

0010

July 27, 1987

TO: Technical File

FROM: Rick P. Summers, Reclamation Hydrologist 

RE: Response to Permit Stipulations (received 6-25-87), Summit Coal Company, Boyer Mine, ACT/043/008, Summit County, Utah

Summary:

The response is not complete at this time. The applicant needs to address the following comment before the review can proceed.

Body:

The following comments need to be addressed relative to hydrology issues.

Stipulations UMC 817.42-(1-3)-RS

1. The permittee shall submit revised designs for the catch basin proposed to treat drainage from the coal waste disposal area such that the final design must incorporate valid hydrologic assumptions and criteria and insure compliance with subsection (a)(3) of UMC 817.42. Designs must be submitted within 30 days of permit issuance and be approved by the Division prior to any further initiation of mining activity in the powder and cap magazine and coal waste disposal area.

Comment:

Page 3-67 of the response indicates the applicant is withdrawing the proposal for a catch basin as this area will not be used for waste disposal. It is proposed to reclaim this area in the Fall of 1987. The requirements of this stipulation have been met.

2. The permittee shall within 30 days of permit issuance, submit revised appropriate sections and plates in the MRP to reflect a commitment to retain straw bale (or equivalent) treatment structures at the outlet of culvert C-6. Additionally, the permittee must commit, within 30 days of permit issuance, to sample all discharges from these structures and incorporate the analysis schedule proposed in Table 5-1 for all samples. A commitment to submit results of the analysis to the Division within 30 days of receipt must also be made.

Comment:

The applicant has proposed a catch basin as an alternative to the straw bales proposed in the original MRP. The Division approves the use of the catch basin, but will require straw bales or equivalent for the discharge from this basin until it can be demonstrated (through monitoring) that the catch basin as a sole treatment structure is adequate to maintain effluent limitations. Narrative should be added to the permit reflecting this commitment. The applicant has committed to sampling the discharges from the catch basin for the operational parameters in the original MRP (Table 5-1 of Volume 2).

3. Prior to beginning any underground coal mining activities under this permit in the affected drainage area, the applicant must construct the sedimentation system as proposed in the MRP.

Comment:

This stipulation requires no response from the operator. The stipulation addresses requirements for onsite activity which will be monitored through the Division's enforcement program.

Stipulation UMC 817.43-(1)-RPS

1. Within 60 days of permit issuance, the permittee shall submit a revised complete and technically adequate design plan for all diversions which incorporates correct hydrologic assumptions and meets the requirements of UMC 817.43.

Comment:

The applicant has revised Tables 7-1 and 7-2 to incorporate values calculated by the Division during the technical analysis stage of permit approval. The applicant must submit revised maps depicting the correct watersheds referenced for each structure. The Technical Analysis was written with the assumption the notation "M.D." related to riprap size means "median diameter" and not "maximum diameter". This should be stated on all applicable tables with a footnote.

Stipulation UMC 817.44-(1)-RPS

1. The permittee must submit complete and technically adequate designs for UD-1 that demonstrate compliance with subsections (b)(2) and (d) of this rule within 120 days of permit issuance.

Comment:

This response has not been reviewed at this time in order to allow operator to use resources to develop plans required to upgrade operational aspects of the current minesite. The plans will be reviewed as soon as Division workload allows.

Stipulations UMC 817.46-(1-6)-RPS

1. Within 30 days of permit issuance, the permittee shall submit to the Division a commitment to maintain a minimum detention time of 24 hours in the sedimentation pond for all 10-yr, 24-hr and lesser precipitation events.

Comment:

Page 7-6a of the response commits to a minimum of 24 hours detention time prior to manual dewatering. The requirements of this stipulation have been met.

2. Within 30 days of permit issuance, the permittee shall ~~submit~~ detailed information regarding the sediment pond clean out. This information should include elevation of 60% volume, elevation of maximum sediment storage volume, location of sediment marker in pond, and a commitment to clearly mark the referenced elevations on the stake.

Comment:

The applicant has submitted correct elevations for the sediment clean out elevation (60 %), the maximum sediment elevation, committed to installation of indicator stake, and committed to clean out at 60 % elevation. However, the application states that the sediment volume was based upon PSIAC and USLE methods when it appears 0.1 AF/Ac was used. The narrative should be corrected to clarify the plan. The applicant needs to address the proposed plan for sediment pond clean out. This information must include: proposed disposal site for sediments removed, a proposal to insure that water draining from sediments removed (i.e. if dewater of the sediment is necessary prior to loading) reports a sediment treatment structure, a commitment to monitor the sediment pond dewatering process (if dewatering is needed) with samples at the start, mid-point, and at end of dewatering, and the method to be used to insure original (or greater) pond volume is restored.

3. Within 30 days of permit issuance, the permittee shall provide correct assumptions and peak flow values for design flows used for the design of the sedimentation pond.

Comment:

The applicant incorporated the Division's values from the technical analysis into Table 7-4. The applicant should submit stage-discharge curve demonstrating the primary spillway is capable of passing this flow. The assumptions used in the preparation of the curve should also be included and referenced to applicable Plates as needed.

4. Within 30 days of permit issuance, the permittee shall submit plans to the Division for the emergency spillway for the sedimentation pond. These plans should incorporate the 25-yr, 24-hr design event, a spillway lining of adequately sized riprap, a filter blanket design, and an adequately sized energy dissipator.

Comment:

The applicant has received approval for the sediment pond emergency spillway designs (see memo to file, R. Summers, dated June 22, 1987). Designs for the energy dissipator were found to be deficient. The following deficiencies are noted:

1. Plate 7-2 depicts a concrete stilling basin and Figure 7-1a proposes a loose rock check dam. The proposal is vague as to the proposed location and type of structure. Cross-section A-A' depicts approximately 20 ft. from the outlet of the primary spillway and the roadside diversion. If the loose rock dam is to be placed to allow for the 15 ft. rock apron, the 30 in. dam will be located less than 5 ft. from the outlet. Is adequate space available onsite for this design? The backwater effect from the dam could cause the spillway to function under outlet flow conditions.
2. The proposal should include information (including calculations and assumptions) for the expected outlet velocity from the primary spillway flowing at maximum capacity. The energy dissipator should be designed using the worst case velocity (i.e. emergency spillway at design flow or primary spillway at maximum capacity).
3. The proposal uses a 30.0 % (3.33 : 1) slope for the calculation of the expected velocity from the emergency spillway. Plate 7-2 depicts the maximum slope as 67.7 % (1 1/2 : 1) and the slope entering the dissipator as 43 % (2.33 : 1). The proposal needs clarification.
4. The proposal should include the proposed size of riprap to be used for the rock apron (including determination information).

5. The proposal should include specific dimensions for the entire structure. These should include: 1) length, width and depth of basin, 2) width of loose rock check dam.

5. Within 30 days of permit issuance, the permitted shall submit to the Division a commitment to inspect the sedimentation pond during construction and submit certified as-built drawings of the structure. These must be conducted by a registered professional engineer.

Comment:

The applicant states this information is found in Appendix 7-C. This section contains a certification statement, however a certified drawing (nor commitment) of the structure has not been submitted.

6. Within 30 days of permit issuance, the permittee shall provide a correct Plate depicting the location of sampling station SS-7.

Comment:

The applicant has submitted a revised plate depicted the sampling location (Plate 7-1). The requirements of this stipulation have been adequately addressed.

Stipulation UMC 817.47-(1)-RS

1. Within 30 days of permit issuance, the permittee shall submit adequate designs for the energy dissipator for the primary spillway. These designs must be based upon the expected velocity for the discharge from a 10-yr, 24-hr precipitation event.

Comment:

The applicant has not adequately addressed this section. See comments under stipulation UMC 817.46 - 4 - RS of this memo.

Stipulation UMC 817.49-(1)-RPS

1. Within 30 days of permit issuance, the permittee shall submit to the Division a commitment to conduct the inspection required by subsection (h) of UMC 817.49 and to submit the results of that inspection to the Division within 30 days following completion of construction of the proposed sedimentation pond.

Comment:

The applicant has submitted a commitment to conduct the inspections required under UMC 817.46, however the inspection required by UMC 817.49 (h) has not been submitted (nor committed).

Stipulation UMC 817.56-(1)-RS

1. Within 30 days of permit issuance, the permittee shall commit to renovating the permanent diversion labeled as UD-1 prior to final abandonment of the site. The commitment should include intent to ensure the capacity and stability criteria of the proposed design are adequately met and all necessary structural features are in good repair, functional and constructed as per the approved design.

Comment:

The applicant has not committed to renovation of the diversion prior to site abandonment (i.e. following sedimentation pond removal, the applicant must insure the diversion constructed during phase 1 of reclamation is still functional as per approved design). A single paragraph describing the commitment to renovate the diversion to approved design specifications and repair of any diversion degradation which occurred prior to meeting the requirements of UMC 817.46 (u) will be sufficient for this stipulation.