

# TECHNICAL MEMORANDUM

## Utah Coal Regulatory Program

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June 2, 2006

TO: Internal File

THRU: Pamela Grubaugh-Littig Permit Supervisor

FROM: Wayne H. Western, Team Lead

RE: Mine Facilities Area – Phase I and III Bond Release, Task No. 2521, Plateau Mining Corporation, Willow Creek Mine, C0070038

### **SUMMARY:**

The Permittee requested Phase I bond release on 20.8 acres of land related to the overland conveyor corridor in Willow Creek and Price Canyons and Phase III bond release on 36.4 acres of land related to the mine buildings in Willow Creek Canyon. The Permittee completed the reclamation in August of 2004.

### **TECHNICAL ANALYSIS:**

## RECLAMATION PLAN

### GENERAL REQUIREMENTS

Regulatory Reference: PL 95-87 Sec. 515 and 516; 30 CFR Sec. 784.13, 784.14, 784.15, 784.16, 784.17, 784.18, 784.19, 784.20, 784.21, 784.22, 784.23, 784.24, 784.25, 784.26; R645-301-231, -301-233, -301-322, -301-323, -301-331, -301-333, -301-341, -301-342, -301-411, -301-412, -301-422, -301-512, -301-513, -301-521, -301-522, -301-525, -301-526, -301-527, -301-528, -301-529, -301-531, -301-533, -301-534, -301-536, -301-537, -301-542, -301-623, -301-624, -301-625, -301-626, -301-631, -301-632, -301-731, -301-723, -301-724, -301-725, -301-726, -301-728, -301-729, -301-731, -301-732, -301-733, -301-746, -301-764, -301-830.

### **Analysis:**

The Permittee met the general requirements for bond release. Those requirements are in R645-301-880.120 and R645-301-880.130. They consist of:

- **Public Notice:** The Permittee provided an affidavit of publication for a public notice of bond release. The publication ran from April 13, 2006 to May 4, 2006 in the Sun Advocate: The public notice contained all the information required by R645-301-880.120.

- Letters: The Permittee provided copies of letters sent to persons and agencies outlined in R645-301-880.120.
- Notarized Statement: The Permittee included a notarized statement about the completion of reclamation work as outlined in R645-301-880.130.

The Permittee is seeking bond release on 57.2 acres as follows:

- Phase I Bond Release: The Permittee has a \$724,499 bond on 20.8 acres for which they are seeking Phase I bond release for \$434,699, which is 60% of the current bond. The Permittee completed reclamation work on the area in August 2004. The Permittee completed the backfilling, grading, topsoil placement and established drainage controls.
- Phase III Bond Release: The Permittee has a \$2,926,000 bond on 36.4 acres for which they are seeking Phase III bond release for \$2,926,000, which is 100% of the current bond. The Permittee completed the requirements for Phase III bond release by establishing the site so that it could support the industrial postmining land use.

### **Findings:**

The information in the bond release application is adequate to meet the requirements in this section of the TA.

## **POSTMINING LAND USES**

Regulatory Reference: 30 CFR Sec. 784.15, 784.200, 785.16, 817.133; R645-301-412, -301-413, -301-414, -302-270, -302-271, -302-272, -302-273, -302-274, -302-275.

### **Analysis:**

The Permittee met the postmining land use requirements for the Phase I and Phase III areas. The postmining land use for the Phase I area is wildlife habitat and grazing. The Phase I area was backfilled, graded, topsoiled, seeded and had drainage controls established according to the approved reclamation plan.

The Phase III area meets the requirements for industrial use. In Exhibit 23 of the bond release package, the Permittee shows that the College of Eastern Utah (CEU) has plans to develop the Western Energy Training Center at the main mine facilities area. The office building is suitable for administrative use and classrooms. The warehouse can be used for storage and class projects.

The Division granted a change in the postmining land use to allow the site to be used for industrial purposes. The Division approved the following structures to remain after Phase III bond release:

- Three buildings that form the warehouse, office and shop complex.

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- Sediment pond 001.
- Propane tank, 30,000 gals.
- Roads and other fixtures as mentioned in the sales agreement.

Plateau Mining Corporation has submitted a post mining land use change to designate the Mine Facilities area as a training center to be administered by the College of Eastern Utah. Maps and appropriate text changes describing the post mining land use change are provided in the application. The area is stable and shows no signs of erosion or off-site deposition of additional suspended solids. The Permittee reclaimed the disturbed areas no longer needed for mining activities and not needed to support the postmining land use

**Findings:**

The information in the bond release application is adequate to meet the requirements in this section of the TA.

**APPROXIMATE ORIGINAL CONTOUR RESTORATION**

Regulatory Reference: 30 CFR Sec. 784.15, 785.16, 817.102, 817.107, 817.133; R645-301-234, -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:**

The Permittee met the requirements for restoring the site to the approximate original contours (AOC.) The only requirement in the R645-Rules for complying with the requirement to restore a site to the approximate original contours is R645-301-553.110. That regulation requires that the site achieve the approximate original contour.

The Division is developing technical directive 002 for guidance on AOC requirements. The general requirement to restore the site to AOC does not mean that the pre-mining and postmining contour maps must be identical. Rather, the general requirements are:

- The surface configuration achieved by backfilling and grading of the mined area so that the reclaimed area, including any terracing or access roads, closely resembles the general surface configuration of the land prior to mining.
- The reclaimed area blends into and complements the drainage pattern of the surrounding terrain.
- All highwalls and spoil piles are eliminated.
- Water impoundments may be permitted where the regulatory authority determines that they comply with all State and federal regulations.

There are two factors that complicate how AOC is met at the Willow Creek Mine. These factors are:

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- The Permittee requests that the Division approve an application for an alternative postmining land use of industrial on 36.4 acres. In order to implement the industrial postmining land use, large parts of the area must remain flat. The original contour of the area was sloped. Therefore when considering the AOC requirements on the industrial area the Division will concentrate on whether the area is environmentally stable and if the area can support the postmining land use.
- Most of the Willow Creek Mine site was disturbed previously by the Castle Gate Mine. The Castle Gate Mine was operated both before and after the passage of the Surface Mining and Control and Reclamation Act of 1977 (SMCRA), and reclaimed. During final reclamation, the Abandoned Mine Lands (AML) program agreed to take over some reclamation work in order to dispose of coal mine waste from AML projects. Therefore, the original contours for the Willow Creek Mine included such features as cut slopes and highwall remnants.

Since restoring the site to pre-disturbance condition is impossible, the Division used the following criteria to evaluate the AOC requirements:

- Eliminate all spoil piles. There are no spoil piles in those areas.
- Eliminate all highwalls. All highwalls constructed as part of the Willow Creek Mine were reclaimed. Highwall remnants from the Castle Gate Mine that were not reclaimed are shown on Map 21 A – AB. The highwall remnants are in stable bedrock and vary from 10 to 30 feet high. The Permittee was unable to reclaim the preexisting highwall remnants because of lack of material and stability concerns. In order to completely reclaim the highwalls the slope angle would either have to be so steep that the stability requirements could not be met or the buildings would have to be removed.
- Depression removal. All depressions not needed for the postmining land use were removed. The sediment pond and pocks were left to control runoff and prevent erosion.
- Restore drainages. The Division considers that AOC has been achieved when all drainages meet the hydrology requirements.
- Sediment control. The Division considers that AOC has been achieved when all sediment controls meet the hydrology requirements.
- Postmining land use. The Division considers that all lands for which Phase I Bond release was applied for meet the postmining land use requirements if all the postmining land use requirements have been met. The Division considers that all lands for which Phase III Bond release have been applied for meet the postmining land use because:
  - There is a reasonable likelihood for achievement of the use.
  - The use does not present any actual or probable hazard to public health and safety, or threat of water diminution or pollution.
  - The use will not be impractical or unreasonable, inconsistent with applicable land use policies or plans, involve unreasonable delay in implementation, or cause or contribute to a violation of Federal, State, or local law.
- Variance from AOC. The Permittee did not request a variance from the AOC requirements.

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**Findings:**

The information in the proposed bond release amendment is considered adequate to meet the requirements of this section.

**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:**

**General**

The Permittee met the backfilling and grading requirement. The general backfilling and grading requirements are that the disturbed areas will be backfilled and graded to:

- Achieve the approximate original contour.
- Eliminate all highwalls, spoil piles, and depressions.
- Achieve a postmining slope that does not exceed either the angle of repose or such lesser slope as is necessary to achieve a minimum long-term static safety factor of 1.3 and to prevent slides.
- Minimize erosion and water pollution both on and off the site.
- Support the approved postmining land use.

The backfilling and grading requirements overlap the AOC requirements. See other sections of this TA for information on:

- The general AOC requirements, (*see AOC section of the TA.*)
- The elimination of highwalls, spoil piles, and depressions, (*see AOC section of the TA.*)
- The minimization of erosion and water pollution both on and off the site, (*see hydrology section of the TA.*)
- Support the approved postmining land use, (*see the land use section of the TA.*)

The slopes on the reclaimed areas are stable, meet the minimum safety factor of 1.3, and do not exceed the angle of repose. See Exhibit 23 of the bond release package for details.

**Previously Mined Areas**

As stated in the AOC section of the TA, the Willow Creek Mine site has a complicated history. Most of the area was originally part of the Castle Gate Mine, which was both a pre and post SMCRA site. The Castle Gate Mine was reclaimed and given final bond release. Part of

area the was also used by AML to dispose of coal mine waste. The R645-Rules do not specifically deal with areas that were mined and then reclaimed according to SMCRA standards.

The main provision for previously mined areas is found in R645-301-553.500 and R645-301-553.600. Those rules apply to highwall retention in continuously mined and previously mined areas. Some highwall remnants from the Castle Gate Mine exist at the reclaimed Willow Creek Mine. Since the Castle Gate Mine was reclaimed according to SMCRA standards, the Division considers the highwall remnants and cut slopes that were in place before the Willow Creek Mine was constructed to be existing features that do not need to be reclaimed.

### **Findings:**

The information in the bond release application is adequate to meet the requirements in this section of the TA.

## **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 Permittee met the requirements for sealing all mine openings at the mine facilities area. The mine openings in the mine facilities area are:

- **Portals:** There are five portals within the main mine facilities. The portals were permanently sealed with concrete blocks and the backfilled with a minimum of 25 feet of material. This sealing method is the industrial standard and meets the requirements of R645-301-551.
- **Rock Tunnels:** The rock tunnels were constructed pre-SMCRA and were used for conveyor belts. Since the tunnels did not access coal they were not considered portals, therefore, the Division did not require the tunnels to be sealed. The Division only required the Permittee to backfill 25 feet from each tunnel entrance. The main reasons for seals are to prevent leakage of methane gas, water and a final barrier to prevent access. Since there is no source of methane or water in the tunnels and the length of the tunnels is short, block seals were not required by MSHA, the BLM or the Division.

### **Findings:**

The information in the bond release application is adequate to meet the requirements in this section of the TA.

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## 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:

#### Reclamation

The Permittee has met the requirements for reclamation of all roads not needed for the postmining land use. The Permittee has reclaimed all roads not needed for the postmining land use. No reclaimed roads were paved, so disposal of road pavement was not an issue. During reclamation, the Permittee removed all culverts and ditches associated with the reclaimed roads.

#### Retention

The Permittee retained most of the roads in the main mine complex because they are needed to support the postmining land use (See Map 18C.)

The Permittee retained the primary road PR-3 because that road is needed for access to the water treatment facilities owned by the Price River Water Improvement District (PRWID) and for access to Barn Canyon.

The roads left in the Phase III bond release area were certified as primary roads in Section 4.5.2.3 of the MRP (page 4.5 – 45.)

### Findings:

The information in the bond release application is adequate to meet the requirements in this section of the TA.

## 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:

#### Affected Area Boundary Maps

The Permittee met the minimum requirements for the affected area maps with maps in the MRP. The affected area boundary will not change because of the bond release application; therefore, the affected area boundary maps will not change. The Permittee may want to consider modifying the affected area after Phase III bond release is granted.

### **Bonded Area Map**

The Permittee met the requirements for showing bonded area with Maps 21E. Those maps show the area for which Phase I and Phase III bond release will be granted.

### **Reclamation Backfilling And Grading Maps**

The Permittee met the requirements for backfilling and grading maps with Maps 21E and cross-sections shown on Map 22A.

### **Reclamation Facilities Maps**

The Permittee met the requirements for showing reclamation facilities by showing which facilities will be left on Maps 21E.

### **Final Surface Configuration Maps**

The Permittee met the requirements for showing the final surface configuration with Maps 21E and Map 22.

### **Reclamation Surface And Subsurface Manmade Features Maps**

The Permittee met the requirements for showing surface and subsurface manmade features by showing such items on Maps 21E.

### **Certification Requirements.**

The Permittee met the certification requirements for all appropriate maps.

### **Findings:**

The information in the bond release application is adequate to meet the requirements in this section of the TA.

## **BONDING AND INSURANCE REQUIREMENTS**

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

### **Analysis:**

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**Determination of Bond Amount**

The Permittee met the bonding requirements by showing that after Phase I bond release that there will be enough money to ensure reclamation in the event of bond forfeiture and that all the requirements for Phase III bond release have been meet. The Permittee requested Phase I and Phase III bond release on various portions of the main mine facilities areas. The amount of bond held for the main mine facilities and the amount requested for Phase I and Phase III bond release are listed in the following table.

Bond Release Main Mine Facilities	Bond Cost	Phase III	Phase I
Direct Costs			
Acreage	57.2 Acres	36.4 Acres	20.8 Acres
Demolition	\$1,229,034	\$1,073,552	\$155,482
Backfilling and Grading	\$829,368	\$622,026	\$207,342
Revegetation			
Drainage Controls	\$81,575	\$49,761	\$31,814
Revegetation	\$328,866	\$233,495	\$95,371
Total Direct Costs	\$2,468,843	\$1,978,834	\$490,009
Total Indirect Costs ( 26.8%)	\$661,650	\$530,328	\$131,322
Costs in 2001 Dollars	\$3,130,493	\$2,509,162	\$621,331
Escalation (3 .12% for 5 years)	\$519,769	\$416,628	\$103,168
Reclamation Costs in 2006 Dollars	\$3,650,289	\$2,925,790	\$724,499
Bond Release %		100%	60%
Bond Release	\$3,360,489	\$2,925,790	\$434,699
Remaining Bond	\$289,800	\$0	\$289,800

**Findings:**

The information in the bond release application is adequate to meet the requirements in this section of the TA.

**RECOMMENDATIONS:**

The Division should approve the Permittee's request for Phase I and Phase III bond release at the main mine area.

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