

Module 21: Topsoil / Subsoil

[§77.456(4)]

21.1 Topsoil Characteristics

- a) **Identify the thickness of topsoil present at the site. If the thickness of the topsoil varies, key the thickness of the topsoil to Exhibit 18.**

Thickness of the topsoil on the site averages 8.5". The average thickness of the subsoil on the site is 53.5". The values stated were taken from USDA Web Soil Survey for Westmoreland County. The B and C horizons will be replaced as subsoil. All site topsoil and subsoil will be saved and spread in an evenly distributed layer on the affected area for reclamation as unmanaged natural habitat, pastureland and/or land occasionally cut for hay and forestland. The success of vegetation on reclaimed surface mines in this area of Westmoreland County show that these soils can support revegetation.

21.2 Operations Plan

- a) **Provide a plan for removal, storage and redistribution of topsoil and subsoil.**

Removal

Topsoil and any subsoil will be removed and stockpiled separately on the areas shown on the exhibits prior to mining or other surface disturbance. The topsoil will be removed first, followed by the subsoil. The piles will be seeded with seed mixture #1 to protect the pile(s) from erosion. Soils will be stockpiled only when it is impractical to promptly redistribute such material on regraded areas. In areas where there are prime farmland soils, the A, B and C horizons will be removed separately. The entire A horizon will be removed, then the B horizon, then the C horizon. Scrapers will be used to remove and store the layers with dozers as needed.

Storage

Soils will be stockpiled only when it is impractical to promptly redistribute such material on the regraded areas. Soils will not be mixed with other materials at the site and will be stockpiled within the permit area only. Stockpiled material will be protected from wind and water erosion by seeding with seed mixture #1 as per above. Topsoil (removed first) and subsoil (removed after topsoil) will be distributed on regraded areas with the subsoil replaced first, followed by the topsoil. Any prime farmland soils will be stockpiled separately and marked as shown on the exhibits.

Redistribution

Prior to the redistribution of soils, the regraded area will be backfilled to final grade and then scarified/spiked in order to promote root penetration and successful revegetation. The subsoil will be replaced first in an even, stable thickness. Topsoil will then be replaced in an evenly distributed layer. The topsoil will be loosened sufficiently so that germination and revegetation is enhanced. Compaction of soils prior to seeding will be avoided, since this inhibits germination. Proper loosening by spiking and/or scarifying will be done prior to reseeding. The original prime farmland areas will be where the prime farmland soils are redistributed. The C horizon will be replaced first followed by the B, then the A horizon, in an even thickness. The revegetation procedures will then be initiated (See Module 23).

Overcompaction of the soils will be prevented by:

1. Track equipment will be used to spread soils, as opposed to rubber tire equipment, which tends to overcompact soils.
2. As per Module 23.2, soils will be spiked/loosened prior to seeding. This enhances germination and promotes vegetation.
3. The soil will be replaced when the soil moisture is low to prevent excess compaction. Timely seeding/mulching will then occur.

21.2 Operations Plan (cont.)

- b) If the B and C horizons will be segregated and replaced as subsoil, identify the thickness in inches of the B and C horizons to be removed, segregated and replaced.**

The B and C horizons will be removed and replaced as the subsoil. The thickness of the B and C horizons on this site is approximately 53.5". The subsoils will be replaced prior to topsoil spreading and revegetation. See operations plan for soils above for details.

- c) If material other than the B and C horizons will be replaced as subsoil, identify the material and include test results demonstrating that this material will insure revegetation and soil productivity consistent with the postmining land use. Provide the name(s), address(es) and telephone number(s) of the individual(s) responsible for the collection and analysis of this data and a description of the methodologies used to collect and analyze this data.**

N/A – The subsoils on the site will be used at reclamation

21.3 Previously Affected Areas

If an area has been previously affected by mining and no topsoil or subsoil is present, identify the material that will be used as the final surface layer and provide a demonstration, including chemical analysis, that the material is capable of supporting the vegetation of the postmining land use.

N/A – The topsoil and subsoils are present on site and will be used to achieve reclamation.