

APPENDIX 2-5

SURFACE FACILITY EXPANSION - TOPSOIL REMOVAL REPORT

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UTAH DIVISION OIL, GAS AND MINING

APPENDIX 2-5
SURFACE FACILITY EXPANSION - TOPSOIL REMOVAL REPORT
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Summer, 1997

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MAP: FIGURE 8B Soil Salvage Areas

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PART I

GENWAL MINE - CRANDALL CANYON
Soil Salvage Practices - Surface Expansion
Summer, 1997

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GENWAL MINE - CRANDALL CANYON

**Soil Salvage Practices
Summer, 1997**

October, 1997

Submitted to:

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Submitted by:

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Genwal Resources, Inc., Culvert Expansion

Soil Salvage Project
Summer, 1997

1.0 Introduction

The soil recovery operation at Genwal was supervised and monitored by privately contracted environmental consultant, Patricia K. Johnston, Reclamation Specialist and closely scrutinize by Division of Oil and Gas Mining, Soil Reclamation Specialist, Robert Davidson, July through September, 1997. This was to fulfill the requirements outlined in Chapter 2.0 of the M&RP to maintain, protect and redistribute stockpile topsoil and subsoil of the Genwal disturbed area as described and mapped in Figure 8B of Appendix 2-3B, Supplemental Soil Inventory, revision 6/19/97.

Soil recovery volumes and location of soil resources was determined through extensive soil sampling and mapping conducted in the summer of 1995 and 1996. It was agreed that soil recovery would be maximized in those areas where depth would allow for additional soil salvage, recognizing that soil recovery may not be met in other map units where soil resources may be more limited. An additional soil salvage area was identified by Davidson of DOGM and Gary Gray of Genwal, Inc. The soils recovered from this area would contribute to the established target volume required. This area has been identified as "Soil Salvage Area D." It is located in the southwest corner of the Forest Service Special Use Permit Area for this project.

Additionally, a new topsoil storage pile was established at the mouth of Crandall Canyon and marked Topsoil Pile #4. This topsoil stockpile will conform to DOGM and U.S. Forest Service regulations.

The presence of rock and vegetative material in the top soil stock pile was considered acceptable and desirable. (Personal Communication, Robert Davidson, DOGM Soil Reclamation Specialist.) These components were incorporated in the top soil stock pile as available during the soil stripping and recovery process.

2.0 Methodology

Topsoil and subsoil was removed using the island method. Figure 8B, Soil Salvage Area served as a guide for soil removal volumes and locations.

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The reclamation specialist contracted by Genwal examined each truckload of soil for quality and quantity. An accounting of the amount of soil recovered from the various sites within the mine was also documented.

Soil resource volumes were arrived at by keeping a daily record of truck loads that deposited material in top soil stock pile #4. Each vehicle would hold a capacity of 12 cubic yards of soil, all trucks were loaded to capacity.

3.0 Observations and Discussion

<u>Soil Salvage Area</u>	<u>Acreage</u>	<u>Volume Salvaged</u>
Map Unit A (N. Slope Area)	0.11	180 cubic yards
*Map Unit B (S. Slope Bench Area)	0.23	
*Map Unit C (Coal Pile Area)	0.25	1,728 cubic yards
Map Unit D (SW corner Permit Area)	0.50	1,872 cubic yards
TOTAL SOIL SALVAGED (August-September, 1997)		3,780 cubic yards

*Soil Salvage Areas B & C were combined and made contiguous during salvage operation.

Target soil salvage volume projected was 3,480 cubic yards. Actual soil salvage operation exceed target volume with a figure of 3,780 cubic yards.

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PART II

GENWAL MINE - CRANDALL CANYON
Soil Salvage Practices - Surface Expansion
August, 1998

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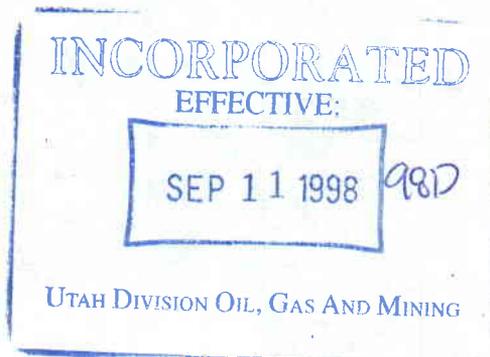
GENWAL MINE - CRANDALL CANYON

**Soil Salvage Practices - Surface Expansion
August 1998**

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GENWAL Resources, Inc.
Soil Salvage Project - Surface Expansion
August, 1998

1.0 INTRODUCTION

In order to abate Division of Oil, Gas and Mining violations N98-45-1-1 and N98-45-3-1, top soil salvage was required within Map Unit F, of Figure 8B, Soil Salvage Areas. The operation was supervised and monitored by privately contracted environmental consultant, Patricia K. Johnston, Reclamation Specialist, August 5-18, 1998. This was necessary due to the unexpected height of the coal pile which encroached upon the north facing slope at the southern edge of the Forest Service Special Use Permit Area.

2.0 METHODOLOGY

It was necessary to rake and vacuum the top soil surface before salvage could commence. In order to accommodate anticipated future volumes in the coal pile area, the upper slope was stripped of large woody vegetation prior to top soil salvage.

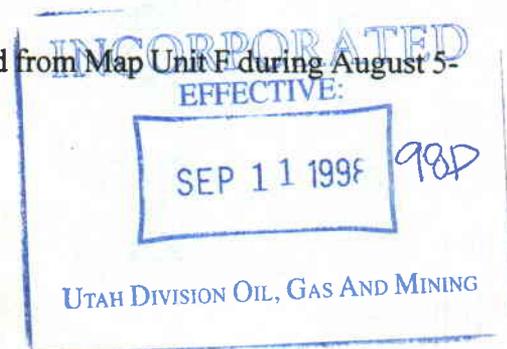
Top soil that had previously been buried under the coal pile was cleaned as thoroughly as possible with existing technology. Small amounts of coal dust and scattered coal "rocks" were an unavoidable part of the top soil salvage. Coal dust and coal did not exceed 10% of the salvaged soils.

Due to the steepness of the upper slope, it was necessary to remove 8-9" of soil. This exceeded the depth of the true top soil resource. True top soil depth was less than 3". In order to stabilize the track hoe and maintain equipment balance on the exceedingly steep slope, a deeper cut of 8-9" was necessary. The equipment operator was conscientious about taking only the top soil resource, but was constrained by equipment limitations.

On the lower slopes, with considerably milder slopes, shallower cuts into the soil surface more closely matched top soil depths of 3-4".

3.0 RESULTS

Approximately 690 cubic yards of top soil was removed from Map Unit F during August 5-18, 1998 and stored in top soil stockpile #4.





TOP SOIL SALVAGE PHASE 2
 AUGUST 1998
 VACUUM AND STRIPPING WITH TRACK HOE



RECOVERED TOP SOIL
 COAL AND COAL DUST CONSTITUTES
 LESS THAN 10% OF VOLUME

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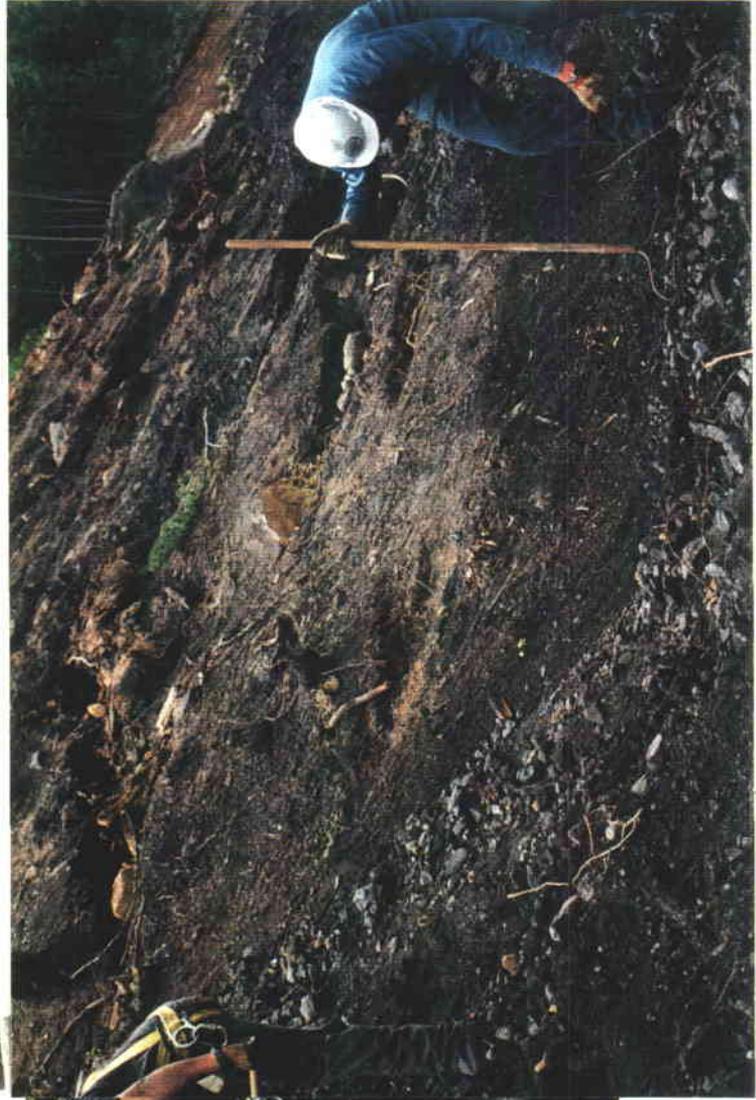
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MAP UNIT F - AFTER TOP SOIL REMOVAL
NOTE: APPROXIMATE DEPTH OF TRUE
TOP SOIL - LESS THAN 3".



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GENWALL - CRANOALL
SOIL SALVAGE - PHASE 2
AUGUST 1998

TOP SOIL
CLEANING
RAKING &
VACUUMING



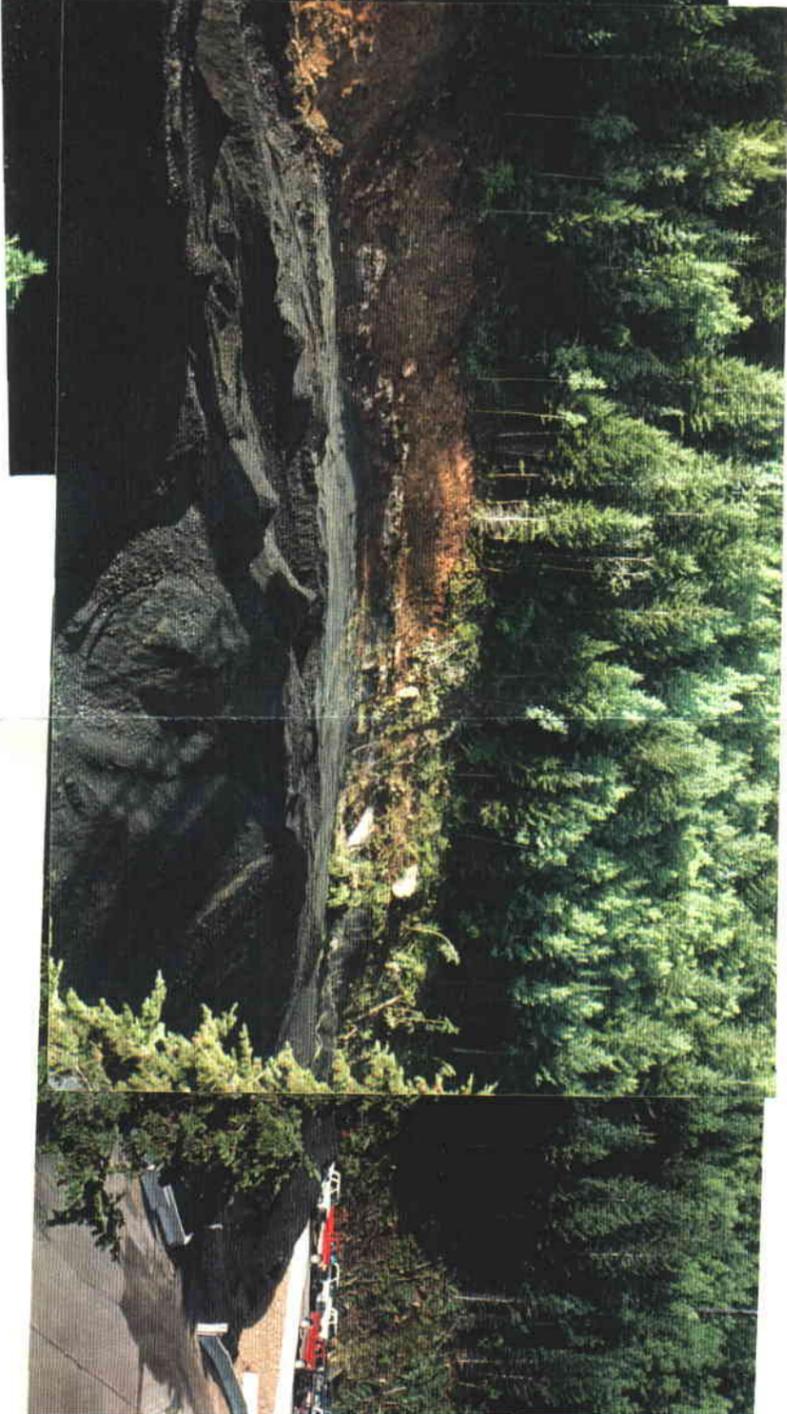


TOP SOIL STRIPPING
3-4" RECOVERED ON LOWER SLOPES



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Panorama View - Genwale - Granddall Canyon
 Soil Salvage Map Unit F 690 yd. 3
 August 1998
 Phase 2 - Soil Salvage

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