

DEPARTMENT OF ENVIRONMENTAL QUALITY

LAND QUALITY DIVISION

CHAPTER 5

PERFORMANCE STANDARDS FOR SPECIAL CATEGORIES

OF SURFACE COAL MINING

Section 1. **Applicability.** The requirements of this Chapter, together with the general performance standards in Chapter 4, apply to all operations described herein. If a conflict occurs between any particular requirements of this Chapter and any other Chapter of Land Quality Division Rules and Regulations, this Chapter shall be controlling.

Section 2. **Prime Farmlands.**

(a) Prime farmland soil removal, stockpiling and replacement.

(i) Soil materials to be used in the reconstruction of the prime farmland shall be removed before drilling, blasting, or mine related disturbances in a manner that prevents mixing or contaminating these materials with undesirable material.

(ii) The A soil horizon, then the B and C soil horizons, either separately or in combination, or other suitable material that will allow for reconstruction of a root zone of greater productive capability to that existing prior to mining must be separately removed and segregated. Where it is impractical to immediately replace the soil horizon material or other suitable materials, each horizon separately removed must be separately stockpiled and properly identified. The Administrator may approve a plan which does not provide for the separation of soil horizons if the application can document by acceptable scientific procedures that removal of all topsoil in one step would not diminish prime farmland restoration objectives.

(iii) During reconstruction of prime farmland soil, the C horizon material and then the B horizon material or a combination thereof shall be replaced first. The A horizon material shall be replaced as the surface layer unless the Administrator has approved an alternative segregation plan. Reconstruction of prime farmland soil shall include:

(A) Replacement of a minimum depth of 48 inches of soil and other approved plant growth materials or a depth equal to the depth of a subsurface horizon in the natural soil that inhibits root penetration, whichever is shallower. The Administrator may require a depth greater than 48 inches whenever necessary to restore productive capacity due to uniquely favorable soil horizons at greater depths. Soil horizons shall be considered to inhibit root penetration if their densities, chemical properties, or water holding capacities

restrict or prevent penetration by roots of plants commonly grown in the vicinity of the permit area and have little or no beneficial effect on soil productive capacity.

(B) Replacement only on land which has been returned to a slope not to exceed premining conditions and scarified to reduce compaction of the graded spoil surface.

(C) Replacement in a manner that avoids excessive compaction, so that the pore space of the soil, after reconstruction, is of a size, distribution, and amount which allows a favorable rooting zone; minimizes soil erosion; and restores an available water holding capacity consistent with the premining soil condition.

(b) Prime farmland soil stabilization, productivity, and revegetation.

(i) Following soil replacement, a vegetative cover capable of stabilizing the soil surface shall be established as soon as practicable. The revegetation soil amendments and mulching requirements of Chapter 4, Section 2(d) of the regulations shall be met.

(ii) Prime farmland soil productivity shall be measured within ten years after soil replacement.

(A) Soil productivity shall be measured on a representative sample, or on all the mined and reclaimed prime farmland area, using the reference crop determined under paragraph (C) immediately below. A statistically valid sampling technique at a 90 percent or greater statistical confidence level shall be used as approved by the Administrator in consultation with the U.S. Soil Conservation Service.

(B) Restoration of soil productivity shall be considered achieved when the average yield during the measurement period equals or exceeds the average yield of the reference crop established for the same period for nonmined soils of the same or similar texture or slope phase of the soil series in the surrounding area under equivalent management practices.

(C) The reference crop on which restoration of soil productivity is proven shall be selected from the crops most commonly produced on the surrounding prime farmland. Where row crops are the dominant crops grown on prime farmland in the area, the row crop requiring the greatest rooting depth shall be chosen as one of the reference crops.

(D) Reference crop yields for a given crop season are to be determined from:

(I) The current yield records of representative local farms in the surrounding area, with concurrence by the U.S. Soil Conservation Service; or

(II) The average county yields recognized by the U.S. Department of Agriculture, which has been adjusted by the U.S. Soil Conservation Service for local yield variation within the county that is associated with differences between nonmined prime farmland soil and all other soils that produce the reference crop.

(E) Under either procedure in paragraph (D) immediately above, the average reference crop yield may be adjusted, with the concurrence of the U.S. Soil Conservation Service, for:

(I) Disease, pest, and weather-induced seasonal variations;  
or

(II) Differences in specific management practices where the overall management practices of the crops being compared are equivalent.

~~(iii) Small acreages of prime farmland which the Administrator, in consultation with the local conservation district and soil conservation service personnel, determines to be uneconomical to maintain as cropland after restoration may be exempt from the reconstruction standards of this subsection.~~ Areas where permits were issued prior to August 3, 1977 are exempt from the reconstruction standards of this Section.

### Section 3. **Alluvial Valley Floors.**

(a) Surface coal mining operations shall be conducted to preserve and reestablish throughout the mining and reclamation process those geologic, hydrologic and biologic characteristics that support the essential hydrologic functions, as identified during premining investigations or monitoring conducted during the surface coal mining and reclamation operation.

(b) Environmental monitoring:

(i) If environmental monitoring shows that a surface coal mining operation is interrupting, discontinuing, or precluding farming on alluvial valley floors or is causing material damage to water supplying alluvial valley floors not subject to the statutory exclusions of W.S. § 35-11-406(n)(v), the operation shall immediately take remedial measures and report this condition to the Administrator within 24 hours.

(ii) An environmental monitoring system shall be installed, maintained and operated by the operator on all alluvial valley floors during surface coal mining and reclamation operations and continued until all bonds are released. The monitoring system shall provide sufficient information to show that the essential hydrologic functions of the alluvial valley floor are being preserved or reestablished.

(iii) All monitoring data collected and analyses thereof shall be provided in the annual report.

(c) For all operations, the operator shall:

(i) Restore the essential hydrologic functions of alluvial valley floors located on affected lands; and

(ii) Preserve the essential hydrologic functions of alluvial valley floors located outside the affected lands.

#### **Section 4. Coal In Situ Processing Activities.**

(a) Coal in situ processing activities shall:

(i) Be planned and conducted to minimize disturbance to the prevailing hydrologic balance;

(ii) Avoid discharge of fluids into holes or wells, other than as approved by the Administrator;

(iii) Prevent discharge of process fluid into surface waters;

(iv) Conduct air and water quality monitoring programs as necessary to comply with appropriate Federal and State air and water quality standards; and

(v) Conduct all activities in accordance with the performance standards contained in Chapter 18, 4 and 7.

**Section 5. Combined Surface and Underground Mining Operations.** In addition to the requirements of Chapters 4 and 7, each operator shall ensure that the vertical distance between combined surface and underground mining activities working separate seams shall be sufficient to provide for the health and safety of the workers and to prevent surface water from entering the underground workings.

#### **Section 6. Auger Mining.**

(a) Unless otherwise determined by the Administrator that the coal reserves make it impracticable to recover the remaining resource, the operator shall leave areas of undisturbed coal as approved by the Administrator to provide access for removal of those reserves by future underground mining.

(b) Auger mining may be limited or prohibited to minimize disturbance of the prevailing hydrologic balance, unwarranted subsidence, or if the prohibition is necessary to

maximize the utilization, recoverability or conservation of the solid fuel resources.

(c) Each auger hole shall be capped, sealed, or plugged in accordance with Chapter 14, unless other management techniques are approved by the Administrator. Each auger hole shall be plugged within 72 hours after completion if it is discharging water containing toxic-forming or acid-forming material by backfilling and compacting noncombustible and impervious material into the hole to a depth sufficient to form a water-tight seal. Auger holes shall not be sealed with an impervious material if the Administrator determines that the resulting impounded water may create a hazard to the environment or public health or safety. Auger holes that are not discharging water, or if the discharging water does not contain toxic-forming or acid-forming material and will not pose a threat of pollution to groundwater as required by Chapter 4, Section 2(c)(xiii), shall be backfilled as contemporaneously as practicable and will not require sealing with an impervious material.

(d) Subsidence control shall be provided as required by Chapter 7, Section 2.

(e) Where auger mining operations are conducted in previously mined areas that were not reclaimed to the standards of Chapter 4, Section 2(b), the reaffected lands shall be reclaimed in accordance with the requirements of Section 7 of this Chapter. Any coal seam mined shall be covered with a minimum of four feet of nonacid and nontoxic-forming material and graded to a slope which is stable, compatible with the approved postmining land use, and provides drainage. The operator shall provide the Administrator a written demonstration, prepared by a qualified registered professional engineer, showing the fill has a minimum static safety factor of 1.3.

#### Section 7. **Remining.**

(a) Under the following conditions, the requirements in Chapter 4, Section 2(b)(iv), requiring the elimination of highwalls shall not apply to operations which affect land disturbed by previous coal mining operations which were not reclaimed in accordance with the requirements of Chapter 4, Section 2(b) (i.e., State Program requirements):

(i) Where the volume of all reasonably available spoil is demonstrated in writing to the Administrator to be insufficient to completely backfill the reaffected or enlarged highwall, and this condition is documented in writing by the Administrator, 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 area. Under this Section, "reasonably available spoil" means spoil located in the immediate vicinity of the remining operation, which shall be included in the permit area, that is accessible and available for use and that when rehandled will not cause a hazard to public safety or significant damage to the environment.

(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 portion of highwall that remains after backfilling and grading of the remaining permit area shall be stable and not pose a hazard to the public health and safety or to the environment. The operator shall demonstrate to the Administrator that the remaining highwall is stable.

(b) For revegetation success standards, as a minimum, the vegetative ground cover shall not be less than the ground cover existing before redisturbance and shall be adequate to control erosion.