



State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

Michael O. Leavitt
Governor
Kathleen Clarke
Executive Director
Lowell P. Braxton
Division Director

1594 West North Temple, Suite 1210
PO Box 145801
Salt Lake City, Utah 84114-5801
801-538-5340
801-359-3940 (Fax)
801-538-7223 (TDD)

February 24, 2000

TO: Internal File

THRU: Paul Baker, Project Team Lead *PKB*

FROM: Wayne H. Western, Senior Reclamation Specialist *WHW*

RE: Permittee's Response to TA Deficiencies Received on December 6, 1999, PacifiCorp, Deer Creek Mine, ACT/015/018-AM99C, File #2, Emery County, Utah

SUMMARY:

On December 6, 1999, the Division received, from PacifiCorp, a response to the technical deficiencies dated July 7, 1999

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 submitted a revised reclamation plan for the Deer Creek Mine on May 26, 1999. The Division reviewed the reclamation plan and made the following general findings.

- The Permittee gave the Division a timetable for all reclamation activities.
- The Permittee did not give the Division a detailed reclamation cost estimate. Before the

submitting the revised reclamation plan the Permittee and the Division agreed to allow the Permittee to submit the reclamation cost estimate after the reclamation plan was approved.

- The backfilling and regrading plan has several deficiencies. See the backfilling and regrading section of this TA for details.
- The Permittee did not adequately address how acid- and toxic-forming materials would be handled during final reclamation.
- The Permittee did not include information about the portal closures for the North Meetinghouse portal.

Findings:

Information provided in the proposed amendment is not considered adequate to meet the requirements of this section. Prior to approval, the Permittee must provide the following in accordance with:

The Division will not address the specific deficiencies in this section. See the remaining sections of the TA of specific deficiencies.

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:

In the December 6, 1999 response the Permittee states in the Approximate Original Contour Restoration section the following about highwall elimination:

The highwall elimination plan developed for the highwalls within the Deer Creek drainage system complies with the above mentioned regulations. All highwalls in the Deer Creek area are pre-SMCRA and will be eliminated to the extent practical.

Portals in Meetinghouse Canyon and Crimes Wash have no highwalls associated with them according to the OSM highwall review. Grimes Wash portals are currently being reclaimed with completion scheduled for mid-December of 1999.

The reclamation of the Rilda Canyon breakouts is covered in a separate plan that is referenced in the MRP (Vol. 2, chap. 4 Pages 4-54.1 - 4-54.13).

The highwall elimination plan was a requirement by the Division during the midterm

review process (refer to July 16, 1999 Division letter to PacifiCorp). The highwall elimination plan was developed and submitted in August of 1998. By September 4, 1999, the midterm process was completed and a TA filed. On September 14, 1999, the Division sent a letter to PacifiCorp finding the review complete with one exception. The MRP needed to be amended to incorporate the plan into the present mining and reclamation plan.

At that time, PacifiCorp decided to revise the reclamation plan of the Deer Creek Mine since cut and fill quantities could not be justified in the current plan. PacifiCorp contends that the plan complies with R645-301-553.500 and R645-301.600 and intends to include the plan in Appendix R645-301-500-B of the revised reclamation plan.

On February 9, 2000, Wayne Western met with Chuck Semborski to discuss the Deer Creek Reclamation Plan. Wayne told Chuck that the highwall elimination plan had not been approved by the Division. Chuck said "He had a letter from Daron Haddock confirming the Division's approved the plan." Wayne checked the information in the PIC room and concluded that the highwall elimination plan for Deer Creek was never formally submitted or approved. The Division did review and agree with a conceptual plan submitted by Energy West. However, the highwall elimination plan was never formally approved. The Permittee may have mistaken the agreement with the conceptual plan to mean formal approval. The following is a chronology of the highwall elimination efforts.

- On March 3, 1998, the Permittee was notified that the Division and OSM found the highwall elimination and retention section of the approximate original contour restoration plan inadequate.
- On July 16, 1998, the Division notified the Permittee, as part of the midterm review, that the highwall elimination plan was deficient.
- On September 4, 1998, Wayne Western completed the midterm review. During the review Wayne reviewed a conceptual plan for highwall elimination submitted by the Permittee. Wayne agreed with the conceptual plan and recommended that the plan be formally submitted for formal review.
- On September 14, 1998, the Division notified the Permittee that the conceptual plan was reviewed and found to comply with the requirements for highwall elimination. The Permittee was informed to file an amendment.
- On August 7, 1998, the Division was notified that the Permittee would submit an amendment dealing with highwall elimination once the midterm was completed.
- On September 14, 1998, the Division informed the Permittee that the midterm had been completed and that they needed to submit the highwall elimination amendment.

- On October 6, 1998, the Permittee requests and extension for submitting the highwall elimination plan until June 1, 1998. Note: 1998 was a typo in the Permittee's letter.
- On October 14, 1998, the Division granted the Permittee an extension until June 1, 1999 to complete the highwall elimination amendment.
- On September 30, 1999, the Permittee acknowledges the Division's concern to include a highwall elimination plan into the Deer Creek reclamation plan and anticipate completing the revision by December 31, 1999.
- On December 6, 1999, the Permittee submitted the response to technical analysis deficiencies outlined in the midterm review.
- On February 9, 2000, in a conversation between Chuck Semborski and Wayne Western, Chuck said "That the highwall elimination plan had been approved by the Division." Wayne stated that the plan had not been formally reviewed by the Division. Chuck then stated "That he had a letter from the Division to support his claim."

The Division approved the concept for highwall elimination plan but did not formal review or approve the plan. Before the Division can approve the highwall elimination plan the Permittee must show that 1) the highwalls cannot be reclaimed because of insufficient fill material, or 2) the slopes needed to backfill the highwalls would be too steep to be stable, or 3) the slopes needed to eliminate the highwalls would interfere with the drainage system.

- The Permittee does not have adequate cut and fill quantities for the Deer Creek mine, see December 6, 1999 response Page 8. Without adequate cut and fill quantities the Division cannot make a finding about insufficient fill material as required by R645-301-553.610.

On Drawing DS1783D, Stations 21+00 to 23+00 show highwall remnants after final reclamation. The proposed angles for reclaimed slopes for those sections are not greater than 16°. The highwalls could be eliminated with slopes not greater than 20°. If more fill material is available the Permittee could eliminate the highwalls.

- The Division is aware of the difficulty in reclaiming coal mines that are in steep canyons. Establishing the adequate drainage patterns can limit the areas that can be backfilled. If the Permittee claims that highwall elimination would result in an inadequate drainage system then they would need to show that relationship. See R645-301-553.520
- The reclaimed slopes proposed by the Permittee are straight. The Permittee could probably reclaim more of the highwalls if they used concave slopes. By using concave slopes the Permittee could compensate for lack of fill material or slope stability factors. On Page 9 of the December 6, 1999 submittal, the Permittee states that they have not yet

calculated slope stability factors for the reclaimed sites. Without that information the Division cannot allow highwall retention based on slope stability. See R645-301-553.500.

On Page 9 of the December 6, 1999, submittal the Permittee states that the refuse piles will be exempt from approximate original contour requirements based on R645-301-537, settled and revegetated fills. In a conversation between Dennis Oakley and Wayne Western the issue of settled and revegetated fill was discussed. Since the Permittee plans of disturbing the slopes of the refuse piles during final reclamation the provisions for settled and regraded fill do not apply. Dennis agreed to remove reference to settled and regraded fills from the reclamation plan.

Findings:

Information provided in the proposed amendment is not considered adequate to meet the requirements of this section. Prior to approval, the Permittee must provide the following in accordance with:

R645-301-553.500 and R645-301-553.600, The Permittee must demonstrate that the reclamation plan will eliminate all highwall to the extent practical. If highwall remnants are to be left then the Permittee must show that 1) the amount of fill material is insufficient to reclaim the highwalls, or 2) highwall elimination would interfere with reestablishing the drainage system, or 3) highwall elimination would result in slopes that do not meet the stability requirements.

R645-301-537, Since the Permittee plans to disturb the refuse pile during final reclamation they must remove references to using the settle and regraded fill provision from achieving AOC.

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:

Slope stability:

On Page 9 of the December 6, 1999, submittal the Permittee states:

PacifiCorp attempted to perform slope stability analysis in-house. Due to project priorities and scheduling restrains in-house analysis has not produced any data.

PacifiCorp is currently attempting to out-source this project and commits to adding all this data and information as it becomes available. This will need to be completed as a separate amendment.

The Division has concerns about how the original slope stability analysis was done. The Permittee used the stability charts from Rock Slope Engineering to show that the reclaimed slopes would be stable. The charts are based on the assumption that the material in the slope is homogeneous. The Permittee needed to show that the failure surfaces would occur in homogeneous material (provide detailed cross sections). Information in the approved MRP and the amendment show, some slopes will not have homogeneous soils. For example the refuse piles will be covered with 4 feet of material that may have different properties than the refuse. The stability charts are also based on the assumption that the failure surface will be circular. The Permittee must address the possibility that non circular failure could occur.

The slope stability analyses were done under the assumption that the soil was unsaturated. There are at least two sources of groundwater in the areas to be backfilled, the seeps by the French drains and the intake portal. The Permittee must analyze the slope for saturated conditions or show why they would remain unsaturated.

Settled and Revegetated Fills: The Permittee states, on Page 9 of the December 6, 1999, submittal the Permittee states that the refuse piles will be exempt from approximate original contour requirements based on R645-301-537, settled and revegetated fills. In a conversation between Dennis Oakley and Wayne Western the issue of settled and revegetated fill was discussed. Since the Permittee plans of disturbing the slopes of the refuse piles during final reclamation the provisions for settled and regraded fill do not apply. Dennis agreed to remove reference to settled and regraded fills from the reclamation plan.

Exposed coal seams, acid- and toxic-forming materials:

The Permittee stated on Page 5-9 of the May 26, 1999 submittal that the refuse pile would be covered with less than 4 feet of material. However, on Page 3-67 of the approved MRP the Permittee committed to cover the refuse piles with 4 feet of materials. The Permittee did not show that the refuse piles needed less cover. Information in the MRP shows that some areas of the refuse piles have high acid-forming potential.

On Page 10 of the December 6, 1999 submittal, the Permittee states:

PacifiCorp commits to a sampling program of the refuse piles at the Deer Creek Mine. Analysis will be conducted as outlined in the Guidelines for Management of Topsoil and Overburden for Underground and Surface Coal Mining (Leatherwood and Duce, 1988). The reader should refer to R645-301-200: Soils, Sampling Procedure for Refuse Piles for a full explanation of sampling at the Deer Creek Mine.

The Permittee did not address the cover requirements for exposed coal seams and acid- and toxic forming materials. The Division's concerns are 1) the acid and toxic forming material in the refuse pile might not be covered with 4 feet of material and 2) the exposed coal seams that are found next to the disturbed area boundaries shown on Map DS1796D sheet 1 of 2 may not be adequately covered.

Minimize erosion and water pollution:

The Permittee did not address how erosion and water pollution would be minimized. The proposed slopes in the amendment are straight. Slopes that are concave tend to reduce erosion and minimize water pollution better than straight slopes. The Permittee must show that straight slopes will minimize erosion and water pollution before approval of the backfilling and grading plan.

Findings:

Information provided in the proposed amendment is not considered adequate to meet the requirement of this section. Prior to approval, the Permittee must provide the following in accordance with:

Slope stability

R645-301-552.130, The Permittee must give the Division detailed calculation for the slope stability analysis.

Settled and Revegetated fills

R645-301-537, The Permittee must remove the reference to settled and revegetated fill being left since the backfilling and regrading plan shows that all settled and revegetated fill will be disturbed during final reclamation.

Exposed coal seams, acid- and toxic-forming materials

R645-310-553.300, The Permittee must show how the requirements of R645-301-553.300 will be met. That regulation requires that all coal seams and acid- and toxic-forming materials will be adequately covered to control surface impact or contaminate surface or groundwater. The Division is concerned about the exposed coal seams that are located next to the disturbed area boundaries shown on Map DS1796D sheet 1 of 2 will be covered.

Minimize erosion and water pollution

R645-301-553.140, The Permittee did not show how erosion and water pollution would be minimized. The proposed slopes are straight rather than concave. Concaved slopes tend to minimize erosion more than straight slopes.

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 portals will be sealed after the mine has been shut down. The general portal closure plan is shown on Figure 5-1. A block seal will be placed in the portal 25 feet from the entrance and then backfilled. The general portal sealing and backfilling plan is adequate for all portals in the Deer Creek site except the intake portal.

The intake portal is located down dip from the aquifers. The Permittee does not want to place a hydrologic seal in the portal because the surrounding rock is fractured and water would seep around the seal. The Permittee will place pipes behind the seal and let the water flow through the pipe into the stream channel.

On Page 10 and 11 of the December 6, 1999 submittal the Permittee states:

PacifiCorp commits to incorporating the North Meetinghouse portal reclamation plan when the plan is developed. This plan will also be inserted into Appendix R645-301-500-B

The Permittee needs to include the portal reclamation plan for the North Meetinghouse area.

Findings:

Information provided in the proposed amendment is not considered adequate to meet the requirements of this section. Prior to approval, the Permittee must provide the following in accordance with:

R645-301-551, The Permittee must give the Division portal closure plans for North Fork Meetinghouse Canyon

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:

The Permittee plans to reclaim all roads at the Deer Creek mine site. They also plan to reclaim the access road for the C1 and C2 belt line.

Findings:

The Permittee met the minimum requirements of this section.

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:

Bonded area map

The Permittee shows some areas covered by the reclamation bond on Map DS1782D (Deer Creek Mine Disturbed Area Final Reclamation Contour Map), Map CE-10884-FM (Deer Creek Mine Rilda Canyon Final Reclamation of Surface Facilities and Access Road). Map DS1782D does not show the disturbed area boundaries. The disturbed area boundaries must include full length of the conveyor belt and the mine site.

Map CE-10884-FM does show the disturbed area boundaries for the Rilda Canyon area. That map is considered adequate.

The Permittee does not show the disturbed area boundaries for the North Fork Meetinghouse Canyon portals or the Grimes Wash Canyon portals. The Permittee must include in the amendment reclamation maps of the North Fork Meetinghouse Canyon portals and the Grimes Wash Canyon that show the disturbed area boundaries.

The Permittee is under a Division Order to upgrade the permit and disturbed area maps. Those maps will be evaluated under the Division Order.

Reclamation backfilling and grading maps

Map DS1782D shows the proposed final surface configuration for the Deer Creek Mine Site. The cross sections for the Deer Creek Mine are shown on Drawing DS1783D (2 sheets) and Drawing DS1784D (1 sheet).

Reclamation facilities maps

The Permittee proposes to remove the structures and most of the facilities from the permit area. The Permittee plans to leave the coal mine waste facilities (refuse piles) on the mine site. The location of those facilities is shown on the reclamation maps.

Final surface configuration maps

The Permittee did give the Division final surface configuration maps. The contour map of the Deer Creek facility show the contour for the entire disturbed area and the area 100 feet beyond the disturbed area boundaries.

Reclamation surface and subsurface manmade features maps

The Permittee shows the location of each public road that will be located within 100 feet of the permit area. The Permittee shows the location of the county road that is next to the conveyor belt on the reclamation maps.

Reclamation treatments maps

Findings:

The Permittee met the minimum requirements of this section.

BONDING AND INSURANCE REQUIREMENTS

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

Analysis:

Determination of bond amount

The Permittee did not include a revised reclamation cost estimate in the amendment. The Division was informed by the Permittee that a cost estimate would not be included until the reclamation plan was approved. The Division agreed with the concept since the reclamation bond estimate must be based on the approved plan.

Findings:

Information provided in the proposed amendment is not considered adequate to meet the requirements of this section. Prior to approval, the Permittee must provide the following in accordance with:

R645-301-830.130, The Permittee did not include a detailed reclamation cost estimate in the amendment. The Permittee informed the Division that the reclamation cost estimate would not be submitted until the reclamation plan was approved. The Division agreed to that procedure. Prior to final approval the Permittee must submit a detailed reclamation cost estimate.

RECOMMENDATIONS:

- The Permittee must correct the deficiencies before the Division approves the package.
- The Permittee must be reminded that the highwall elimination plan has not been approved and they need to correct that deficiency quickly.