



State of Utah
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

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November 16, 2001

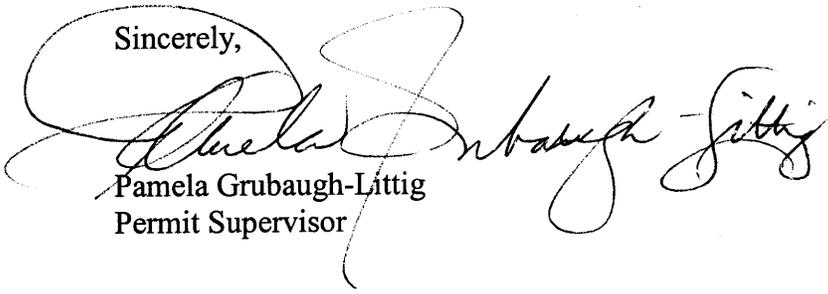
Chuck Semborski, Environmental Supervisor
Energy West Mining Company
P.O. Box 310
Huntington, Utah 84528

Re: Abatement for Notice of Violation NOV 01-7-1-1, PacifiCorp, Des Bee Dove Mine,
C/015/017-AM01C-1

Dear Mr. Semborski:

The Division is conditionally approving the Soil Management Plan dated November 6, 2001 upon receipt of four clean copies. The plan was developed in response to NOV 01-7-1-1. As you have noted on the first page of the plan, it is integral to both Phase 1 and Phase 2 Reclamation Plans and will be incorporated into both amendments. We look forward to implementing this plan.

Sincerely,

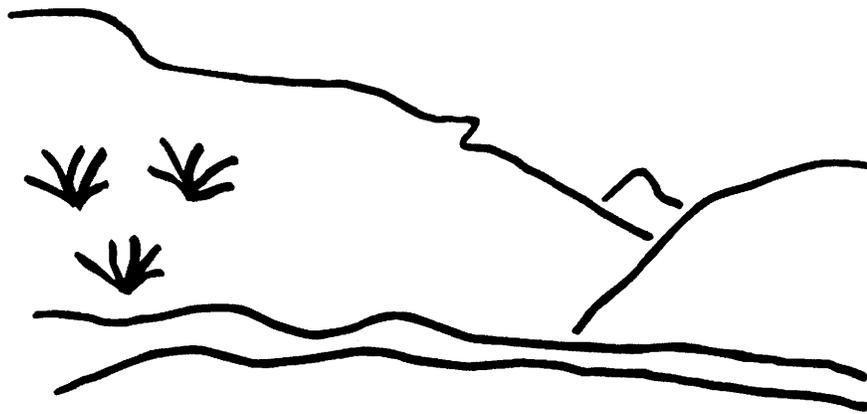

Pamela Grubaugh-Littig
Permit Supervisor

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cc: Price Field Office

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State of Utah



Utah Oil Gas and Mining

Coal Regulatory Program

Des Bee Dove Mine
Abatement for Notice of Violation
C/015/017-N01-7-1-1
Technical Analysis
November 16, 2001

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TECHNICAL ANALYSIS

INTRODUCTION

A Notice of Violation was written on July 9, 2001 for failure to conduct coal mining and reclamation activities in accordance with the approved plan (page 4-13); failure to comply with the terms and conditions of the permit, all applicable performance standards and requirements of the State program; and failure to remove, segregate and stockpile the best available plant supporting soil medium from within the permit area.

Abatement of NOV 01-7-1-1 required the development of "a soil management plan that includes a complete soil volume and quality analysis to be implemented upon approval." A proposal for gathering soil information was received on September 10, 2001. The Division reviewed the proposal in a document dated October 3, 2001. A response to that Technical Analysis was received from Energy West Mining Co. on November 7, 2001. In the interim, a Phase 1 Reclamation Plan for the Des Bee Dove mine was received (AM01A-1, September 24, 2001) and reviewed by the Division (November 13, 2001). Approval of the Phase 1 Reclamation Plan requires information that is also necessary for the abatement of NOV 01-7-1-1.

The Soil Management Plan will be included in Phase 1 and Phase 2 reclamation operations. Qualified Energy West employees will direct the field work. The Permittee will employ a qualified soil scientist to take the soil samples and create composites from samples taken, and to evaluate the results of the soil chemical and physical properties.¹

¹ Telephone conversation on November 16, 2001 between Pamela Grubaugh-Littig, Permit Supervisor and Chuck Semborski.

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November 15, 2001

INTRODUCTION

GENERAL CONTENTS

GENERAL CONTENTS

PERMIT APPLICATION FORMAT AND CONTENTS

Regulatory Reference: 30 CFR 777.11; R645-301-120.

Analysis:

This document refers to Appendix A of Phase 1 (AM01A-1) and Phase 2 (AM01D) Reclamation Plans (under review by the Division) for soil sampling information. This document will become part of both Phase 1 and Phase 2 reclamation plans.

Findings:

Information provided in the proposed amendment is adequate to meet the minimum Operations Plan requirements for Permit Application Format and Contents of the Regulations.

REPORTING OF TECHNICAL DATA

Regulatory Reference: 30 CFR 777.13; R645-301-130.

Analysis:

The following items have become part of the process:

- Include original Laboratory sheets with the results from the sampling.
- Record all field information on the NRCS 232 form

Qualified Energy West employees will direct the field work. The Permittee will employ a qualified soil scientist to take the soil samples and create composites from samples taken, and to evaluate the results of the soil chemical and physical properties.²

Findings:

The information provided is adequate to fulfill the technical data reporting requirements of the Regulations.

² Telephone conversation on November 16, 2001 between Pamela Grubaugh-Littig, Permit Supervisor and Chuck Semborski.

MAPS AND PLANS

Regulatory Reference: 30 CFR 777.14; R645-301-140.

Analysis:

Drawing CM-10336-DS, otherwise known as Plate 2-15, shows Phase 1 and Phase II Reclamation areas, soil sample locations, and sampling dates. Laboratory analyses for this map are found in Appendix A of the Phase 1(AM01A-1) and Phase 2 (AM01D) Reclamation Plan submittals.

Findings:

The information provided is adequate to fulfill the maps and plans reporting requirements of the Regulations.

ENVIRONMENTAL RESOURCE INFORMATION

Regulatory Reference: Pub. L 95-87 Sections 507(b), 508(a), and 516(b); 30 CFR 783., et. al.

SOILS RESOURCE INFORMATION

Regulatory Reference: 30 CFR 783.21; 30 CFR 817.22; 30 CFR 817.200(c); 30 CFR 823; R645-301-220; R645-301-411.

Minimum Regulatory Requirements:

Provide adequate soil survey information on those portions of the permit area to be affected by surface operations or facilities consisting of a map delineating different soils, soil identification, soil description, and present and potential productivity of existing soils.

Where selected overburden materials are proposed as a supplement or substitute for topsoil, provide results of the analysis, trials and tests required. Results of physical and chemical analyses of overburden and topsoil must be provided to demonstrate that the resulting soil medium is equal to or more suitable for sustaining revegetation than the available topsoil, provided that trials and tests are certified by an approved laboratory. These data may be obtained from any one or a combination of the following sources: U.S. Department of Agriculture Soil Conservation Service published data based on established soil series; U.S. Department of Agriculture Soil Conservation Service Technical Guides; State agricultural agency, university, Tennessee Valley Authority, Bureau of Land Management or U.S. Department of Agriculture Forest Service published data based on soil series properties and behavior; or, results of physical and chemical analyses, field site trials, or greenhouse tests of the topsoil and overburden materials (soil series) from the permit area. If the permittee demonstrates through soil survey or other data that the topsoil and unconsolidated material are insufficient and substitute materials will be used, only the substitute materials must be analyzed.

Analysis:

The average annual precipitation is 6 – 8 inches (page 2-153, Volume 1).

Elevation is 7,800 feet on a south to southeast exposure and slopes of 1 ½ H:1V to 2H:1V. The plant community is Utah juniper and pinyon pine. Plants within this community include Salina wildrye, western wheatgrass, and Indian ricegrass.

Soils have been described in the MRP as either

- Typic Ustochrepts (50%) which are characterized by a 35 cm thick (13 inches) sandy loam surface layer with 25% coarse fragments. Underlying this layer is a stony loam layer 100 cm thick (39 inches) with up to 50% coarse fragments.

or

- Lithic Ustorthents (25%) which are characterized by rock within 50 cm or 19 inches.

Also present are small areas of Mollisols on the north and east facing slopes. In general, Mollisols are deep, well drained, with a well developed A horizon. See the General Soil Map of the Permit Area, Drawing #CE-10502-DS.

Sampling of adjacent undisturbed slopes was conducted in 1980 and is presented in Table 1, page 4-10 of the MRP. The information shows that undisturbed soils adjacent to the site have on the average a pH of 7.5; EC of 0.4 to 1.0; SAR of 0.8; avail Nitrogen of 0.1%; Organic Matter

of 3%; and extractable phosphorus of 1 ppm. In general, the soils are 11 – 18 inches thick over rock, with small areas of deeper soils.

The Permittee has done previous surveys of the site. The soil sampling locations for these surveys are noted on Plate 2-15, submitted with this proposal. Proposed sampling locations are also indicated on the map. A substitute topsoil pile is designated on the map, but has not been discussed in the narrative.

The Division has summarized the information known about the properties of the substitute topsoil, spoil and coal waste found within the disturbed area in the review of AM01A, AM01A-1 and AM01B.

Findings:

Information provided in the proposed amendment is adequate to meet the minimum Operations Plan requirements for Environmental Resource Soils Resource Information of the Regulations.

OPERATION PLAN

OPERATION PLAN

TOPSOIL AND SUBSOIL

Regulatory Reference: 30 CFR 817.22; R645-301-230.

Minimum Regulatory Requirements:

Topsoil removal and storage

All topsoil shall be removed as a separate layer from the area to be disturbed, and segregated. Where the topsoil is of insufficient quantity or of poor quality for sustaining vegetation, the selected overburden materials approved by the Division for use as a substitute or supplement to topsoil shall be removed as a separate layer from the area to be disturbed, and segregated. If topsoil is less than 6 inches thick, the operator may remove the topsoil and the unconsolidated materials immediately below the topsoil and treat the mixture as topsoil.

The Division may choose not to require the removal of topsoil for minor disturbances which occur at the site of small structures, such as power poles, signs, or fence lines; or, will not destroy the existing vegetation and will not cause erosion.

All materials shall be removed after the vegetative cover that would interfere with its salvage is cleared from the area to be disturbed, but before any drilling, blasting, mining, or other surface disturbance takes place.

Selected overburden materials may be substituted for, or used as a supplement to, topsoil if the operator demonstrates to the Division that the resulting soil medium is equal to, or more suitable for sustaining vegetation than, the existing topsoil, and the resulting soil medium is the best available in the permit area to support revegetation.

Materials removed shall be segregated and stockpiled when it is impractical to redistribute such materials promptly on regraded areas. Stockpiled materials shall: be selectively placed on a stable site within the permit area; be protected from contaminants and unnecessary compaction that would interfere with revegetation; be protected from wind and water erosion through prompt establishment and maintenance of an effective, quick growing vegetative cover or through other measures approved by the Division; and, not be moved until required for redistribution unless approved by the Division.

Where long-term surface disturbances will result from facilities such as support facilities and preparation plants and where stockpiling of materials would be detrimental to the quality or quantity of those materials, the Division may approve the temporary distribution of the soil materials so removed to an approved site within the permit area to enhance the current use of that site until needed for later reclamation, provided that: such action will not permanently diminish the capability of the topsoil of the host site; and, the material will be retained in a condition more suitable for redistribution than if stockpiled.

The Division may require that the B horizon, C horizon, or other underlying strata, or portions thereof, be removed and segregated, stockpiled, and redistributed as subsoil in accordance with the above requirements if it finds that such subsoil layers are necessary to comply with the revegetation.

Analysis:

The submittal indicates that trenches will be excavated to bedrock or a depth equivalent to the post-mine reclamation elevation with three purposes in mind:

- Identification of bedrock locations,
- Assist channel design,
- Determination of suitable soil resource locations.

As outlined on Plate 2-15, Des-Bee-Dove Coal Mines Soils Map, Energy West proposes to sample sites SS11 and SS12 and to excavate ten soil trenches in the following locations:

- Bathhouse pad (two),

- Spoil material stored on bathhouse pad (one),
- Deseret Mine belt/return portals (one),
- Deseret pad outslope (one)
- Near the switchback of the Little Dove/Beehive Access Road (one),
- Little Dove/Beehive Mine pad (two),
- Substation cutslope (one)
- Soil beneath the main access road (one).

The plan indicates that trench sidewalls will be described and field parameters noted. Field notes will be submitted to the Division with the laboratory analyses. Twenty samples will be taken of soil (two per trench) and ten of coal debris/waste (one per trench). Like samples will be composited. Distinct or unique material will be sampled separately.

Laboratory methods of analysis are printed in the submittal and reflect the comments made in the Technical Analysis of October 3, 2001.

The soil erodibility K-factor values of the soil will be determined based upon the following soil characteristics:

- percent silt and very fine sand
- percent sand
- percent organic matter
- soil structure and
- soil permeability.

The soil erodibility equation will be used to provide an estimate of K:

$$K \text{ factor} = [(0.00021)(M^{1.14})(12 - a) + (3.25)(b - 2) + (2.5)(c - 3)] / 100$$

Where $M = (\% \text{ silt} + \% \text{ very fine sand})(100 - \% \text{ clay})$

a = % organic matter

b = structure code is as follows: 1 = very fine granular; 2 = fine granular; 3 = medium or coarse granular; and 4 = blocky, platy, or massive

c = permeability code

Removal and Storage

The plan states that "based upon the results of the soil trenching, PacifiCorp will develop a soil management and distribution plan for both Phase 1 and 2 reclamation projects. Identified areas of substitute soil will be excavated, segregated and stored separately during the reclamation process."

OPERATION PLAN

Findings:

Information provided in the proposed amendment is adequate to meet the minimum Operations Plan requirements for Topsoil Substitute and Supplements of the Regulations

RECLAMATION PLAN

RECLAMATION PLAN

GENERAL REQUIREMENTS

Regulatory Reference: PL 95-87 Sec. 515 and 516; 30 CFR 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.

Minimum Regulatory Requirements:

Provide a plan for the reclamation of the lands within the proposed permit area, showing how the applicant will comply with the regulatory program and the environmental protection performance standards. The plan shall include, at a minimum, contain the following information for the proposed permit area: a detailed timetable for the completion of each major step in the reclamation plan; a detailed estimate of the cost of the reclamation of the proposed operations required to be covered by a performance bond, with supporting calculations for the estimates; a plan for backfilling, soil stabilization, compacting, and grading, with contour maps or cross sections that show the anticipated final surface configuration of the proposed permit area; a plan for redistribution of topsoil, subsoil, and other material along with a demonstration of the suitability of topsoil substitutes or supplements shall be based upon analysis of the thickness of soil horizons, total depth, texture, percent coarse fragments, pH, and areal extent of the different kinds of soils; other chemical and physical analyses, field-site trials, or greenhouse tests if determined to be necessary or desirable to demonstrate the suitability of the topsoil substitutes or supplements may also be required; a plan for revegetation including, but not limited to, descriptions of the schedule of revegetation, species and amounts per acre of seeds and seedlings to be used, methods to be used in planting and seeding, mulching techniques, irrigation, if appropriate, and pest and disease control measures, if any, measures proposed to be used to determine the success of revegetation, and, a soil testing plan for evaluation of the results of topsoil handling and reclamation procedures related to revegetation; a description of the measures to be used to maximize the use and conservation of the coal resource; a description of measures to be employed to ensure that all debris, acid-forming and toxic-forming materials, and materials constituting a fire hazard are disposed of accordingly and a description of the contingency plans which have been developed to preclude sustained combustion of such materials; a description, including appropriate cross sections and maps, of the measures to be used to seal or manage mine openings, and to plug, case, or manage exploration holes, other bore holes, wells, and other openings within the proposed permit area; and, a description of steps to be taken to comply with the requirements of the Clean Air Act, the Clean Water Act, and other applicable air and water quality laws and regulations and health and safety standards.

Analysis:

The slope stability analysis conducted by RB&G Engineering indicated that slopes steeper than 50% (2h:1v) should receive only isolated pockets of topsoil between rock armoring, for stability purposes. The Permittee has calculated that slopes 50% will require 2,100 cubic yards of substitute topsoil for six inches of cover over 2.6 acres of Phase 1 and 8,900 cubic yards of substitute topsoil for six inches of cover over 11.0 acres of Phase 2 reclamation areas.

Findings:

Information provided in the proposed amendment is adequate to meet the minimum Reclamation Plan requirements for Topsoil and Subsoil of the Regulations.

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RECLAMATION PLAN

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