

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

****POLICY/PROCEDURE DIRECTIVE****

TECHNICAL 94-1

Subject: Alternative Resoiling Material
Effective: January 1, 1994
Purpose: To Clarify Requirements For Submission And Approval
Of Plans To Utilize An Alternative Resoiling
Material

Alternative Resoiling Materials (A.R.M.) may be proposed in the following circumstances:

- 1) there is no topsoil or subsoil available on the proposed permit area due to previous mining activities.
- 2) there is insufficient topsoil and subsoil available on the proposed permit area due to previous mining activities.
- 3) the existing topsoil and subsoil is of insufficient quality for sustaining vegetation.

When proposing an alternative material, the operator must demonstrate that the alternative resoiling materials are the most suitable for restoring land capability and productivity. This demonstration must include the results of chemical and physical analyses and such other information as is required under Rule 1501:13-9-03 of the Ohio Administrative Code (OAC).

In each instance where alternative material is proposed to be utilized, an Attachment 19 must be completed and submitted as part of the application for a permit.

The division considers subsoil to be the material most suitable for resoiling when there is insufficient topsoil/subsoil. In such instances where subsoil is to be used for resoiling, an Attachment 19 is not required.

In proposing an alternative resoiling material, the applicant must include a map (see Attachment 19) which identifies the location of all areas where topsoil and subsoil currently exists, all areas where the ARM is proposed to be utilized, and the location of all ARM sampling sites.

The applicant shall identify, describe, and provide the location of the stratum or other materials that are proposed as an alternative resoiling material. The identification and description must be sufficiently specific to allow for on site identification of the proposed stratum or material.

The applicant shall also submit information describing the depth of soil horizons for the soils found on the undisturbed areas. Maps identifying the soils on the application site along with descriptions of typical soil profiles may be obtained from the county soil surveys or from the Soil Conservation Service (SCS) or site specific soils information may be collected and submitted.

Sampling

The analyses submitted for approval in item 6 of the Attachment 19 must be representative of the material proposed for use as an ARM.

Because of the horizontal and vertical variability that has been found to exist in mine soils, the number of samples necessary to represent the chemical and physical characteristics must include a composite sample comprised of at least 10 subsamples for each area of up to 10 acres in size. This is based on the recommendation of Barnhisel of the University of Kentucky that a minimum of 10 subsamples be collected for an area not over 4 hectares in size. It is also required that a composite sample be collected for each area which appears to be visually distinct. If two or more areas within the area to be sampled appear to be different from one another, each must be sampled separately. The proposed alternative resoiling material must also be sampled to the depth which will be salvaged for use as the ARM. For example, if a spoil pile is ten feet deep and all of the pile is proposed to be salvaged and used as alternative resoiling material, the pile must be sampled incrementally throughout its depth.

Any variance from the above sampling frequency must be approved by the soil scientist in the Technical Section through a demonstration of consistency in depth and/or extent of the proposed material.

Material Testing *

To provide for consistent evaluation of the soils and proposed alternative resoiling materials, the applicant must provide the method of analysis for all parameters required on items 5 & 6 of the Attachment 19. For the following parameters, the analytical method specified below must be utilized:

<u>Parameter</u>	<u>Method</u>
pH	Paste
Phosphorous	Sodium Bicarbonate
Potential Acidity	When determined from total sulfur content, procedures must be employed which remove sulfate and organic sulfur.
Lime Requirement (when required)	SMP Buffer

In analyzing the texture class, it may be required that the applicant, as a revision to the Attachment 19, submit a size breakdown for the materials greater than two millimeters (>2mm).

The results of the chemical and physical analyses must be recorded on page 2 of the Attachment 19 along with the name of the laboratory and the signature of a representative of the laboratory.

The signature of a qualified soil scientist or agronomist certifying that the proposed alternative resoiling materials are suitable for establishing and sustaining the permanent vegetative species proposed by the applicant in the mining and reclamation plans must be provided in item 8 of the Attachment 19.

* References

Sobek, A., W. Schuller, J. Freeman and R. Smith, 1978. Field and Laboratory Methods Applicable to Overburdens and Minesoils. EPA Tech. Services 600/2-78-054.

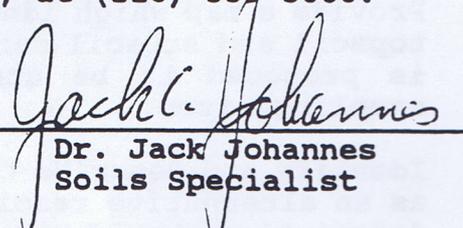
American Society of Agronomy, 1982. Methods of Soil Analysis, ASA Monograph 9, Parts 1 and 2.

Storage

The material approved for use as an alternative resoiling material must be salvaged, stockpiled unless immediately placed on a regraded area, protected, and redistributed in accordance with the provisions of O.A.C. 1501:13-9-03. A description of these processes must be provided in item 7 of the Attachment 19.

It is essential that information is submitted in a clear and understandable manner to avoid misinterpretation and unnecessary delay in the review process. Appropriate removal, storage, protection, and redistribution of topsoil, subsoil, or approved alternative resoiling material is critical to successful reclamation. The Division will closely review all Alternative Resoiling Material proposals to insure the best available material is utilized to complete the reclamation.

Any questions should be directed to Dr. Jack Johannes in the Technical Section in New Philadelphia, at (216) 339-5060.


Dr. Jack Johannes
Soils Specialist

Attachment

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