



Ohio Administrative Code Rule 1501:13-9-14 Backfilling and grading.

Effective: October 1, 1988

(A) In order to achieve the approximate original contour, the operator shall, as provided by this rule, transport, backfill, compact where advisable to ensure stability or to prevent leaching of toxic materials, and grade all spoil material to eliminate all highwalls, spoil piles, and depressions. Where highwalls are reduced by blasting, all of the provisions of this rule will apply. Small depressions may be left if compatible with the future land use and comply with the requirements of this rule. Cut and fill terraces may be used only in those situations expressly identified in this rule. The postmining graded slopes must approximate the premining natural slopes in the area in accordance with paragraphs (B) and (C)(1) of this rule, except as provided under paragraph (L) of this rule.

(B) Slope measurements.

(1) To determine the natural slopes of the area before mining, representative slopes must be accurately measured and recorded.

(a) Each slope measurement shall be taken along the prevailing slope extending one hundred linear feet above and below or beyond the coal outcrop or the area to be disturbed, or, where this is impractical, at locations specified by the chief.

(b) Where the area has been previously mined, the measurements shall be representative of the premining configuration of the land.

(c) Slope measurements shall take into account natural variations in slope so as to provide accurate representation of the range of natural slopes and shall reflect geomorphic differences of the area to be disturbed.

(2) After the disturbed area has been graded, the final graded slopes shall be measured, comparing the premining slope measurements as shown on the application map.



(3) Slope measurements shall be subject to a five-degree tolerance unless otherwise specified by the chief, provided that this tolerance does not conflict with the approved postmining land use.

(C) Final graded slopes.

(1) The final graded slopes shall not exceed either the approximate premining slopes as determined according to paragraph (B) of this rule and approved by the chief or any lesser slope specified by the chief based on consideration of soil, climate, or other characteristics of the surrounding area. Proof of a minimum long-term static safety factor of 1.3 for the final slopes may be required by the chief. Final graded slopes shall not exceed the angle of repose or such lesser slope as is necessary to achieve this minimum long-term static safety factor and to prevent slides. Postmining final graded slopes need not be uniform.

(2) On approval by the chief and in order to conserve soil moisture, ensure stability, and control erosion on final grade slopes, cut and fill terraces may be allowed if the terraces are compatible with the postmining land use approved under rule 1501:13-9-17 of the Administrative Code, and are appropriate substitutes for construction of lower grades on the reclaimed lands. The terraces shall meet the following requirements:

(a) The design and construction is to be certified by an engineer;

(b) The slope of the terrace outslope shall not exceed fifty per cent; and

(c) No highwalls may be left.

(3) All operations on natural slopes of more than twenty degrees or on such lesser slopes as the chief defines as a steep slope shall meet the provisions of rule 1501:13-13-05 of the Administrative Code.

(D) Spoil, except excess spoil disposed of in accordance with rule 1501:13-9-07 of the Administrative Code, shall be returned to the mined-out area or used in accordance with paragraph (E) of this rule for blending to restore approximate original contour.

(E) Blending of spoil. Spoil may be placed on the area outside the mined-out area in nonsteep slope



areas within the limits of the approximate original contour by blending the spoil into the surrounding terrain provided all the following requirements are met:

- (1) All vegetative and organic material shall be removed from the area;
- (2) The topsoil on the area shall be removed, segregated, stored, and redistributed in accordance with rule 1501:13-9-03 of the Administrative Code; and
- (3) The spoil area shall be backfilled and graded on the area in accordance with the requirements of this rule.

(F) Mountaintop removal. The requirements of this paragraph and of rule 1501:13-13-04 of the Administrative Code shall apply to coal mining operations which remove entire coal seams in the upper part of a mountain, ridge, or hill by removing all of the overburden. Final graded top plateau slopes on the mined area shall be less than twenty per cent so as to create a level plateau or gently rolling configuration and the outslopes of the plateau shall not exceed fifty per cent or such lesser slopes as the chief shall prescribe. Although the area need not be restored to approximate original contour, all highwalls, spoil piles, and depressions except as provided in paragraphs (G) and (H) of this rule shall be eliminated. All mountaintop removal operations shall, in addition, meet the provisions of rule 1501:13-13-04 of the Administrative Code.

(G) Small depressions. The requirement of this rule to achieve the approximate original contour does not prohibit construction of small depressions if they are approved by the chief to minimize erosion, conserve soil moisture, promote revegetation, or enhance fish and wildlife. These depressions shall be compatible with the approved postmining land use and shall not be inappropriate substitutes for construction of lower grades on the reclaimed lands. The total surface area and the holding capacity of the depression shall be approved by the chief. Permanent impoundments shall be governed by paragraph (H) of this rule and by rule 1501:13-9-04 of the Administrative Code.

(H) Permanent impoundments. Permanent impoundments may be retained in mined and reclaimed areas provided all highwalls are eliminated by grading to appropriate contour and the provisions for postmining land use pursuant to rule 1501:13-9-17 of the Administrative Code and protection of the hydrologic balance pursuant to rule 1501:13-9-04 of the Administrative Code are met. No



impoundments shall be constructed on top of areas in which excess spoil is deposited pursuant to rule 1501:13-9-07 of the Administrative Code.

(I) Regrading or stabilizing rills and gullies. Rills and gullies which form in regraded, topsoiled areas shall be filled, regraded or otherwise stabilized and have the topsoil replaced and the areas reseeded or replanted, when the rills and gullies either:

- (1) Disrupt the approved postmining land use or the reestablishment of the vegetative cover; or
- (2) Cause or contribute to a violation of water quality standards.

(J) Covering or otherwise treating coal and acid-forming, toxic-forming, combustible, and other waste materials; stabilizing backfilled materials; and using waste material for fill.

(1) Covering all exposed coal seams remaining after mining. Any acid-forming, toxic-forming or combustible materials, or any other waste materials exposed, used, or produced from a coal mining operation shall be:

(a) Placed in such a manner so as to:

(i) Isolate said materials to minimize contact with water;

(ii) Prevent combustion; and

(iii) Prevent adverse effects on plant growth and land use;

(b) Placed in such a manner so as not to be in proximity to a drainage course; and

(c) Covered with four feet of nontoxic and noncombustible material or treated to a nontoxic and noncombustible state. The chief may allow less than four feet of cover material based on physical and chemical analyses which show the requirements of rule 1501:13-9-15 of the Administrative Code will be met.



(2) Stabilization. Backfilled materials shall be selectively placed and compacted wherever necessary to prevent leaching of acid- or toxic-forming materials into surface or subsurface waters in accordance with rule 1501:13-9-04 of the Administrative Code and wherever necessary to ensure the stability of the backfilled materials. The method of compacting material and the design specifications shall be approved by the chief before the acid- or toxic-forming materials are covered.

(3) Use of waste materials as fill. Coal mine wastes may be disposed of in the mined-out area only if disposed of in accordance with paragraphs (A) and (B) of rule 1501:13-9-09 of the Administrative Code, except that a long-term static safety factor of 1.3 shall be achieved.

(K) Grading along the contour. All final grading, preparation of overburden before replacement of topsoil, and placement of topsoil in accordance with rule 1501:13-9-03 of the Administrative Code, shall be done along the contour to minimize subsequent erosion and instability. If such grading, preparation or placement along the contour would be hazardous to equipment operators, then grading, preparation, or placement in a direction other than generally parallel to the contour may be used. In all cases, grading, preparation, or placement shall be conducted in a manner which minimizes erosion and provides a surface for replacement of topsoil which will minimize slippage.

(L) The postmining slope may vary from the approximate original contour when approval is obtained from the chief for:

(1) Mountaintop removal operations in accordance with paragraph (C) of rule 1501:13-4-12 of the Administrative Code, provided the performance standards of paragraph (F) of this rule and of rule 1501:13-13-04 of the Administrative Code are met;

(2) A variance from approximate original contour requirements in accordance with paragraph (E) of rule 1501:13-4-12 of the Administrative Code, provided the performance standards of rule 1501:13-13-05 of the Administrative Code are met; or

(3) Incomplete elimination of highwalls in previously mined areas in accordance with paragraph (K) of rule 1501:13-4-12 of the Administrative Code, provided the following performance standards are met. The highwall shall be eliminated to the maximum extent technically practical in accordance with the following criteria:



- (a) All spoil generated by the remining operation and any other reasonably available spoil shall be used to backfill the highwall. The area of reasonably available spoil shall be included within the permit area;
- (b) The backfill shall be graded to a slope which is compatible with the approved postmining land use and which provides adequate drainage and long-term stability;
- (c) Any highwall remnant shall be stable and not pose a hazard to the public health and safety or to the environment. The operator shall demonstrate, to the satisfaction of the chief, that the highwall remnant is stable;
- (d) Spoil placed on the outslope during previous mining operations shall not be disturbed if such disturbances will cause instability of the remaining spoil or otherwise increase the hazard to the public health and safety or to the environment; and
- (e) For auger mining operations, the following additional requirements shall be met:
- (i) The coal seam mined shall be covered with a minimum of four feet of nonacid-, nontoxic-forming material; and
- (ii) The person who conducts the auger mining operation shall demonstrate to the chief that the backfill, designed by an engineer, has a minimum static safety factor for the stability of the backfill of at least 1.3.