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State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

Norman H. Bangerter

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Dee C. Hansen

Executive Director

Dianne R. Nielson, Ph.D.

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355 West North Temple

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801-538-5340

May ³/₈, 1989

Mr. Richard J. Denning
Permit Coordinator
Consolidation Coal Company
12755 Olive Boulevard
St. Louis, Missouri 63141

Dear Mr. Denning;

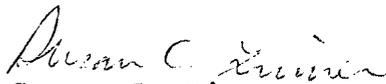
Re: Conditional Approval, Amendment, Underground Waste Disposal
Site, Consolidation Coal Company, Emery Deep Mine,
ACT/015/015-88G, Folder #2, Emery County, Utah

The Division has completed review of your company's submittal received April 4, 1989. The plans were reviewed by the Division's technical staff. Resolution of conditions UMC 784.13(b)(1)-LK, UMC 817.48-JSL, UMC 817.22-.24-JSL, and UMC 817.153-MMD, as detailed in the attached technical reviews by June 2, 1989 will consummate final approval.

Please format your responses for insertion into the Mining and Reclamation Plan.

If you have any questions, please call Lynn Kunzler or me.

Sincerely,


Susan C. Linner
Reclamation Biologist/
Permit Supervisor

c1
Attachments
cc: R. Thompson, Emery Deep Mine
J. Helfrich
L. Kunzler
BT45/221



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April 21, 1989

TO: Susan Linner, Permit Supervisor

FROM: Lynn Kunzler, Reclamation Biologist 

RE: Review of Underground Waste Disposal Site, Consolidation Coal Company, Emery Deep Mine, ACT/015/015, Folder #2, Emery County, Utah

Summary:

Consol's submittal received on April 4, 1989 has been reviewed for biological resources. While the plan can be considered complete, there is apparent conflict with the schedule for final revegetation. Consol will need to clarify this schedule before final approval.

Analysis:

UMC 784.13(b)(1) and (b)(5): Discussions of the use and reclamation of the proposed disposal area in sections 3.4.9 and 3.5 tend to indicate that the facility will be utilized for several years, with interim stabilization occurring as the site is filled with waste. However, Section 3.5.6.1 (detailed timetable for reclamation) indicates final abandonment and reclamation during the second quarter of 1989. To clarify this, the operator will need to provide a clear timetable for the use and reclamation of the proposed disposal site

Recommendations:

The operator is requested to provide a detailed timetable for the use and final reclamation of the proposed waste disposal site.

BT3013/11



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April 21, 1989

TO: Susan Linner, Permit Supervisor

FROM: James Leatherwood, Reclamation Soils Specialist *JL*

RE: Underground Development Waste Disposal, Consolidation
Coal Company, Emery Deep Mine, ACT/015/015-88G,
Folder #2, Emery County, Utah

SUMMARY

The proposed Mining and Reclamation Plan Amendment resubmittal for an Underground Waste Disposal Site, received April 4, 1989, has been reviewed. The plan cannot be considered technically adequate at this time. The proposed plan fails to commit to contemporaneous stabilization of the substitute topsoil, and to bury or otherwise treat acid-or toxic-forming material within 30 days. Substitute topsoil analysis indicates that the top and middle sampled soil should be segregated from the lower soil due to the saline sodic nature of the bottom soil.

ANALYSIS:

817.22-.24 Topsoil - JSL

The soil analysis data outlined on Table 13-1 has been reviewed. Soil sample one, bottom soil sample, is considered saline-sodic and unacceptable as a substitute topsoil. Sample two, middle soil sample, is considered saline and is rated as a fair substitute topsoil resource. Sample three, top soil sample contains excessive coarse fragments and has a poor to unacceptable rating. Top and middle zones must be salvaged and stockpiled separate from the lower saline sodic material. Thus one soil stockpile will contain the top and middle zones, and the other soil stockpile will contain the lower zone. The mixing of the top and middle zones will decrease the percent coarse fragments to a more acceptable range.

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Consolidation Coal Company
Emery Deep Mine
ACT/015/015-88G

A commitment to contemporarily reclaim and stabilize the sand stockpiles must be incorporated into the plan. Each stockpile must be independently bermed and contemporaneously revegetated.

During backfill operations the lower zone soil material must be backfilled over the disposed underground development waste first. Then after, the mixed upper and middle zone soil material will be placed over the lower zone soil material and revegetated according to the specified plan.

UMC 817.48 Hydrologic Balance: Acid-Forming and Toxic-Forming Materials - JSL

The accounted overall acid-base potential was determined to be 24.2 tons/1000 tons of material. Acidic materials are present, as indicated by pH values as low as 4.2 and an acid-base potential of -43.3, in addition to slightly alkaline materials with a pH of 8.2 and an acid-base potential of 121 tons/1000 tons material. Uniform diffuse unsaturated water flow is not expected to predominate the backfilled waste and isolated locations of acidity will in all probability be generated. However, degradation to the surrounding ecosystem is expected to be nullified by: the four feet of non-hazardous, high buffering capacity cover; high buffering capacity of surround materials; lack of groundwater flow; and, the arid ecosystem in which the proposed site is located.

The operator has not however, committed to treat and/or otherwise bury all potentially acid-or toxic-forming underground development waste within 30 days after it is first exposed on the mine site.

RECOMMENDATION:

The concerns outlined in this memo must be addressed before approval recommendations can be given.

c1
cc: B Team
BT51/57-58



State of Utah

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April 27, 1989

TO: Susan Linner, Permit Supervisor

FROM: Mike DeWeese, Reclamation Hydrologist *MD*

RE: Deficiency Review Response, Underground Waste Disposal Site, Consolidation Coal Company, Emery Deep Mine, ACT/015/015-88G, Emery County Utah

SUMMARY:

The operator has included additional information required by the Division in this resubmittal of the underground waste disposal site proposal. Specifically, climatological data and clarification of ground water conditions in the alluvial aquifer system have been provided. This submittal combined with on-site inspections of the proposed site have provided the informational basis for the following comments.

UMC 817.42 Hydrologic Balance: Water Quality Standards and Effluent Limitations - MMD

UMC 817.153 Roads: Class I: Drainage - MMD

All surface runoff from the disturbed area associated with the proposed waste disposal area will report to an approved sedimentation pond. Site inspections by Division personnel have revealed that runoff from the road above the site is diverted by a natural swale just east of the site. This location of this swale is referenced on page 13-93 of the submittal as being depicted in plate 13-26. It appears in this drawing as though the disturbed area perimeter extends to the approximate natural diversion location, however the exact location of the swale is not shown. The operator must revise submitted plate 13-26 to depict the actual location of the existing natural swale relative to the waste disposal disturbed area.

UMC 817.41 Hydrologic Balance: General Requirements - MMD

UMC 817.71 Disposal of Excess Spoil and Underground Development Waste: General Requirements - MMD

UMC 817.48 Hydrologic Balance: Acid and Toxic Forming Materials -
MMD

Page 13-85 of the submittal presents long term annual climatological data for the town of Emery, approximately four miles north of the mine site. This data is considered to be representative of conditions at the mine. A monthly water budget developed using this data exhibits a substantial moisture deficit essentially throughout the entire year (see attached figure).

The waste disposal site is to be constructed primarily as an incised structure in a topographically isolated area. The submittal states on page 13-84 that the subsoil is composed of unconsolidated alluvial terrace deposits overlaying the Bluegate shale formation. Site inspections by the Division have determined that the Bluegate formation is not present in the immediate area and the alluvial deposits appear to be underlain by a member of the Ferron formation.

Previously mined workings exist beneath the site under an undetermined depth of overburden, therefore subsidence potential does exist in this area. The operator's subsidence mitigation plan calls for any structural deformation from subsidence to be treated by regrading the surface to the approximate original contour and restoring the original surface drainage pattern.

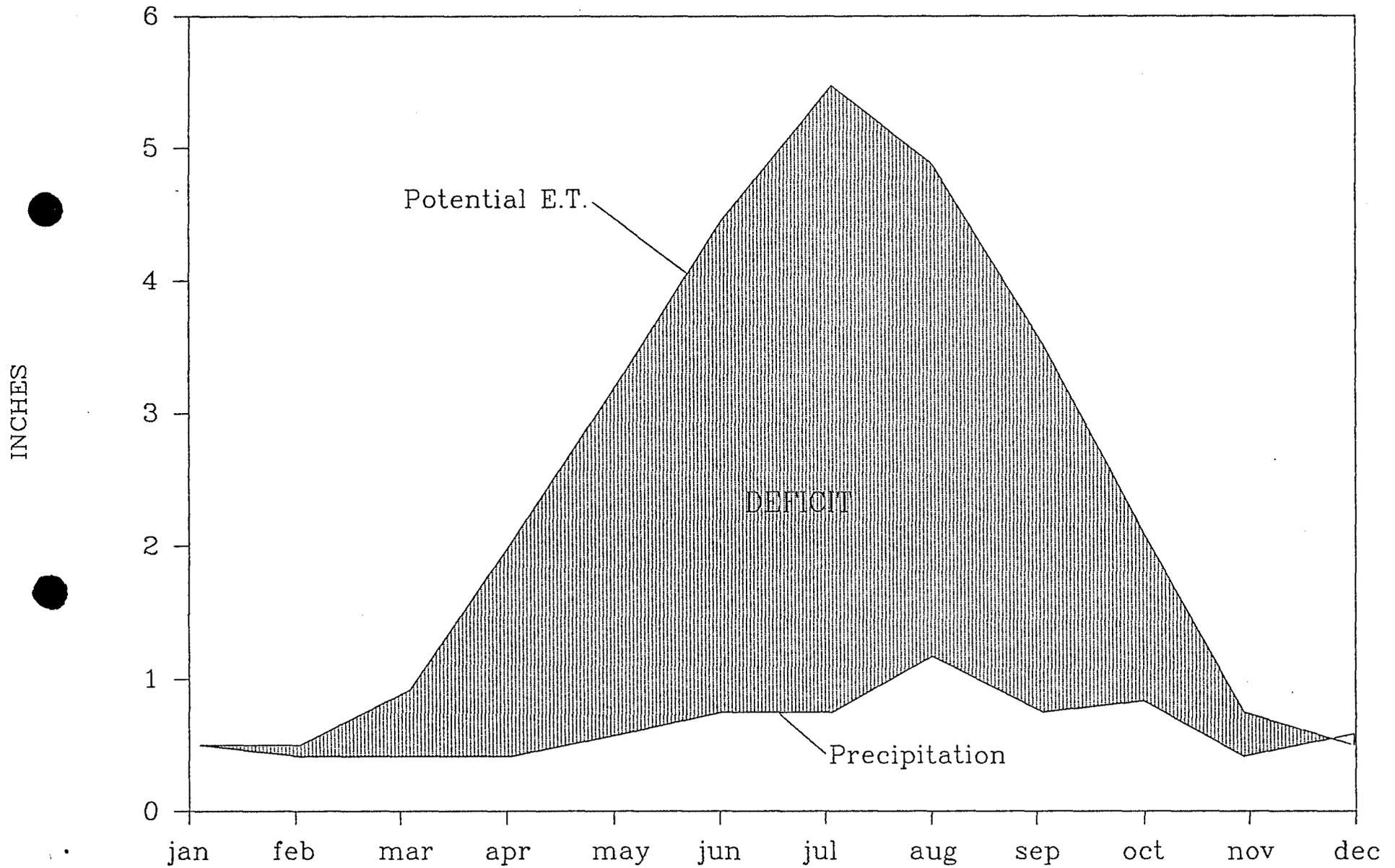
The potential for the proposed waste disposal site to cause adverse impacts to the prevailing groundwater regime is considered negligible for the following reasons.

1. The soil moisture regime is dominated by continual deficit conditions and any moisture present will be tightly contained within the unsaturated zone by capillary forces.
2. The ambient ground water quality exhibits moderate to high alkalinity values and would not be significantly impacted by any acid formation from the waste material.
3. Although some potentially acid forming material exists within the waste material, the majority of the waste material is alkaline and should neutralize any acid formation that occurs.

RECOMMENDATIONS:

The Division recommends that upon receipt of a revised plate 13-26 showing the swale location the proposed underground waste disposal amendment be granted final approval.

EMERY DEEP WATER BUDGET





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April 27, 1989

TO: Sue Linner, Permit Supervisor
FROM: Randy Harden, Reclamation Engineer *JRH*
RE: Underground Waste Disposal Site, Emery Mine, Consolidation Coal Company, ACT/015/015-88G, Folder #2, Emery County, Utah

SUMMARY:

Proposal for the construction of an underground waste disposal site was received by the Division on November 29, 1988. Deficiencies found within that document were noted in a memo on January 9, 1989. The operator has responded to those deficiencies in a submittal received April 4, 1989 by the Division. The following comments are made in regard to the technical completeness of the proposal:

ANALYSIS:

UMC 784.19 Underground Development Waste - JRH

Details for the design of the waste disposal site are located on plates 13-26 through 13-28. Revised text to the MRP has been submitted for replacement into the existing text of the plan.

The operator has provided a geo-technical description and characterization of the bedrock material sufficient to indicate the suitability of the location as a waste disposal site. The operator indicates that slope protection will be accomplished by maintaining slopes at less than 2H:1V. Slopes in general will be maintained at 3H:1V, with abutment slopes of the excavation at 2H:1V.

The operator has indicated that the materials to be removed from the site in conjunction with disposal of underground development waste are sand and gravel. The operator has indicated in part 13.3.5 of the MRP that no deed restrictions exist for sand and gravel deposits. Historic use of these gravel materials has been for use in and around the mine site.

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Underground Waste Disposal Site
Consolidation Coal Company
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The operator has evaluated the mass balance calculations for the construction and the reclamation of the waste disposal site. Excess cut material from the site will be utilized as fill to extend the parking area next to the mine office. Details to the location of this material are described in the text on page 13-93 and shown on plate 13-26. Cross sections of the waste disposal site are provided on plates 13-27 and 13-27. Mass balance calculations are summarized on page 13-92. A description of the methods used to construct and place materials is included in part 13.3.5 of the MRP.

A discussion of the potential effects of subsidence of the subsurface strata due to past and future mining operations has been provided by the operator. The operator has committed to repair any crack or subsidence features that may affect the waste facilities.

UMC 817.71 Disposal of Excess Spoil and Underground Development
Waste: General Requirements - JRH

Design information for the waste disposal facilities has been provided by the operator in part 13.3.5 of the MRP. In accordance with the requirements of this section, the operator has indicated that slopes will be maintained at less than 2H:1V for stability.

The operator states that leachate and surface runoff from the fill will not degrade surface or groundwaters due to climatic and hydrologic conditions at the site. The operator indicates that the waste material will not affect groundwater due to the nature of the material. Surface water protection is afforded by the placement of 4 feet on non-toxic cover material over the waste.

The operator has included a commitment to submit certification reports in accordance with the regulations following the construction of the facility.

The final configuration for the underground waste disposal facilities is depicted on the cross sections of the previously reference maps. The cross sections indicate that the area will be reclaimed in a manner so as to conform to approximate original contours. These requirements are considered to be complete.

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Underground Waste Disposal Site
Consolidation Coal Company
ACT/015/015-88G

Summary:

The operator's most recent submittal has addressed the deficiencies found previously. No outstanding deficiencies or concerns were found regarding these sections of the regulations pertaining to the waste disposal site.

cc: B Team
BT17/11-13