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Norman H. Bangerter
Governor
Dee C. Hansen
Executive Director
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Division Director

State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203
801-538-5340

November 26, 1991

Mr. Kevin Cheeks
Consolidation Coal Company
12755 Olive Boulevard
St. Louis, Missouri 63141

Dear Mr. Cheeks:

Re: Approval for Temporarily Backfilling Tank Excavation, Consolidation Coal Company, Emery Deep Mine, ACT/015/015, Folder #3, Emery County, Utah

The Division has reviewed your response to the conditions placed on your proposal to backfill an excavation left by the removal of fuel tanks at the Emery Deep Mine. The Division hereby approves your backfilling proposal on a temporary basis, however, further characterization of the activity will be required before permanent storage of the material can be approved.

The Division's initial concerns appear to have been addressed. There are, however, additional concerns which have been brought to light dealing mainly with the Probable Hydrologic Consequences (PHC) of the backfilling operation. The potential exists for the water table to rise after the mine dewatering pumps are decommissioned during reclamation. If the site will remain dry there is no problem with permanent storage of the waste rock but additional PHC information must be provided if the area may become potentially saturated.

Please review the attached technical memos which further discuss concerns with your proposal. Additional PHC information as outlined must be submitted by December 26, 1991.

If you have any questions, please call Priscilla Burton or Rick Summers at 801-538-5340.

Sincerely,

Daron R. Haddock

Daron R. Haddock
Permit Supervisor

Enclosures
cc: J. Helfrich, DOGM
P. Burton, DOGM
R. Summers, DOGM
S. Demczak, PFO
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TO: Daron Haddock, Permit Supervisor

FROM: Rick P. Summers, Senior Hydrologist

RE: Review (received 8/22/91), Consolidation Coal Company, Emery Deep Mine, ACT/015/015, Folder #2, Emery County, Utah

SUMMARY

This original proposal to backfill the excavation from underground storage tank removal with waste material indicated that groundwater impacts were not of concern. Paragraph 2 of that letter reads: "Visual inspection of the proposed disposal site and existing monitoring well data indicate that burial of the waste material is not expected to cause any adverse impacts to ground water resources. A visual inspection of the fill and alluvial material removed from the tank site indicate that it is dry and no saturation zone was encountered. In addition, no springs or seeps wee observed in the adjacent rock escarpment. Static water level reading taken from nearby monitoring well Muddy #1 show that in this location the upper Ferron sandstone is dry. This sandstone unit is located immediately above the IJ coal seam which was encountered during tank excavation".

While this statement is true for the operational phase of the mine, the statement is misleading as to the potential long term impacts of the disposal. Information in the MRP indicates that a potential exists for the water table to rise after the mine dewatering pumps are decommissioned during reclamation. While the Division does not oppose placement of the material in a dry location with appropriate cover and revegetation requirements, further characterization of the activity will be required for placement of the material in a potentially saturated location.

The operator should have been aware of this potential and it should have been addressed in the proposal. It is not incumbent upon the Division to foresee all aspect of an operation and the resultant effects on the performance standards of the rules. Further, R614-300-131.200 reads: "The applicant for a permit or permit change will have the burden of establishing that their application is in compliance with all the requirements of the State Program".

The application needs to address the following regulations before the disposal of the waste in this location can be considered permanent. The disposal of the material during operational phase in this location is acceptable due the dry conditions as the result of mine dewatering operations. The regulations are:

1. **R614-301-728. Probable Hydrologic Consequences.** The PHC in the existing permit needs to be updated to incorporate this activity and the resultant effects on the surface and ground water resources for the reclamation and postmining conditions. If impacts to the resource are indicated, a monitoring station must be added to the program for the reclamation period to assess those probable impacts.

2. **R614-301-746. Coal Mine Waste.** Specifically, the rules 746.110, 746.120, 746.211 need to be addressed.

cc: P. Burton
S. Falvey
R. Harden
EMERYTAN.RS

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TO: Daron Haddock, Permit Supervisor

FROM: Priscilla Burton, Soils Reclamation Specialist

DATE: November 14, 1991

RE: Response to Conditional Approval of Amendment 91-C, Consolidation Coal Company, Emery Deep Mine, ACT/015/015-91C, Folder #2, Emery County, Utah.

SUMMARY

Approval of the use of waste-rock as backfill in the tank excavation site on the mine pad was conditioned upon the characterization of the waste-rock and proposed cover material. Consolidation Coal Co. has analyzed the waste-rock as per Division requests and has submitted the soil and groundwater sampling performed in compliance with the underground storage tank site assessment. A response to condition #3, to correct a deficiency in the plan, was deferred until the mine reopens.

TECHNICAL ANALYSIS

Three samples of the waste were taken. The pH is neutral. The electrical conductivity of the material was from 12 to 21.1 mmhos/cm, the lowest value was recorded from the north sampling location. The saturation extract produced between 1260 and 3840 mg/L water soluble sodium, an average of 1407 mg/L. The north sample produced a considerably lower level of sodium salts than the central and south sampling locations. Boron is within plant growth tolerance. The material has a strongly positive acid/base potential; it is not acidic. The material is high in organic carbon, approximately 13%.

The stockpiled cover material (a sandy loam) was also sampled in three locations. The pH for all samples is approximately 8.0. The electrical conductivity of this material is between 4 and 6 mmhos/cm. The average value of the water soluble sodium found in the saturated paste was 579 mg/L. The level of Boron is equal to that in the waste. This material is quite suitable for plant growth.

The Tank Closure report indicates the amount of total petroleum hydrocarbons encountered. The soil was excavated down to 27 feet; 1,166.91 tons were removed. The report does not indicate whether groundwater was encountered.

The third condition, to correct a permit defect, was not addressed. Consolidation Coal has stated that upon reopening the mine, the statements on pages 20 of Chap IV-C and APP VII-2 of Chap VII permit will be clarified.

CONCLUSIONS

Based on the results of the sampling, material from the north location should be the first material placed in the backfill operation, so that potential groundwater will contact the least saline material.

A gravel cap (between one and two feet thick) should be placed between the waste and cover material to reduce the likelihood of upward diffusion of the sodium salts by preventing capillary flow. This material is readily available onsite at the gravel pit (permanent waste storage disposal site).

Within 30 days of completion of this backfilling operation, the surface facilities map must be revised to indicate the location of the wasterock in storage on the operations pad.

The Division should issue an Order to clarify the items requested in the third condition of the approval. Although this information is not necessary prior to the backfilling operation at hand, the information is critical to adequately covering the waste-rock at the permanent waste-rock disposal site.

cc: R. Summers
R. Harden
EMERYTAN.KPB