WEST VIRGINIA CODE: §22-4-18

§22-4-18. Land reclamation requirements.

(a) Quarries shall meet the final design requirements for slopes and gradients:

(1) Final slope gradients of fill areas shall be designed using recognized standards and certified by a professional engineer or other approved professional specialist, except for backfill within the mineral excavation pit area, where no standard applies.

(2) The designed steepness and proposed treatment of the final slopes shall take into consideration the physical properties of the slope material, its probable maximum water content, landscaping requirements and other factors and may range from ninety degrees in a sound limestone or similar hard rock to less than twenty degrees in unconsolidated materials.

(3) The quarrying and reclamation plan shall specify slope angles flatter than the critical gradient for the type of material involved.

(4) The toe of the proposed fill will rest on natural slopes no steeper than twenty degrees unless a detailed geotechnical study of the toe foundation area is completed. The results of this study and subsequent stability evaluations must assure a static safety factor of at least one and one-half. Engineering designs for fills constructed on natural slopes steeper than twenty degrees may require over excavation of the toe area to rock, incorporation of toe buttresses or other engineered configurations to enhance stability. The design and construction of all fills proposed on natural slopes steeper than twenty degrees shall be certified by a registered professional engineer.

(5) Constructed slope fills steeper than two horizontal to one vertical must exhibit a static safety factor of one and one-half.

(6) Fills may be constructed so that the outer slope shall be no steeper than two horizontal to one vertical. A twenty foot wide bench shall be installed at a maximum of every fifty feet in vertical height of the fill with a one percent to five percent slope toward a constructed protected channel or natural drainway: Provided, That constructed fill slopes may be steeper than two horizontal to one vertical if they meet a static safety factor of one point five (1.5) and are certified by a registered professional engineer.

(7) Surface water runoff from the area above fills shall be diverted away from the fill into stabilized diversion channels. Runoff from the fill surface shall be diverted to stabilized channels off the fill.

(8) During and after construction of a fill area, slope protection shall be provided to minimize surface erosion. All disturbed areas of the fill, including diversion channels that are not

riprapped or otherwise protected, shall be revegetated upon completion of construction.

(b) Highwalls which are to be left after completion of quarrying shall be backfilled or shot down to provide a final slope in compliance with subsection (d) of this section unless:

(1) It is demonstrated that the highwall is stable;

(2) Adequate material removed in the process of quarrying and not located in a permanent disposal area, is not available; or

(3) These actions are precluded by close proximity to permit boundaries, other physical limitations, or the post quarry land use requires that the highwall remain.

(c) Backfills, fills, cut slopes or highwalls that exist and are part of a permit area prior to the effective date of this article are not required to comply with subdivisions (1) through (8), subsection (a) of this section. Permits issued prior to the effective date of this section which contain the requirements of subdivisions (1) and (2), subsection (a) or subsection (b) of this section are not exempt unless modified by the division.

(d) The final land form shall be graded to provide positive drainage throughout the permit area except areas that are to be inundated in accordance with the quarrying and reclamation plan map.

(e) Backfill may be exported off the permitted areas only for beneficial uses as approved by the director.

(f) Permanent spoil piles will be stabilized, covered with suitable material and revegetated.

(g) Upon an order of the director, the operator shall, within sixty days after service of a copy of the order to the operator by certified United States mail, furnish to the division four copies of a progress map which is prepared consistent with maps prepared for permit applications as provided in section five of this article, which shall show in detail completed reclamation work, as required by the director. The progress map shall be within a reasonable degree of accuracy as is required by the director. When no additional land has been disturbed by operations during the preceding year and the prior map is still up to date, in lieu of a progress map, the operator shall provide a signed statement regarding the status of the operation to the director. A final map shall be submitted within sixty days after completion of mining operations. Failure to submit maps or aerial photographs or notices at specified times shall cause the permit in question to be suspended.