 784.2, 784.11; R645-301-231, -301-526, -301-528.

### **Analysis:**

#### **Facilities and Structures**

The overland conveyor facilities are described on pages 3-20.1 and 3-20.1.1 of the plan. The overland conveyor facilities, along with the facilities of the Trail Mountain mine, are shown on Plate 3-16A--Cottonwood Fan Portal Surface Facilities Map. The overland conveyor facilities are also shown in greater detail on Plates C-5, GA-2, L-1 and L-4.

The overland conveyor amendment (94G) consists of 5 facilities, all in Cottonwood Canyon adjacent to the Trail Mountain minesite: a diesel access portal, a belt portal, an aerial conveyor enclosed in a steel tube, and 2 steel support structures on concrete footings to support the aerial conveyor. The aerial conveyor spans Cottonwood Canyon from the Trail Mountain mine tippie to the belt portal and carries run-of-mine coal from the Trail Mountain mine to the coal loadout system of the Cottonwood/Wilberg mine. One of the conveyor support structures is on the Trail Mountain mine property and the other is on the Cottonwood/Wilberg property. The diesel access portal is on the Cottonwood/Wilberg property and provides direct access to the Cottonwood/Wilberg mine workings from the Trail Mountain property.

No coal, overburden, excess spoil, or coal mine waste is disposed of at the overland conveyor site and no excess spoil is generated by the overland conveyor facilities. All excavated material will be used to reclaim the overland conveyor facilities area or the Cottonwood Fan Portal area. According to Plate L-8, 961 cubic yards of excess material were excavated in preparation for the construction of the overland conveyor facilities. Because of the lack of space in Cottonwood Canyon, all of this excess material, as well as material stockpiled from the Cottonwood Fan Portal area, is stored temporarily in 3 piles at the old Cottonwood Waste Rock Site. The dimensions and location of these piles are shown in Figure 5.

### **Findings:**

Information contained in this section of the submittal for this amendment meets the relevant requirements of the Federal regulations and the R645 rules.

**EXISTING STRUCTURES:**

Regulatory Reference: 30 CFR Sec. 784.12; R645-301-526.

**Analysis:**

See MINING OPERATIONS AND FACILITIES above.

**Findings:**

Information contained in this section of the submittal for this amendment meets the relevant requirements of the Federal regulations and the R645 rules.

**RELOCATION OR USE OF PUBLIC ROADS**

Regulatory Reference: 30 CFR Sec. 784.18; R645-301-521, -301-526.

**Analysis:**

The overland conveyor facilities are all within 100 feet of the Emery County Cottonwood Canyon road. Emery County was notified of this and gave its approval. Since coal mining operations in connection with the Cottonwood Fan Portal were approved and conducted in this area prior to the construction of the overland conveyor facilities, it was not necessary to repeat the public notice procedures of R645-103-234 before approval of the overland conveyor amendment (94G).

**Findings:**

Information contained in this section of the submittal for this amendment meets the relevant requirements of the Federal regulations and the R645 rules.

**ROAD SYSTEMS AND OTHER TRANSPORTATION FACILITIES**

Regulatory Reference: 30 CFR Sec. 784.24, 817.150, 817.151; R645-301-521, -301-527, -301-534, -301-732.

**Analysis:**

**Other Transportation Facilities**

One ancillary road, the Cottonwood Fan Portal road, crosses the overland conveyor

facilities area. This road was used during the construction of the overland conveyor facilities to access a temporary crane pad. The road will be retained until the final reclamation of the Cottonwood Fan Portal area, at which time it will be returned to Approximate Original Contour and reclaimed.

The Cottonwood Fan Portal road is shown on Plate 3-16A--Cottonwood Fan Portal Surface Facilities Map. Its operational and reclaimed configurations are shown on Plates L-1, L-4, and GA-2. Plates L-6 and L-7 show cross sections of the operational and reclaimed configuration of the road where it crosses the sites of the overland conveyor facilities.

A conveyor, enclosed in a 10-foot diameter steel tube, spans Cottonwood Canyon from the Trail Mountain mine tipple to the belt portal and carries run-of-mine coal from the Trail Mountain mine to the coal loadout system of the Cottonwood/Wilberg mine. The conveyor tube is supported by 2 steel support structures, one of which is on the Trail Mountain mine property and the other of which is on the Cottonwood/Wilberg property.

#### **Findings:**

Information contained in this section of the submittal for this amendment meets the relevant requirements of the Federal regulations and the R645 rules.

#### **SPOIL AND WASTE MATERIALS**

Regulatory Reference: 30 CFR Sec. 701.5, 784.19, 784.25, 817.71, 817.72, 817.73, 817.74, 817.81, 817.83, 817.84, 817.87, 817.89; R645-100-200, -301-210, -301-211, -301-212, -301-412, -301-512, -301-513, -301-514, -301-521, -301-526, -301-528, -301-535, -301-536, -301-542, -301-553, -301-745, -301-746, -301-747.

#### **Analysis:**

##### **Excess spoil**

No coal, overburden, excess spoil, or coal mine waste is disposed of at the overland conveyor site and no excess spoil is generated by the overland conveyor facilities. All excavated material will be used to reclaim the overland conveyor facilities area or the Cottonwood Fan Portal area. According to Plate L-8, 961 cubic yards of excess material were excavated in preparation for the construction of the overland conveyor facilities. Because of the lack of space in Cottonwood Canyon, all of this excess material, as well as material stockpiled from the Cottonwood Fan Portal area, is stored temporarily in 3 piles at the old Cottonwood Waste Rock Site. The dimensions and location of these piles are shown in Figure 5.

## **MAPS, PLANS, AND CROSS SECTIONS OF MINING OPERATIONS**

Regulatory Reference: 30 CFR Sec. 784.23; R645-301-512, -301-521, -301-542, -301-632, -301-731, -302-323.

### **Analysis:**

See MAPS, PLANS, AND CROSS SECTIONS OF RESOURCE INFORMATION above.

### **Findings:**

Information contained in this section of the submittal for this amendment meets the relevant requirements of the Federal regulations and the R645 rules.

## **SEDIMENT CONTROL MEASURES**

Regulatory Reference: R645-301-742

PacifiCorp describes the Convey Pad area and the Diesel Portal Apron as having silt fences as sediment control at an outlet point on each pad. This point will be the lowest point on the pad and all flow off of each pad will be route to the respective filtration devise. The flow from these areas will go into one of two new culvert, across the road in an existing 36-inch culvert, into an existing 66-inch culvert which routes undisturbed flow around the Trail Mountain Mine facilities.

Two bents will be constructed with this project. The Bent #2 will be located on the Cottonwood/Wilberg mine side of the county road. Water off of the disturbed area for this bent will flow through a road drainage into and existing sediment trap which will act as an alternate sediment control. The Bent #1 will be located within the disturbed area of the Trail Mountain Mine facilities. This area already reports to a sediment pond and no drainage changes are planned. A temporary crane pad will be built below the conveyer portal; drainage from this area will also report to the sediment trap, via the road drainage.

PacifiCorp plans to uses the general treatment for sediment control as outlined on pages 4-4.3 and 4-4.4 in the MRP.

### **Findings:**

PacifiCorp has provide adequate information about sediment control on the conveyer portal pad and the diesel apron. All other facilities on the Cottonwood/Wilberg side will be treated in a sediment trap that is already designed properly and in use. The reclamation sediment control measures are appropriate.

## **DIVERSIONS**

Regulatory Reference: R645-301-742.300

PacifiCorp has design two culverts to rout flow from the new pad created at the openings of the proposed portals. They have designed a 6-inch culvert to route the 100-year, 6-hour storm event from the conveyer pad into the undisturbed drainage. The water will pass through a sediment control method prior to entering the culvert. PacifiCorp has proposed an 18-inch culvert to run under the concrete apron at the diesel portal. This culvert will route water form the 100-year, 6-hour storm event off of the hillside and roadway by the apron. Treated water from the apron will flow through a drop inlet into the culvert. All newly proposed culverts are to carry undisturbed or treated water only.

### **Findings:**

The diversion designs are complete and accurate.

## **RECLAMATION PLAN**

### **APPROXIMATE ORIGINAL CONTOUR RESTORATION**

Regulatory Reference: 30 CFR Sec. 784.15, 785.16, 817.102, 817.107, 817.133;  
R645-301-234, -301-270, -301-271, -301-412, -301-413, -301-512, -301-531, -301-533,  
-301-553, -301-536, -301-542, -301-731, -301-732, -301-733, -301-764.

### **Analysis:**

At final reclamation, the overland conveyor facilities will be removed and the area will be filled, graded, and restored to Approximate Original Contour.

The final surface configuration of the overland conveyor facilities area is shown by cross sections on Plates L-6, L-7, and L-8.

### **Findings:**

Information contained in this section of the submittal for this amendment meets the relevant requirements of the Federal regulations and the R645 rules.

## **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:**

At final reclamation, the overland conveyor facilities will be removed and the area will be filled, graded, and restored to Approximate Original Contour. The belt portal and the diesel access portal will be sealed with a block wall and backfilled for a distance of at least 25 feet out by the block seal, as approved in the original mine plan.

The final surface configuration of the overland conveyor facilities area is shown by cross sections on Plates L-6, L-7, and L-8. The reclaimed slopes will have a static stability safety factor of 2.6, as demonstrated by a stability analysis found in Appendix III. This safety factor is significantly greater than the required value of 1.3.

The material for the reclamation of the overland conveyor facilities area will be the material excavated from the area and stockpiled at the Cottonwood Waste Rock Site. It will all be hauled to the overland conveyor area and used to backfill the area. None will be left over.

### **Findings:**

Information contained in this section of the submittal for this amendment meets the relevant requirements of the Federal regulations and the R645 rules.

## **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:**

See BACKFILLING AND GRADING above.

### **Findings:**

Information contained in this section of the submittal for this amendment meets the relevant requirements of the Federal regulations and the R645 rules.

## **ROAD SYSTEMS AND OTHER TRANSPORTATION FACILITIES**

Regulatory Reference: 30 CFR Sec. 701.5, 784.24, 817.150, 817.151; R645-100-200, -301-513, -301-521, -301-527, -301-534, -301-537, -301-732.

### **Analysis:**

See ROAD SYSTEMS AND OTHER TRANSPORTATION FACILITIES above.

### **Findings:**

Information contained in this section of the submittal for this amendment meets the relevant requirements of the Federal regulations and the R645 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:**

#### **Reclamation backfilling and grading maps.**

The reclamation backfilling and grading of the overland conveyor facilities area is shown by cross sections on Plates L-6, L-7, and L-8.

#### **Final surface configuration maps.**

The final surface configuration of the overland conveyor facilities area is shown by cross sections on Plates L-6, L-7, and L-8.

### **Findings:**

Information contained in this section of the submittal for this amendment meets the relevant requirements of the Federal regulations and the R645 rules.

## **HYDROLOGIC STRUCTURE REMOVAL**

Regulatory Reference: R645-301-764

Reclamation plans for the facilities have been included as cost estimates for bonding

proposes and the current MRP. Reclamation plans are found in section 4 of the MRP with the runoff control information on pages 4-4.3 and 4-4.4 and bonding information on pages 4-30 and 4-31.

**Findings:**

The hydrology of this plan is complete and this plan should be approved.

**BONDING AND INSURANCE REQUIREMENTS**

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

**Analysis:**

**Determination of bond amount.**

The estimated cost of reclaiming the overland conveyor facilities is \$26,614. This estimate is shown as Item 15 in the overall reclamation cost estimate for the site. This added reclamation cost raised the overall reclamation cost estimate to \$1,468,547, in 1999 dollars. Since the reclamation bond for this site was in the amount of \$2,071,098 at the time of the construction of the overland conveyor, it was unnecessary to revise the bond.

**Findings:**

The site is more than adequately bonded to cover the additional reclamation costs associated with this amendment, as demonstrated in BONDING AND INSURANCE REQUIREMENTS above.