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DEPARTMENT OF THE INTERIOR

AGENCY: Office of Surface Mining Reclamation and Enforcement (OSM)

30 CFR Parts 715, 816, and 817

Interpretive Rules Relating to Topsoil Substitutes and Supplements

ACTION: Final interpretive rule.

SUMMARY: This Notice announces interpretive rules that advise the public of OSM's interpretation of 30 CFR 715.16(a)(4), 816.22(e) and 817.22(e) relating to topsoil substitutes and supplements. The interpretive rule describes the different sources from which required physical and chemical analyses of the topsoil or materials to be used in place of or mixed with the topsoil may be obtained. This interpretive rule clarifies that these analyses need not be performed again if they have previously been performed adequately. The subject regulations were among a number of final regulations published in the Federal Register on December 13, 1977, 42 FR 62639-62716, and on March 13, 1979, 44 FR 15311-15463.

DATES: This interpretive rule will become effective July 10, 1980.

FOR FURTHER INFORMATION CONTACT: Raymond E. Aufmuth, Physical Scientist (202-343-4022) or Edward Johnson, Agronomist (202-343-5261), Technical Services Division, Office of Surface Mining, U.S. Department of the Interior, 1951 Constitution Avenue, N.W., Washington, D.C. 20240.

SUPPLEMENTAL INFORMATION:

Section 501 of the Surface Mining Control and Reclamation Act ("Act") requires the Secretary to promulgate regulations establishing interim and permanent regulatory programs for surface coal mining operations. Final regulations, including regulations concerning topsoil substitutes and supplements, were promulgated on December 13, 1977, 42 FR 62639 (interim program), and on March 13, 1979, 44 FR 15311 (permanent program). 30 CFR 715.16 (interim program) and 30 CFR 816.22 and 817.22 (permanent program) deal generally with topsoil handling in surface coal mining operations. Sections 715.16(a)(4), 816.22(e) and 817.22(e) provide that selected overburden materials may be substituted for, or used as a supplement to, topsoil if analyses of the topsoil and overburden materials demonstrate that the resulting soil medium is equal to, or more suitable for, sustaining revegetation than the available topsoil and the substitute materials are the best available to support revegetation.

Surface coal mine operators in the steep slope mining areas of the Appalachia coal province are raising questions regarding the number and frequency of required analyses of topsoil and substitute/supplement materials. These steep forested slope areas have thin to very thin mantles of topsoil, which in some instances are immediately on top of the C horizon or even broken bedrock. In these situations, it is virtually impossible to remove what little topsoil is available and very difficult to segregate even the top 6 inches of unconsolidated material (See , 30 CFR 715.16(a)(2), 816.22(c) and 817.22(c)) because of the condition of the C horizon and large masses of rock in varying stages of decomposition.

However, in several coal producing areas geologic material exists in the overburden which when weathered will provide a plant growth medium as good as or better than the topsoil, C horizon, or broken rock. McCormack, in "Soil Reconstruction: Selecting Materials for Placement in Mine Reclamation," Mining Congress Journal (1976), stated, "In most areas, the A horizon of the natural soil is vastly superior to any underlying soil horizon or geologic strata." He also found, however, that "Most A horizons are less than 10 inches thick -- too thin for a favorable root zone for most plants. Other favorable material must be placed below the A horizon in order to create a favorable root zone several feet in thickness." In most areas, the B soil horizon is more satisfactory in the root zone than is material from geologic strata, but McCormack says these materials need evaluation and the resulting soil medium most suited to restoring productivity should be chosen. "Instances where the geologic strata is better suited for the productive growth of plants, although uncommon, do exist in a few areas and should be recognized before final plans for excavating and regrading are made." See also , U.S. Department of Agriculture, Soil Conservation Service, Agriculture Handbook #18 .

The mixing of topsoil and selected overburden materials is an acceptable practice when the mixture produces a soil medium as good as or better than the original topsoil for postmining land use and productivity. Alternative strata may be used as a growth medium when the original topsoil is either of inadequate quality or quantity for sustaining revegetation.

All determinations of suitability of various horizons and their appropriate handling ought to be based on results of previously performed crop yield data, chemical and physical analyses or adequate field trials. (44 FR 15140, March 13, 1979). The interim regulations concerning topsoil substitutes or supplements require the operator to:

- (1) Demonstrate through physical and chemical analyses that the substitute/supplement material is equal to or more suitable than the topsoil for revegetation;
- (2) Furnish certification of (tests) by a qualified soil scientist or agronomist; and
- (3) Remove, segregate and replace the alternative material in accordance with the topsoil handling requirements.

The permanent program regulations impose essentially the same topsoil substitutes and supplements requirements as do the interim program regulations. As with the interim program regulations the permanent program regulations do not specify where the analyses, trials and tests supporting substitution for, and supplementation of, the original topsoil must come from. Sections 816.22(e)(1)(ii) and 817.22(e)(1)(ii) require only that the results of trials and tests be certified by an approved laboratory as having been, among other things, conducted using standard testing procedures.

The operator, therefore, has several options in handling topsoil and topsoil substitutes and supplements:

- (a) If sufficient topsoil is available for revegetation, it must be removed, segregated and replaced in accordance with 30 CFR 715.16, 816.22-24 or 817.22-24.
- (b) If the topsoil is less than 6 inches thick, a 6 inch layer that includes the A horizon and the unconsolidated material immediately below the A horizon or the A horizon and all unconsolidated material if the total available is less than six inches, must be removed, segregated and replaced in accordance with 30 CFR 715.16, 816.22-24 or 817.22-24.
- (c) If the operator desires to use selected overburden materials as substitutes for or supplements to the topsoil, then both the topsoil and the substitute/supplement materials must be evaluated in accordance with 30 CFR 715.16(a)(4), 816.22(e) or 817.22(e).

The purpose of this interpretive rule is to:

(1) Make clear that the physical and chemical analyses, trials or tests, required by 30 CFR 715.16(a)(4)(i), provided they are certified by a qualified soil scientist or agronomist, and by 30 CFR 816.22(e)(1)(i) and 817.22(e)(1)(i), provided they are certified by an approved laboratory in accordance with 30 CFR 816.22(e)(1)(ii) or 817.22(e)(1)(ii), may be obtained from any one or a combination of the following sources:

- (a) U.S. Department of Agriculture Soil Conservation Service published data based on established soil series; {39447}
- (b) U.S. Department of Agriculture Soil Conservation Service Technical Guides;
- (c) 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
- (d) Results of physical and chemical analyses, field site trials, or greenhouse tests of the topsoil and overburden materials (soil series) from the permit area.

(2) Explain that where the operator demonstrates through soil survey or other data that the topsoil and unconsolidated material are insufficient and substitute material will be used, only the substitute materials must be analyzed in accordance with 30 CFR 715.16(a)(4)(i), 816.22(e)(1)(i) or 817.22(e)(1)(i).

For this purpose, an operator may request the Soil Conservation Service to conduct a soil investigation of areas whose surface soils have not already been mapped. The regulatory authority may accept or require other published soil data collected according to National Cooperative Soil Survey Standards.

The Department of the Interior has determined that this document is not a significant rule and does not require a regulatory analysis under Executive Order 12044 and 43 CFR Part 14. The Department of the Interior has also determined

that the adoption of this interpretive rule does not constitute a major federal action significantly affecting the quality of the human environment within the meaning of Section 102(2)(C) of the National Environmental Policy Act of 1969.

Dated: June 2, 1980.

Walter N. Heine, Director, Office of Surface Mining .

PART 715 -- GENERAL PERFORMANCE STANDARDS

1. Section 715.200 is amended by reserving paragraph (b) and adding paragraph (c) to read as follows:

SECTION 715.200 - INTERPRETIVE RULES RELATES TO GENERAL PERFORMANCE STANDARDS.

(b) [Reserved]

(c) Interpretation of Section 715.16(a)(4) -- Topsoil Removal.

(1) Results of physical and chemical analyses of topsoil and selected overburden materials to demonstrate that the selected overburden materials or overburden materials/topsoil mixture is more suitable for restoring land capability and productivity than the available topsoil, provided the analyses, trials, or tests are certified by a qualified soil scientist or agronomist, may be obtained from any one or a combination of the following sources:

(i) U.S. Department of Agriculture Soil Conservation Service published data based on established soil series;

(ii) U.S. Department of Agriculture Soil Conservation Service Technical Guides;

(iii) 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

(iv) Results of physical and chemical analyses, field site trials, or greenhouse tests of the topsoil and overburden materials (soil series) from the permit area.

(2) If the operator 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 in accordance with 30 CFR 715.16(a)(4)(i).

PART 816 -- PERMANENT PROGRAM PERFORMANCE STANDARDS -- SURFACE MINING ACTIVITIES

2. Section 816.200 is amended by reserving paragraph (b) and by adding paragraph (c) to read as follows:

SECTION 816.200 - INTERPRETIVE RULES RELATED TO GENERAL PERFORMANCE STANDARDS.

(b) [Reserved]

(c) Interpretation of Section 816.22(e) -- Topsoil Removal .

(1) Results of physical and chemical analyses of overburden and topsoil 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 and certified by an approved laboratory in accordance with 30 CFR 816.22(e)(1)(ii), may be obtained from any one or a combination of the following sources:

(i) U.S. Department of Agriculture Soil Conservation Service published data based on established soil series;

(ii) U.S. Department of Agriculture Soil Conservation Service Technical Guides;

(iii) 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

(iv) Results of physical and chemical analyses, field site trials, or greenhouse tests of the topsoil and overburden materials (soil series) from the permit area.

(2) If the operator 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 in accordance with 30 CFR 816.22(e)(i).

PART 817 -- PERMANENT PROGRAM PERFORMANCE STANDARDS -- UNDERGROUND MINING ACTIVITIES

3. Section 817.200 is amended by reserving paragraph (b) and adding paragraph (c) to read as follows:

SECTION 817.200 - INTERPRETIVE RULES RELATED TO GENERAL PERFORMANCE STANDARDS.

(b) [Reserved]

(c) Interpretation of Section 817.22(e) -- Topsoil Removal.

(1) Results of physical and chemical analyses of overburden and topsoil 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 in accordance with 30 CFR 817.22(e)(1)(ii), may be obtained from any one or a combination of the following sources:

(a) U.S. Department of Agriculture Soil Conservation Service published data based on established soil series;

(b) U.S. Department of Agriculture Soil Conservation Service Technical Guides;

(c) 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

(d) Results of physical and chemical analyses, field site trials, or greenhouse tests of the topsoil and overburden materials (soil series) from the permit area.

(2) If the operator 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 in accordance with 30 CFR 817.22(e)(i).

(Section 501, 502, 504, 508, 515, 516 Pub. L. 95-87, 91 Stat. 467, 468, 471, 478, 487, 497 (30 U.S.C. 1251, 1252, 1254, 1258, 1265, 1266))

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