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August 29, 1997

TO: File
THRU: Joe Helfrich, Permit Supervisor *JH*
FROM: Sharon Falvey, Senior Reclamation Hydrologist *SF*
RE: Reclamation Plan Amendment 6/23/97, Consolidation Coal Company, Hidden Valley Mine, ACT/015/007-97B, Folder #2, Emery County, Utah

SUMMARY:

The permittee submitted this amendment to provide reclamation measures that increase vegetative success and soil stability at the B seam, west of the wash bisecting the disturbed area. Additional disturbance east of the ephemeral drainage will occur at the borrow area and for site access.

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 proposed reclamation includes a borrow source within the existing disturbed area. The final configuration of this borrow source was presented on drawing 97-1. The design criteria

and slope safety factor described in the existing plan are stated to be applicable to the proposed adit slope configuration. Proposed changes to the east drainage that runs along the edge of the borrow area are discussed under the hydrology section below.

Findings:

The slope stability analyses should be reviewed for adequacy by an engineer.

HYDROLOGIC INFORMATION

Regulatory Reference: 30 CFR Sec. 784.14, 784.29, 817.41, 817.42, 817.43, 817.45, 817.49, 817.56, 817.57; R645-301-512, -301-513, -301-514, -301-515, -301-532, -301-533, -301-542, -301-723, -301-724, -301-725, -301-726, -301-728, -301-729, -301-731, -301-733, -301-742, -301-743, -301-750, -301-751, -301-760, -301-761.

Analysis:

Diversions.

The previous memo requested information be provided for changes that may affect the function of the east ditch adjacent to the borrow area. In a field visit, discussions pertaining to the site configuration ranged from; 1) re-vegetating the area east of and adjacent to the swale; 2) removing the silt fence and providing a siltation structure; to 3) providing a ditch to direct undisturbed drainage off the site above the revegetated area. The applicant proposed that the existing diversion at the east end of the site be extended to the wash at the north end of the disturbed area. The silt fence is proposed to be retained and no additional reclamation work will be completed on the east side. Therefore, re-diverting the ditch is unnecessary.

The extension of this ditch relies on information in the existing plan to meet design criteria. The Division can not approve this proposal. The ditch extension will increase the area draining to the ditch. The existing design does not account for this additional drainage area. The intent behind the request for information on this ditch was to account for regrading of the borrow area where it would affect the existing ditch. The Division would prefer the access area be reconfigured to match the existing site conditions after reclamation is completed.

Stream buffer zones.

The permittee will be pushing material from the backfilled adit slope to an area in-between the adit slope and Ivie Creek. Measures employed to protect the stream and the designated buffer zone were stated to be met through the final configuration at the site (providing a flat gradient on the site). No additional disturbance beyond the existing area adjacent to Ivie Creek is approved. Any disturbance beyond the previously disturbed area may be subject to

enforcement action by the inspector. Although no designs were presented and, the berm was not discussed in the text, the applicant's map shows a berm protecting the outslope of the disturbed area adjacent to Ivie Creek.

Sediment control measures.

The permittee has stated that during the construction phase sediment control will be through utilization of the existing silt fences. Sufficient materials consisting of silt fences and straw bales will be kept on hand for use in the event of precipitation. The silt fences at this site have been in-effective in these soils because water has a tendency to pipe under the fence and/or the soils back up behind the fence and are a constant maintenance problem. It is recommended that a combination of silt fence with busted up straw bale spread out a few feet in front of the fence on the upstream side be used to break up flow velocities and decrease the potential for piping.

The grade of the fill is proposed to be flat, runoff from the reclaimed area could potentially drain over the south embankment to the river and encourage head cutting into the fill. A berm is proposed to be placed at the edge of Ivie Creek but no size criteria for this berm was presented.

The applicants design is proposed to encourage sheet runoff and to minimize rill and gully formation. However, precipitation tends to occur in high intensity short duration events. Therefore, my recommendation during the site visit, was that the operator consider the grading plan be changed to provide a low angle in-slope from the boundary of the disturbance. This depression would allow retention of water and sediment deposition on the site. Sending the runoff to a low gradient area will encourage deposition of material. The applicant felt the use of coarse fragments and depressions will mechanically eliminate sediment production. The division feels that these methods will aid in reduction (not elimination) of sediment off site. The operator will be held to meeting all performance standards on the site and success of the measures provided will be determined through on site inspections.

Findings:

This amendment does not meet the requirements of this section. The permittee must provide the following in accordance with:

R645-301-740. Re-construct the ditch adjacent to the proposed borrow area to meet the existing ditch design requirements.

Recommendation:

It is recommended that an engineer be assigned to review the submittal for grading plan adequacy. Furthermore, it is also recommended that this amendment be approved with the following condition to approval.

R645-301-740. Re-construct the ditch adjacent to the proposed borrow area to meet the existing ditch design requirements and, resubmit the approved copies without the ditch extension. (The proposed change does not meet design requirements and the proposed changes on site should not affect the existing ditch configuration).