

3.5.2 Soil Removal and Storage

The soil survey conducted in July, 1980 distinguished disturbed soils from undisturbed soil mapping units (see Plate 8-2, Soils Map). Areas mapped as Disturbed Land were areas where the soils, vegetation, or both were affected by operations. Disturbance of areas which now occupy roads and surface facility sites occurred prior to enactment of reclamation legislation so no topsoil was salvaged from these areas. However, soils underlying disturbance are considered to be in-place aside from the top several inches of coal fines, and compaction.

The undisturbed soil mapping units will have topsoil removed immediately prior to disturbance based on stripping depths that have been assigned to each soil type. The stripping depths were derived from soil physical and chemical analysis (see Section 8.5). Subsoil is that material which exist between the topsoil and the parent material.

Where chemical analysis substantiates, subsoil will be stripped down to the parent material.

The location of the topsoil pile that currently exists at Savage Coal Terminal is displayed on Plate 3-2. This stockpile was placed on level ground and revegetated with the temporary seed mixture to reduced wind and water erosion. As additional topsoil is placed on the stockpile, it is reclaimed contemporaneously immediately after placement.

The proposed new topsoil and subsoil salvage for the settling pond area is shown on Plates 3-2 and 8-1. It has been recommended by the Division that soil salvaged from this area be kept in that area, rather than placing it on the existing topsoil pile. Both topsoil and subsoil will be salvaged from this area and placed in separate piles as shown on Plate 8-1.

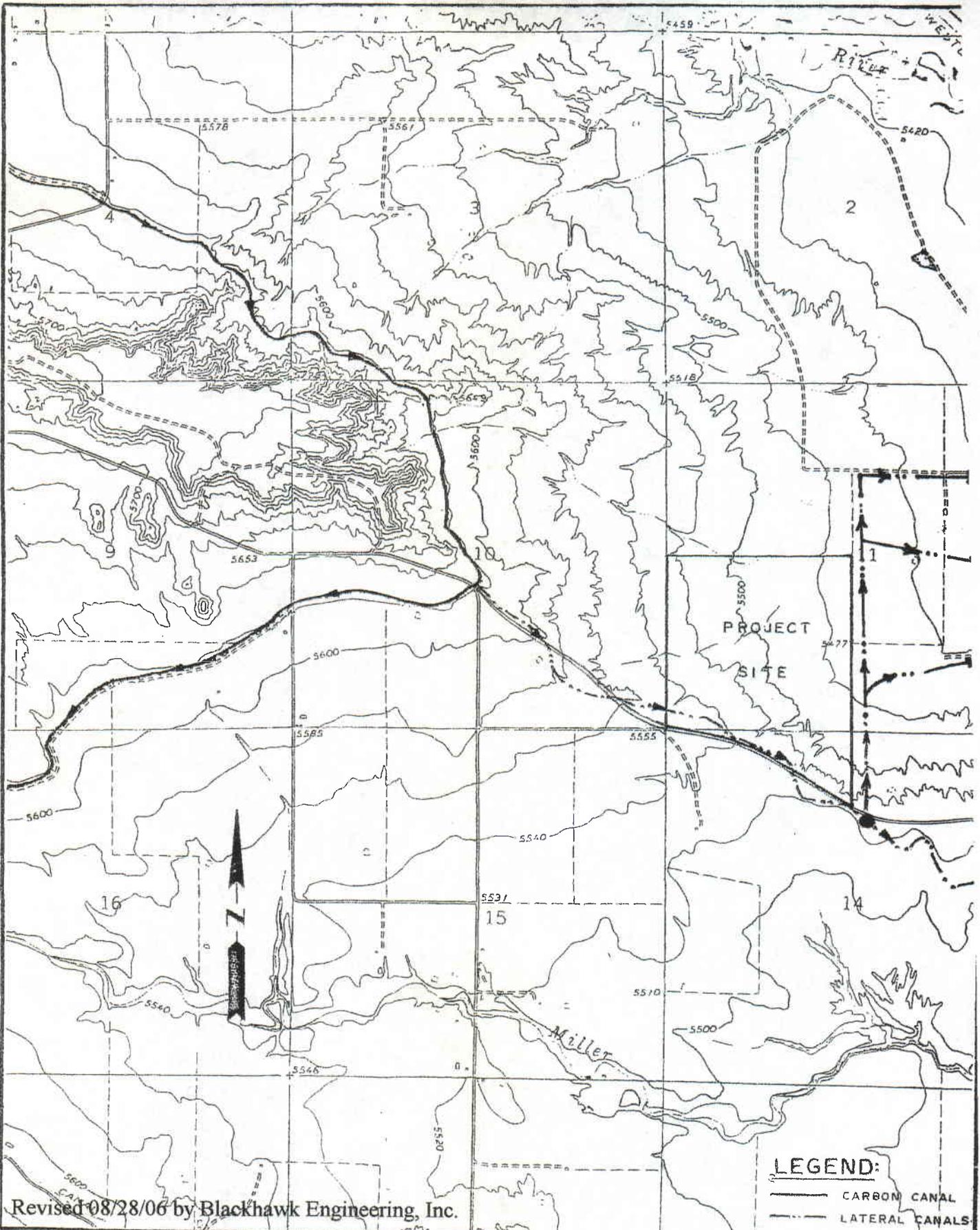
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in 00070022, 2006, INCOMING
for additional information

3.5.2 Soil Removal and Storage (continued)

The topsoil and subsoil stripped from this new area will be placed in separate storage piles and left in a roughened condition. Organic debris existing on the surface of the newly stripped area will be left in the soil when stockpiled to maintain the organic content.

Once the newly stripped soil is placed in new stockpiles, 2000 pounds per acre of hay mulch will be added to the surface of all newly stockpiled soil. The surface will then be roughened using a combination of dozers with rippers and backhoes. Once the site is prepared, the new pile will be hydroseeded using the Temporary Seed Mix described on Table 3-1. 2000 pounds per acre of wood fiber mulch and 60 pounds per acre of tacifier will also be applied to the surface with the hydro-seeding operation. Potassium fertilizer will also be used on the topsoil and subsoil piles at a rate recommended by the Division.

The topsoil piles will be protected by a combination of efforts, including existing berms and straw bales and revegetation as described above.



Revised 08/28/06 by Blackhawk Engineering, Inc.

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LOCATION OF
 IRRIGATION CANALS
 ● Irrigation Intake

FIGURE
 7-6

Table 8-6
SEEDBED QUALITY MATERIAL VOLUMES
 (for Acres to be Disturbed in 2006)

Seedbed Quality Material - Approximate Volumes

Mapping Unit	Suitable Stripping Depth	Acreage	Volume - Bank Cubic Yards BCY
*Killpack - KmB	12" Topsoil	1.77	5711
	12" Subsoil		
*Billings - Blbm	12" Topsoil	2.43	7841
	12" Subsoil		
**Topsoil Stockpile	NA	NA	49,286
Total Seedbed Quality			62,838
Material Available			
(After 2006 Stripping)			

* Estimates only - final quantities to be provided within 2 weeks of completion of field work.

** From Appendix 8-1. As-Built drawings and updated quantities will be provided for the M.R.P. within 2 weeks of completion of field work.

8.7 Removal Storage and Protection of Soils (continued)

The in-place depths of seedbed quality material available for reclamation of the project area is listed on Table 8-8 by map unit. The table includes the map unit, map unit components, depth of horizon, rating (from Table 8-4), percent of map unit, recommended depth of stripping and the restrictive features of the suitable material. Volumes of seedbed quality material in stockpile or in-place and to be disturbed in the future can be found in Table 8-6.

All of map unit ChC can be stripped to 6 inches. Included with the Chipeta are other soils that can be stripped to the same depth. The soils report in Appendix 8-2 indicates the Chipeta in the track loop area can be stripped from 2" to 7", with an average of approximately 6".

Based on a recent soils study for the settling pond area (Appendix 8-3), the Map Unit BIb (Billings) was subdivided into 2 units - BIbE and BIbM, as shown on Plate 8-1. Based on analyses, it was determined that the top 12" of BIbM (and KmB) could be salvaged as topsoil and the next 12" of both BIbM and KmB could be salvaged as subsoil. It was also determined that none of map unit BIbE should be salvaged due to poor quality.

Disturbed lands in the mapped area have variable surface materials. Gravelly road till does not have adverse chemical characteristics but may be too gravelly to be used as a reclamation material. Clayey subsoil in areas mapped as disturbed lands may be excessively salty. Much of the area mapped as disturbed land has surface contamination with coal.

Map unit KmB can be stripped to 9 inches, and as indicated above, up to 12" for topsoil and 12" for subsoil in the area of the settling ponds. See Table 8-6 for available volume of that soil unit. This is based on the soils report in Appendix 8-2.

Barren areas and salty spots should be avoided in stripping. This includes the Saltair Unit, for which a variance in topsoil stripping is requested due to poor quality. (See Plate 8-1 for locations.)

Prior to the Reclamation Act of 1977 and Utah Interim Program, 77.2 acres of C.V. Spur were disturbed and topsoil not salvaged.

8.7 Removal, Storage and Protection of Soils (continued)

Of the remaining 76.8 acres, 48.7 acres have had topsoil stripped as of April 2002, leaving approximately 28.1 acres within the permit area that will need to have available topsoil removed, if disturbed. An additional 4.20 acres are to be stripped in 2006. Although 6.61 acres are to be disturbed, only 4.20 acres will be stripped to a total depth of 24" due to poor quality of the remaining acreage. Plate 3-1 indicates disturbance created before and after May 1978. Topsoil material that has been stockpiled and in-place soil to be disturbed contain insufficient volumes of material to cover all of the projected disturbed area to a minimum of six (6) inches. Thus, as discussed in Sections 8.5 and 8.6, the Disturbed Land Map Unit will be revegetated in-place since no better topsoil material exists for reclamation.

All post-law disturbance and the entire refuse area (a total of 55.31 acres after the proposed 2006 stripping) will receive a minimum cover of six inches of topsoil/subsoil. Table 8-6 provides the volumes of soil currently in storage.

Even distribution of six inches over 55.31 acres would require 44,617 cubic yards of material. Therefore, the 62,838 cubic yards of topsoil/subsoil currently in storage is enough to accommodate the proposed reclamation plan.

8.8 Nutrients and Soil Amendments

Soil tests will be taken in materials to be used for final reclamation in order to evaluate the need for soil amendments and nutrients. Soil testing will be performed by a qualified laboratory which uses accepted analytical procedures.