

WEST VIRGINIA
SECRETARY OF STATE
KEN HECHLER
ADMINISTRATIVE LAW DIVISION

Form #1

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OFFICE OF WEST VIRGINIA
SECRETARY OF STATE

NOTICE OF PUBLIC HEARING ON A PROPOSED RULE

AGENCY: Division of Environmental Protection - TITLE NUMBER: 38

RULE TYPE: Mining and Reclamation
Legislative; CITE AUTHORITY

AMENDMENT TO AN EXISTING RULE: YES XX NO

IF YES, SERIES NUMBER OF RULE BEING AMENDED: 2B

TITLE OF RULE BEING AMENDED: Quarry Mining and Reclamation Standards

IF NO, SERIES NUMBER OF NEW RULE BEING PROPOSED:

TITLE OF RULE BEING PROPOSED:

DATE OF PUBLIC HEARING: August 15, 1994 TIME: 9:00

LOCATION OF PUBLIC HEARING: Director's Conference Room

Division of Environmental Protection

10 McJunkin Road

Nitro, WV 25143

COMMENTS LIMITED TO: ORAL , WRITTEN , BOTH XX

COMMENTS MAY ALSO BE MAILED TO THE FOLLOWING ADDRESS: WV DEP

10 McJunkin Road

Nitro, WV 25143

ATTN: Roger T. Hall

The Department requests that persons wishing to make
comments at the hearing make an effort to submit written
comments in order to facilitate the review of these comments.

The issues to be heard shall be limited to the proposed rule.

ATTACH A **BRIEF** SUMMARY OF YOUR PROPOSAL

Roger T. Hall
Roger T. Hall

9.00

APPENDIX B

FISCAL NOTE FOR PROPOSED RULES

Rule Title: Quarry Mining and Reclamation Standards

Type of Rule: XX Legislative Interpretive Procedural

Agency WV Division of Environmental Protection

Address 10 McJunkin Road

Nitro, WV 25143

1. Effect of Proposed Rule

	ANNUAL FISCAL YEAR				
	INCREASE	DECREASE	CURRENT	NEXT	THEREAFTER
<u>ESTIMATED TOTAL COST</u>	\$ -0-	\$ -0-	\$ -0-	\$ -0-	\$ -0-
PERSONAL SERVICES	-	-	-	-	-
CURRENT EXPENSE	-	-	-	-	-
REPAIRS & ALTERNATIONS	-	-	-	-	-
EQUIPMENT	-	-	-	-	-
OTHER	-	-	-	-	-

2. Explanation of above estimates:

This proposed rule will not result in an increase or decrease in state revenues.

3. Objectives of these rules:

The development of more comprehensive standards for environmental protection from impacts of quarrying operations. (Reclamation, backfilling, use of explosives, water quality and erosion control.)

Rule Title: Quarry Mining & Reclamation Standards

4. Explanation of Overall Economic Impact of Proposed Rule.

A. Economic Impact on State Government.

None

B. Economic Impact on Political Subdivisions; Specific Industries; Specific groups of Citizens.

None

C. Economic Impact on Citizens/Public at Large.

None

Date: July 13, 1994

Signature of Agency Head or Authorized Representative

Roger T. Hall
Roger T. Hall

SUMMARY

This proposed rule repeals the existing rule (CSR 38-2B) relating to quarry mining operations in the State. The new rule expands on the requirements for reclamation, drainage and sediment control, use of explosives, waste rock placement, etc. The intent of the rule is to provide a higher level of environmental protection from the impacts of quarry mining operations.

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TITLE 38
LEGISLATIVE RULE
DIVISION OF ENVIRONMENTAL PROTECTION - MINING AND RECLAMATION

SERIES 2B
QUARRY MINING AND RECLAMATION STANDARDS

38.2B.1. General

1.1. Scope - These regulations establish general and specific rules for quarry mining and reclamation operations including requirements for definitions, permits, preplans, haulageways or access roads, blasting, drainage system, method of operation, grading, backfilling and revegetation, modifications, state and federal compliance and validity of regulations and exceptions.

1.2. Authority - West Virginia Code 22-4-3, 22-1-3a, 22-4-18

1.3. Filing Date -

1.4. Effective Date -

1.5. Incorporation by Reference - Federal Counterpart Regulations - The Director has determined that there are no federal counterpart regulations.

1.6. Determination of Stringency - Federal Counterpart Regulations - The Director has determined that there are no federal counterpart regulations, therefore, this rule is no more or no less stringent than federal regulations.

1.7. Constitutional Takings Determination - The Director has determined that this rule does not constitute a taking of real property under the State or U.S. Constitution.

1.8. Repeal of Former Rule - This rule repeals CSR 38-2-2B , "Regulations For Mining and Reclamation of Mineral Other Than Coal" which were filed in the Secretary of State's Office on December 30, 1982, and became effective on January 1, 1983.

38.2B.2. Definitions - Unless the context in which used clearly requires a different meaning, as used in these regulations or as referred to in Article 4, Chapter 22, Code of West Virginia, as amended:

2.1. "Acidity" means the capacity of water to donate protons. They symbol pH referring to the degrees of acidity or alkalinity. On this scale, pH of 1 is the strongest acid, pH of 14 is the strongest alkali, pH of 7 is the point of neutrality.

2.2. "Acid-producing materials" means mineral compounds which will, when acted upon by water and air, cause acids to form.

2.3. "Acid-producing overburden" means material that may cause spoil which upon chemical analysis, shows a pH of 5.5 or less.

2.4. "Active surface mine operation" means an operation where land is being disturbed or mineral is being removed.

2.5. "Area surface mining" means open-cut or multiple-cut mining carried out on level to gently-rolling topography, which does not produce a bench.

2.6. "Backfill" means to place material back into an excavation and return the area to a predetermined slope.

2.7. "Base of highwall" means the intersection of the vertical plan with the horizontal plane at any point in the overburden, spoil, or mineral.

2.8. "Bench" means the result of surface mining in areas where the average slope or the original ground has an inclination of more than thirty percent (30%) from the horizontal, being: (a) the leveled surface of an excavated area measured horizontally at any point in the overburden, spoil, or mineral between the base of the highwall and outer point of original fill bench; or (b) a working base extending from the base of a highwall on which excavating equipment can set, move, and operate.

2.9. "Bench width" means the width of the bench as measured horizontally from the base of the highwall to the outer point of the original fill bench.

2.10. "Completion of mining" means an operation where no mineral has been removed or overburden removed for a period of two consecutive months, unless the operator, within thirty (30) days of receipt of the Director's notification declaring completion, submits sufficient evidence that the operation is in fact not completed.

2.11. "Contour surface mining" means the removal of overburden and the mining of a mineral that normally approaches the surface at approximately the same elevation, generally a contour bench resulting.

2.12. "Cross-drain" means a ditch constructed to carry away excessive drainage from a main collecting point or ditch.

2.13. "Cut" means an excavation made by excavating equipment to remove overburden in a single progressive line.

2.14. "Cut-fill" means overburden removed from an elevated portion of a road or bench and deposited in a depressed portion in order to maintain a desired grade.

2.15. "Deep mining or underground mining" means surface disturbance or the surface effects associated with excavations penetrating mineral deposits or strata and the equipment connected therewith which contributes directly or indirectly to the mining, preparation, or handling of materials.

2.16. "Director and/or his authorized agent" means the Director of the Division of Environmental Protection, the Chief of the Office of Mining and Reclamation, Assistant Chiefs of the Office of Mining and Reclamation and all duly authorized supervisors, inspectors, and inspectors-in-training.

2.17. "Monument" means a permanent marker consisting of metal or wood used to identify the permit area being mined under a surface mining permit, consisting of a two-inch pipe driven three (3) feet into the earth with a minimum of four (4) feet exposed and a 2' X 3' sign affixed to the top of the pipe with company name and permit number permanently affixed. Any suitable equivalent substitute may be approved.

2.18. "Natural drainway" means any water course or channel which carries water to the tributaries and rivers of the watershed. The United States Geological Survey classification of perennial or intermittent streams will be considered as natural drainways.

2.19. "Operation" means the permit area indicated on the approved map submitted by the operator.

2.20. "Outer spoil or outer slope" means the disturbed area extending from the outer point of the bench to the extreme lower limit of the disturbed land.

2.21. "Overburden" means the earth, rock and other materials lying in the natural state above a mineral deposit before or after excavation.

2.22. "Pit" means that part of the surface mining operation from which the mineral is being actively removed.

2.23. "Reclamation" means the process of converting disturbed land to a stable form for productive use.

2.24. "Regrade or grade" means to change the contour of any surface by the use of leveling or grading equipment.

2.25. "Sand" means individual rock or mineral fragments having a diameter less than 2.00m but greater than .02m.

2.26. "Seepage water" means any water entering the ground from the surface through capillary action, cracks, faults or any other natural modes of entry, and finding its way to the surface

again.

2.27. "Slope" means the angle of repose from the horizontal plane of spoil banks or ridges of overburden material made in the surface mining operation - the angle of a hill or mountain. A gentle slope will mean 0% to 10%, moderate to steep slope will mean 10% to 45%; extremely steep slope will mean 45% and over.

2.28. "Soil" means any earthen material excluding bedrock.

2.29. "Solid bench" means that portion of the bench surface formed by earth or rock strata which has not been removed, as distinguished from fill bench.

2.30. "Spoil" means all overburden material removed or displaced by excavating equipment, blasting, or any other means.

2.31. "Stabilize" means to settle or fix in place by mechanical or vegetative means, including the planting of trees, grasses, vines, shrubs, or legumes.

2.32. "Stoniness" means a characteristic of earth, overburden, or spoil reflecting its relative proportion of sizable aggregate content as opposed to its sand, loam, or fine aggregate content. Sites too stony to hand plan with seedlings will be classified as extremely stony - those having less stone but too much stone for tillage will be classified as stony; tillable sites will be classified as non-stony.

2.33. "Storm water" means any water flowing over or through the surface of the ground caused by precipitation; generally, surface runoff.

2.34. "Surface mining", "Surface mined", or "Surface mining operation" means all activity for the recovery, processing, or storage of minerals, and all facilities and equipment used in processing said minerals, and the surface effects of underground mining.

2.35. "Surface water" means that water, from whatever source, which is flowing on the surface of the ground.

2.36. "Suspension of permit" means an act of the Director or an authorized agent of the Director with legal justification temporarily nullifying the validity of a permit insofar as the mining and removal of the mined minerals are concerned.

2.37. "Water analyses" means those water analyses performed by or for the operator using the analytical procedures set forth in Standard Methods, Thirteenth Edition, or employing such other field testing methods which have been approved by the Office of Water Resources.

38.2B.3. Haulageways.

3.1. Location - The location of the proposed haulageway will be identified on the site by visible markings at the time the reclamation and mining plan is preinspected and prior to commencement of construction.

3.2. Grading - The grading of a haulageway will be such that:

3.2.1. No sustained grade will exceed ten percent (10%);

3.2.2. The maximum pitch will not exceed fifteen percent (15%) for three hundred (300) feet;

3.2.3. There will not be more than 300 feet of maximum pitch grade for each 1,000 feet of road constructed;

3.2.4. The surface will be insloped toward the ditch line at the minimum rate of 1/2 inch per foot of surface width or crowned at the minimum rate of 1/2 inch per foot of surface width as measured from the center line of the haulageway.

3.3. Curves - The grade on switchback curves will be reduced to less than the approach grade and should not be greater than ten percent (10%).

3.4. Cut Slopes - Cut slopes should not be more than 1:1 in soils or 1/4:1 in rock.

3.5. Ditches - A ditch will be provided on both sides of a through-cut and on the inside shoulder of a cut-fill section, with ditch relief cross-drains being spaced according to grade. Water will be intercepted before reaching a switchback or large fill and led off. Water on a fill or switchback will be released below the fill, not over it.

3.6. Culverts - Ditch relief culverts will be installed according to the following provisions:

3.6.1.	Road Grade in %	Spacing of Culverts in Feet
	2 - 5	300 - 800
	6 - 10	200 - 300
	11 - 15	100 - 200

3.6.2. The culvert will cross the haulageway at a 30 degree angle downgrade.

3.6.3. The inlet end will be protected by a headwall

of suitable material and the outlet end will be placed below the toe of the fill with an apron of suitable material provided for the outflow to spill on.

3.6.4. The culvert will be covered by compacted fill to a depth of one foot or half the culvert diameter, whichever is greater.

3.7. Culvert Openings - Culvert openings installed on haulageways should not be less than one hundred (100) square inches in area, but, in any event, all culvert openings will be adequate to carry storm run off and will receive necessary maintenance to function properly at all times.

3.8. Natural Drainway - Minor alterations and relocations of natural drainways as shown on the reclamation plan will be permitted if the natural drainway will not be blocked and if no damage is done to the natural drainway or to adjoining landowners.

3.9. Stream Crossings - Drainage structures will be required in order to cross a stream channel. They will be such so as not to affect the flow of the stream. Consideration will be given to the time of year the stream is crossed and length of time the stream channel is used, but, in no event, and under no condition will the flow of the stream be affected or the sediment load of the stream increased during construction and/or use.

3.10. Removal of Drainage Structures - No bridges, culverts, stream crossing, etc., necessary to provide access to the operation, may be removed until reclamation is completed and approved by the Director. The same precautions as to water quality are to be taken during removal of drainage structures as those taken during construction and use.

3.11. Stabilization of Slopes - All fill and cut slopes will be stabilized after the construction of a haulageway.

3.12. Haulageway Surfacing - Haulageways will not be surfaced with any acid-producing or toxic material or with any material which will produce a concentration of suspended solids in surface drainage.

3.13. Tolerance - All grades referred to in this section will be subject to a tolerance of two percent (2%) grade. All linear measurements referred to in this section will be subject to a tolerance of ten percent (10%) of measurement. All angles referred to in this section will be measured from the horizontal and will be subject to a tolerance of five percent (5%).

3.14. Water Bars - Water bars of the ditch and earth berm or log type will be installed according to the following table of

spacings in terms of percent of haulageway grade prior to the abandonment of a haulageway:

Percent of Haulageway	Spacing of Water Bars in Feet
2	250
5	135
10	80
15	60
20	45
Above 20	25

3.15. Dust Control - Reasonable means will be employed to prevent loss of haulageway surface material in the form of dust.

3.16. Abandonment of Haulageway - Upon abandonment of a haulageway, the haulageway will be seeded and every effort made to prevent erosion by means of culverts, water bars, or other devices.

38.2B.4. Blasting.

4.1. Assessment - Any assessment as set forth in Section 11, Article 4, Chapter 22 of the Code of West Virginia, as amended, will be paid within ten (10) days after receipt of said assessment notice.

4.2. Sign - A sign permanently affixed at or near the permanent monument will describe "warning, blasting area." The sign will be a minimum of 2' x 3' with legible letters to be erected at the time mining operations begin.

4.3. Written Notification - Prior to mining operations, written notification of blasting will be given by certified mail to all residents, owners, or other persons who are adjacent to any part of the proposed operation. The United States Post Office Department Certified Receipt of Notification will be maintained with the blasting log.

4.4. Blasting Time - Blasting will be limited to the hours between sunrise and sunset. Blasting on Sunday is strictly prohibited.

4.5. Approaches to Area - All approaches to the blast area will be guarded against unauthorized entry prior to and immediately after blast.

4.6. Blasting Warning - When blasting is to be done within five hundred (500) feet of any occupied dwelling, the operator or his authorized representative will notify all persons involved

that a blast is to be detonated, stating the approximate time of same. A minimum of one (1) hour notification must be given prior to detonation.

4.7. Blasting Prohibited - The Director or his authorized agent may prohibit blasting in specific areas where it is deemed necessary for the general safety of the area.

4.8. Flyrock, Including Blasted Material - Material will not be cast from the blasting site more than half-way to the nearest protected structure, or in no case beyond the bounds of the permit area.

38.2B.5. Drainage System.

5.1. Drainage Plan - There will be submitted with the application for surface mining a drainage plan which will show the proposed method of drainage on and away from the area of land to be disturbed. Said plan shall indicate the directional flow of water, constructed drainways, natural waterways used for drainage, streams or tributaries receiving or to receive this discharge, location of sediment dams, and other silt-retarding structures, location of all water test sites, treatment, and all other data as may be required.

5.2. Natural Drainways - Natural drainways in the area of land disturbed by surface mining operations shall be kept free of overburden except where over-burden placement has been approved. Such drainways shall be identified on the maps submitted with the application. Surface mining operations will be prohibited fifty (50) feet on either side of a natural drainway unless adequate screening or other measures approved by the Director are to be utilized and the permit application so provides. Overburden placement and haulageway across natural drainways will be constructed so as not to affect the flow of the stream, or materially increase the sediment load in the stream.

5.3. Constructed Drainways:

5.3.1. Ditch Above Highwall - All surface water which drains into the pit shall be effectively intercepted on the uphill side of the highwall by suitable and adequate diversion ditches and conveyed by adequate channels or other suitable means of discharge to natural drainways outside the disturbed area. The Director may, in the exercise of his sound discretion, when not in conflict with Article 4, Chapter 22, Code of West Virginia, as amended, waive this regulation.

5.3.2. Ditch on Bench - Drainage ditches will be constructed on the excavated solid bench in order to carry off storm, surface, or seepage water. The breaking point for ditches

on the bench will fall at or near the midpoint between natural or constructed drainways. In no case shall water be discharged over a spoil slope. Removal of water from the bench shall be accomplished by use of adequate pipe, a rock riprap flume, asphalt or concrete chutes, or by grading a channel to nonerosive rock.

5.3.3. Ditch Below Spoil Slope - All surface water draining off the spoil slopes will be intercepted by suitable and adequate diversion ditches which will carry the water to suitable treatment ponds before discharge into a natural drainway. These ditches will be located within twenty-five (25) feet of the anticipated toe of the spoil slope. If at any time spoil material interferes with the flow of water in these ditches, that material shall be cleaned out immediately. The Director may, in the exercise of his sound discretion, when not in conflict with Article 4, Chapter 22, Code of West Virginia, as amended, waive this regulation.

5.4. Sediment Control - All drainage control structures will be constructed in appropriate locations in order to control sedimentation. All impoundments shall have a minimum capacity to store .125 acre-ft/acre of disturbed area in the watershed. This disturbed area will include all land affected by previous operations that is not presently stabilized and all land that will be affected throughout the life of the permit. Design criteria and construction specifications for embankment-type sediment dams, excavated ponds, and other water retarding structures will be found in the "Technical Handbook for Surface Mining." Prior to beginning of surface mining operations within each drainage component area, the drainage and sediment control structures shall be certified by a person approved by the Director as being constructed according to the design criteria specified in the approved permit. Each sediment retention structure shall be cleaned out when the sediment accumulation reaches sixty percent (60%) of design capacity.

5.5. Water Quality Control - All surface mining and reclamation activities shall be conducted to minimize the disturbance of hydrologic balance within the permit and adjacent areas, to prevent material damage to the hydrologic balance outside the permit area, and to assure the protection or replacement of water supplies. All reasonable measures shall be taken to intercept all surface water by the use of diversions, culverts, and drainage ditches or other methods to prevent water from entering the pit area. All water accumulation into the pit shall be removed as rapidly as possible with due recognition to water quality requirements. Discharge from areas disturbed by surface mining shall not violate effluent limitations or cause a violation of applicable water quality standards. The monitoring frequency and effluent limitations shall be governed by the standards set forth in the NPDES permit issued by the Division.

5.5.1. Water tests reflecting seasonal variation shall be taken before surface mining operations begin and the results of these tests will be shown on the "drainage plan" map. The location for these preliminary tests will be:

5.5.1.a. On natural drainways above proposed surface mining operations;

5.5.1.b. On natural drainways below proposed surface mining operations at or near the affected drainage area boundary; and

5.5.1.c. On natural drainageways upstream from the mouth of a natural drainway affected by surface mining.

5.6. Water Replacement Rights - Any operator shall replace the water supply of an owner of interest in real property who obtains all or part of the owner's supply of water for domestic, agricultural, industrial, or other legitimate use from a underground or surface sources where such supply has been affected by contamination, diminution, or interruption proximately caused by such surface-mining operation, unless waived by said owner. Nothing in these regulations affects the rights of any person to enforce or protect, under applicable law, interest in water resources affected by a surface-mining operation.

5.7. Seeding of Drainage System - All areas disturbed in the installation of the drainage system shall be seeded and mulched after construction in accordance with Section 9 of these rules.

5.8. Technical Handbook for Surface Mining - Design criteria and construction specifications for embankment-type sediment dams, excavated sediment ponds, stone check dams, log and pole structures, diversion ditches, outlets and other water control structures are to be found in the "Technical Handbook for Surface Mining" published by the Division of Environmental Protection.

38.2B.6. Method of Operation.

6.1. Operator Responsibility - In planning and executing surface mining operations, the operator shall have, at all times, proper regard for all backfilling and regrading requirements, imposed by Article 4, Chapter 22, Code of West Virginia, as amended, and all rules and regulations adopted pursuant thereto, and all provisions of the approved pre-plan.

6.2. Topsoiling or Other Material Suitable for the Post Mining Land Use - These materials will be removed in a separate layer and distributed over the backfilled area, or if not utilized immediately, segregated and stockpiled in a separate

location as specified in the pre-plan. Topsoil not immediately utilized shall be protected from wind and water erosion. Any material used for topsoiling must be capable of supporting and maintaining the approved post-mining land use.

6.3. Treatment of Toxic Material - All exposed mineral seams remaining after mining and any acid-forming, toxic-forming, combustible materials, or any other waste materials that are exposed, shall be covered with a minimum of four (4) feet of nontoxic and noncombustible material; or test, treat, and blend material to provide materials suitable to prevent water pollution. If necessary, this material shall be treated to neutralize toxicity in order to prevent water pollution and sustained combustion and/or to minimize adverse effects on plant growth and land uses. Where necessary to protect against upward migration of salts, exposure by erosion, to provide an adequate depth for plant growth, or to otherwise meet local conditions, the Director shall specify thicker amounts of cover using nontoxic material. Acid-forming or toxic-forming material shall not be buried or stored in proximity to a drainage course so as to cause or pose a threat of water pollution.

6.4. Small Depressions - The requirement to achieve approximate original contour does not prohibit construction of small depressions if they are approved by the Director to minimize erosion, conserve soil moisture or promote revegetation. These depressions shall be compatible with the approved post-mining land use.

6.5. Bench Surface - The surface of the regraded bench shall be graded so as to permit the use of farm implements and machinery.

6.6. (Reserved)

6.7. Final Graded Slopes - Final graded slopes shall mean slopes backfilled and graded to eliminate the highwall which does not exceed the angle of repose or such lesser slopes as is necessary to assure stability.

6.8. Grading Outer Spoil - All outer spoil shall be graded so as to blend into the adjoining undisturbed lands.

6.9. Regrading or Stabilizing Rills and Gullies - Any rills or gullies deeper than nine (9) inches forming in areas that have been regraded and the topsoil replaced but where vegetation has not yet been established will be deemed unacceptable and any such rills or gullies shall be filled, graded, or otherwise stabilized and revegetated. Rills or gullies or lesser size shall also be stabilized if they will be disruptive to the approved postmining land use or may result in additional erosion and sedimentation.

6.10. Inactive Status - Inactive operation status will be considered for a period not to exceed one (1) year from date of approval providing that prior written approval is obtained from the Director.

38.2B.7. Contemporaneous Reclamation Standards for Minerals Other Than Limestone, Sandstone, and Sand.

7.1. Keeping Operation Current - Grading, backfilling, and water management practices as approved in the plans shall be kept current as follows:

7.1.1. Should the operation include only stripping (no augering or highwall mining), the grading and backfilling shall follow the mineral removal by a period not to exceed sixty (60) days or 3,000 linear feet.

7.1.2. Should the operation include stripping and highwall mining, the highwall mining shall follow the stripping within sixty (60) days, or a reasonable time as prescribed by the Director. Grading and backfilling shall follow the highwall mining by not more than thirty (30) days or 1,000 linear feet.

7.1.3. Should the particular site conditions or weather make adherence to these guidelines impractical, the period of time or the distance required to be current may be reasonably extended.

38.2B.8. Stability, Restoration, and Safety Requirements for Surface Mining of Limestone, Sandstone, and Sand.

After the effective date of these regulations, new permit applications and permit renewal applications shall contain a plan for stabilizing and restoring mined areas to a condition that will ensure the protection of the health and safety of the public and the enhancement of the environmental quality of the mined site and surrounding areas. This plan shall include a description of the methods to be implemented in eliminating spoil peaks and depressions, and the blending of disturbed areas into the surrounding lands. All highwalls will be reduced to the extent possible using all available spoil material. Emphasis shall be given to restore mined-out areas using excess spoil materials. The plan will include a time schedule for attaining compliance in a contemporaneous manner as the mining operation progresses. Complete compliance with the restoration and stabilization plan before final release of the permit. Failure to comply with the plan may result in revocation of the permit.

38.2B.9. Requirements for Special Land Use Purposes.

9.1. Alternative Plans - Alternative plans for restoration of the disturbed area may be submitted to the Director. If such restoration will be consistent with the purpose of Article 4, Chapter 22, Code of West Virginia, as amended, and if such plans are approved by the Director and complied with within such time limits as may be determined by him as being reasonable for carrying out such plans, the backfilling and grading requirements heretofore contained may be modified.

9.2. Water Impoundments - Prior to the construction of an impounding area for the storage of water after mining, approval must be obtained from the Director for such impoundment. This plan will include, but not be limited to the following:

9.2.1. Location of the impounding area;

9.2.2. Dimensions of the area as to capacity and depth (average, maximum, and minimum);

9.2.3. Plot plan of impoundment area;

9.2.4. Source of water entering the impoundment;

9.3.5. Quality of the water entering the impoundment;

9.3.6. Quality of water leaving the impoundment and mechanism of discharge;

9.3.7. Geologic strata involved with impoundment;

9.3.8. Chemical characteristics of the soils and underlying strata in the impoundment area as they relate to acid production;

9.3.9. Safety aspects considered such as spillway overflow, emergency spillway, access to area; and

9.3.10. Consent of the landowner for such impoundment with submission on specified forms.

9.4. Sanitary Landfills - Where waste materials from a coal preparation or conversion facility or from other activities conducted outside the permit area such as municipal wastes, garbage, etc., are used for fill material, plans for such use shall be approved by the Director. Such plans for sanitary landfills and/or solid waste disposal areas shall be accompanied by the written approval of the Division of Solid Waste and where appropriate, the State Department of Health.

38-2B-10. Steep Slope Mining.

10.1. Applicability - On surface mining operations where the natural slope exceeds twenty degrees (20), the provisions of this section in addition to other applicable provisions of these regulations shall apply. On lesser slopes that require measures to protect the area from disturbance as determined by the Director based on consideration of soils, climate, method of operation, geology, and other regional characteristics, the provisions of this section, in addition to other applicable provisions of these regulations shall also apply. These provisions do not apply where mining is done on a flat or gently-rolling terrain with an occasional steep slope through which the mining proceeds and leaves a plain or predominately flat area.

10.2. Downslope Placement - Spoil or debris including that from clearing and grubbing shall not be placed on the downslope except as provided for in Section 12, Section 13 or Section 14 of these regulations.

10.3. Highwall Elimination - The highwall shall be eliminated and the disturbed area graded. Land above the highwall shall not be disturbed unless the Director finds that the disturbance will facilitate compliance with the requirements of this section.

10.4. Stabilization - The material used to backfill and eliminate the highwall shall be sufficiently compacted or otherwise mechanically stabilized so as to insure stability of the backfill. Woody materials may be buried in the backfilled area only when the burial does not cause or add to instability.

38.2B.11. Mountaintop Removal.

11.1. Applicability - Where the mountaintop removal technique is applied, the provisions of this section in addition to other applicable provisions of these regulations, shall apply.

11.2. Outcrop Barrier - An outcrop barrier of sufficient width shall be retained where necessary to prevent slides and erosion. Where no outcrop exists due to previous mining, this requirement will be waived.

11.3. The Final Graded Slopes - The final graded top plateau slopes on the mined area shall be less than 5 horizontal to 1 vertical so as to create a level plateau or gently-rolling configuration, and the outslopes of the plateau shall not exceed 2 horizontal to 1 vertical except where approved by the Director, but in no case shall the minimum static safety factor be less than 1.5.

11.3. Drainage - The resulting level or gently-rolling contour shall be graded to drain inward from the outslope

except at specific points where it drains over the outslope in protected channels.

38.2B.12. Disposal of Spoil or Toxic-Forming Materials by Methods Other Than Valley or Head-of-Hollow Fills.

12.1. Applicability - Spoil or toxic-forming materials not required to achieve the approximate original contour shall be transported to and placed in a controlled manner in disposal areas other than the mine workings or excavation only if all the provisions of this section are met. Spoil shall not be transported and permanently placed outside the mine workings or excavation areas if it is needed for backfilling, stability, or safety purposes.

12.2. Location of Disposal Sites - The disposal areas shall be within the permit area and they must be approved by the Director as suitable for construction of fills. The disposal area shall be located in the most moderate slopes and naturally stable areas available. Where possible, fill materials suitable for disposable shall be placed upon or above a natural terrace, bench, or berm, if such placement provides additional stability and prevents mass movement.

12.3. Certification - Certification of the fill shall be as follows:

12.3.a. The fill shall be designed using recognized professional standards and certified by an approved registered professional engineer or other approved professional specialist;

12.3.b. The fill shall be designed for stability by an approved registered professional engineer or other approved professional specialist after completion of the first 50-foot lift, to assure removal of all organic material and topsoil, placement of under-drainage systems, and proper construction in accordance with the approved preplan. The approved registered professional engineer or other approved professional specialist will also provide a certified report upon completion of the fill that the fill has been constructed as designed in the approved preplan; and

12.3.c. Where fills are placed on slopes less than twenty degrees (20), a certification shall not be required.

12.4. Stabilization - Where the slope in the disposal area exceeds 2.8 horizontal to 1 vertical (36 per cent) or where necessary to achieve a static safety factor of 1.5, measures such as keyway cuts, rock toe buttresses or other techniques shall be used. All organic material shall be removed from the disposal area and the topsoil must be removed and segregated before the

overburden is placed in the disposal area. Suitable organic material may be used as mulch or may be included in the topsoil. The spoil or toxic forming materials shall be transported and placed in a controlled manner, concurrently compacted as necessary to insure long-term inass stability and prevent mass movement. The fill shall be drained and graded to allow surface and subsurface drainage to be compatible with the natural surroundings.

12.5. Drainage - The disposal area shall not contain springs, natural water courses or wet weather seeps unless lateral drains are constructed from the wet areas to the under drains in such a manner that infiltration of the water into the fill shall be prevented. The drains shall be designed and constructed of course rock. If no filter is designed for the under drain, sufficient capacity shall be provided to allow for partial plugging of the drain. No rock shall be used in under drains if it tends to disintegrate or if it is acid-forming or toxic-forming.

12.6. Construction - Construction of the fill shall be as follows:

12.6.1. All areas upon which the fill is to be placed shall first be progressively cleared of all trees, brush, shrubs, and other organic material. This material shall be removed from the fill area;

12.6.2. Depositing and compacting the fill in layers shall begin at the toe of the fill. The layers shall be constructed approximately parallel with proposed finish grade. All material shall be deposited in uniform horizontal layers and compacted with haulage equipment.

12.6.3. The thickness of the layers shall not exceed four feet;

12.6.4. The outer slope shall be no steeper than 2 horizontal to 1 vertical. A 20-foot wide bench shall be installed at a maximum of every 50 feet in vertical height of the fill with a 3% to 5% slope toward the fill area, normal to such, and a 1% slope toward a rock rip-rap channel or natural drainway; and

12.6.5. When construction of each lift (maximum of every 50 feet in vertical height) of the fill is completed, topsoil or other suitable material which will support vegetation shall be spread over the completed slope and bench. The slopes and benches shall then be seeded and mulched immediately in accordance with the approved revegetation plans.

38.2B.13. Disposal of Spoil Materials in Valley or Head-of-Hollow

Fills.

13.1. Applicability - Spoil not required to achieve the approximate original contour shall be transported to and placed in a controlled manner. Spoil shall not be transported and permanently placed outside the mine workings or excavation areas if it is needed for backfilling, stability, or safety purposes. Spoil disposed of in natural valleys must be placed in accordance with the following requirements.

13.2. Location of Spoil Areas - The disposal areas shall be within the permit area and they must be approved by the director as suitable for construction of fills. The disposal area shall be located on the most moderate slopes and naturally stable areas available. Where possible, fill materials suitable for disposal shall be placed upon or above a natural terrace, bench, or berm, if such placement provides additional stability and prevents mass movement.

13.3. Certification - Certification of the fill shall be as follows:

13.3.a. The fill shall be designed using recognized professional standards and certified by an approved registered professional engineer or other approved professional specialist; and

13.3.b. The fill shall be inspected for stability by an approved registered professional engineer or other approved professional specialist after completion of the first 50-foot lift, to assure removal of all organic material and topsoil, placement of under-drainage systems, and proper construction in accordance with the approved pre-plan. The approved registered professional engineer or other approved professional specialist, shall also provide a certified report upon completion of the fill that the fill has been constructed as designed in the approved pre-plan.

13.4. Stabilization - Where the slope in the disposal area exceeds 2.8 horizontal to 1 vertical (36 percent) or where necessary to achieve a static safety factor of 1.5, measures such as keyway cuts, rock toe buttresses or other techniques shall be used. All organic material shall be removed from the disposal area and the topsoil must be removed and segregated before the overburden is placed in the disposal area. Suitable organic material may be used as mulch or may be included in the topsoil. The spoil shall be transported and placed in a controlled manner, concurrently compacted as necessary to insure long-term mass stability and prevent mass movement. The fill shall be drained and graded to allow surface and subsurface drainage to be compatible with the natural surroundings.

13.5. Drainage - The disposal area shall not contain springs, natural water courses or wet weather seeps unless lateral drains are constructed from the wet areas to the under drains in such a manner that infiltration of the water into the fill shall be prevented. If springs, natural water courses or, wet weather seeps are encountered, a system of under drains shall be constructed from each spring or seepage area as lateral drains to the rock core. If no filter is designed for the under drain, sufficient capacity shall be provided to allow for partial plugging of the drain. No rock shall be used in under drains if it tends to disintegrate or if it is acid-forming or toxic-forming.

13.6. Construction - Construction of the fill shall be as follows:

13.6.1. All areas upon which the fill is to be placed shall first be progressively cleared of all trees, brush, shrubs, and other organic material. This material shall be removed from the fill area. No more than 3.0 acres, excluding roadway for construction of fill, shall be cleared in the valley fill site until the first lift is completed;

13.6.2. A rock core shall be progressively constructed as the layers are brought up through the valley fill. The rock core shall be a minimum of 16 feet in width and composed of rock with a minimum dimension of 12 inches. The rock core shall consist of no more than 10% fines as determined by visual inspection (fines being a material with a dimension of less than 12 inches);

13.6.3. Depositing and compacting the fill in layers shall begin at the toe of the fill. The layers shall be constructed approximately parallel with proposed finish grade. All material shall be deposited in uniform horizontal layers and compacted with haulage equipment.

13.6.4. The thickness of the layers shall not exceed four feet;

13.6.5. During and after construction, the top of the fill shall be graded to drain back to the head of the fill on a slope no greater than 3%. A drainage pocket shall be maintained at the head of the fill at all times to intercept surface runoff. Maximum size of the drainage pocket shall be 10,000 cubic feet. The outer slope shall be no steeper than 2 horizontal to 1 vertical. A 20-foot wide bench shall be installed at a maximum of every 50 feet in vertical height of the fill with a 3% to 5% slope toward the fill area, normal to such, and a 1% slope toward a rock rip-rap channel or natural drainway; and

13.6.6. When construction of each lift (maximum of

every 50 feet in vertical height) of the valley fill is completed, topsoil or other suitable material which will support vegetation shall be spread over the completed slope and bench excluding the rock core. The completed slope and bench shall then be seeded and mulched immediately in accordance with the approved revegetation plans.

13.6.7. Variance - Where it can be demonstrated that other design criteria are justified, certain requirements of this section may be waived. The basis for justification are, but not limited to, land use potential, unavailability of durable rock, and site stability.

38.2b.14. Durable Rock Fills.

14.1. The Director may approve the design, construction, and use of a single lift fill consisting of at least eighty (80) percent durable rock if it can be determined, based on information provided by the operator, that the following conditions exist:

14.1.1. Examination of core borings and the geologic column show that the overburden consists of durable sandstone, limestone, or other durable material in sufficient thickness and amounts to generate spoil material that is eighty (80) percent or greater durable rock. Where the fill will contain non-cemented clay shale, clay spoil, or other nondurable material, such material must be mixed with durable rock in a controlled manner such that no more than twenty (20) percent of the fill volume is not durable rock. Test shall be performed by a Registered Professional Engineer and approved by the Director to demonstrate that no more than twenty (20) percent of the fill volume is not durable rock.

14.1.2. The durable rock shall not consist of acid-producing or toxic-forming material, will not slake in water, and will not degrade to soil material. For purposes of this paragraph only, soil material means material of which at least fifty (50) percent is finer than 0.074 mm, which exhibits plasticity, and which meets the criteria for group symbol ML, CL, OL, MH, CH, or OH, as determined by the Unified Soil Classification System (ASTM D-2487).

14.1.3. The toe of the fill will rest on natural slopes no steeper than twenty (20) percent.

14.2. The fill shall be designed based on the results of sufficient geotechnical investigations of the construction site. The investigation shall include such factors as geologic conditions, soil characteristics, depth to bedrock, locate potential effects of subsidence and a description of materials to be placed in rock cores and drains.

14.3. The design and construction of all durable rock fills must be certified by a registered professional engineer experienced in design and construction of earth and rock embankments.

14.4. The foundation of the fill and the fill shall be designed to assure a long-term static safety factor of 1.5 or greater, and meet an earthquake safety factor of 1.1.

(5) The outer slope or face of the fill shall be no steeper than two (2) horizontal or one (1) vertical (2:1). Terraces shall be constructed on the fill at a maximum of every fifty (50) feet in vertical rise above the toe of the fill. The terraces shall be no less than twenty (20) feet in width and slope toward the fill at a three (3) to five (5) percent grade and slope laterally at one (1) percent grade to discharge channels capable of passing the peak runoff for a one-hundred (100) year twenty-four (24) hour precipitation event.

14.5. All areas upon which the fill is to be placed shall first be progressively cleared of all trees, brush, shrubs, and other organic material which is above ground level; provided that, in critical foundation areas, including, but not limited to, the toe of the fill, seepage or underdrain areas, and downstream portions of the fill that provide a resisting force against massive slope failure, all organic material both above and below the ground surface must be removed. This material shall be disposed of outside the fill area.

14.6. The underdrain system may be constructed simultaneously with excess spoil placement by the natural segregation of dumped materials; provided, that the resulting underdrain system shall be capable of carrying anticipated seepage of water due to rainfall away from the excess spoil fill and from seeps and springs in the foundation of the disposal area and the other requirements for drainage control shall be met.

14.7. Runoff from areas above and adjacent to the fill shall be diverted into stabilized diversion channels, designed and constructed to safely pass the peak runoff from a 100-year, 24-hour precipitation event around or through the fill.

14.8. The grade of the top surface of the completed fill shall not exceed five (5) percent and shall slope toward the drainage channel.

14.9. No permanent impoundments may be constructed on the completed fill except that small depressions may be allowed if they are needed to retain moisture, minimize erosion, create and enhance wildlife habitat, or assist revegetation; and if they are not incompatible with the stability of the fill.

14.10. Notwithstanding any other provisions of these

regulations or the terms and conditions of a permit to the contrary, additional storage capacity or sediment control measures may be required through permit revision if sediment removal performance of the structure(s) during operation and construction of the fill is found to be deficient to the point that significant non-compliance with applicable effluent limits or water quality standards results.

14.11. The following materials are hereby prohibited from being placed, deposited, or disposed of into a durable rock fill or durable rock fill area:

14.11.1. Surface soils, provided that such soils used to establish vegetation on the surface of the fill are not prohibited; provided, however, that such soils may be placed in the fill if accounted for in design and construction as nondurable material and such soils are not deposited in critical zones of the fill;

14.11.2. Mud, silt, or sediment cleaned or removed from mining pits, roadways, sediment control structures and/or other areas of the operation;

14.11.3. Vegetative or organic materials cleared or grubbed from the permit or other areas; and

14.11.4. Coal refuse.

38.2B.15. Revegetation and Standards for Evaluating Vegetative Cover.

15.1. Approval of Private Revegetation Contractor - In the event the operator contracts with a private contractor to carry out the planting, the private revegetation contractor shall first submit to the director a written resume of his past experience and training. On the basis of such resume, he shall be adjudged qualified or not, as the case may be, and so notified by the director in writing. Should experience warrant, a private revegetation contractor may be adjudged disqualified and so notified by the director in writing.

15.2. Objective in Revegetation - The objective in revegetation is to quickly establish a vegetative cover on all disturbed areas to minimize erosion, provide economic benefits, and restore aesthetic appeal. Plants that will give a quick permanent cover and enrich the soil shall be given priority. A temporary or permanent cover should be established by the end of the first growing season and a permanent cover by the end of the second growing season. All plants shall be considered a tool in achieving stabilization and an appropriate land use objective.

15.3. Reference Areas - Success of revegetation shall be

measured on the basis of reference areas approved by the Director.

15.4. Seeding and Planting.

15.4.1. Seasonal Feasibility - Appropriate vegetation shall be planted, seeded, aerial-seeded, or hydro-seeded in accordance with accepted agricultural and reforestation practices when the season is favorable for seed germination and plant survival except as otherwise specified in these regulations.

15.4.2. Minesoil Characteristics - Surface mining of minerals and removal of overburden results in minesoil which varies greatly in fertility, acidity and stoniness. These three characteristics, together with steepness of slope, shall be used in determining characterization for the purpose of establishing vegetation. Premining overburden sampling and analysis or previous experience and correlation data, shall be submitted with the preplan for all acid-producing seams. The plan shall identify toxic strata and provide planned handling and final placement for acid strata. Overburden analysis to be in accordance with standard procedures outlined in Environmental Protection Agency Manual No. 600/2-78-054 (Field & Laboratory Methods Applicable to Overburdens and Minesoils) or other approved methods by the Division of Environmental Protection. Minesoil classification shall be in accordance with Table 6.

15.4.3. Minesoil Analysis - Tests for minesoil acidity, expressed as pH, shall be taken at points distributed uniformly over the disturbed area. Minesoil tests may be made with accepted field indicators or other approved techniques. Minesoils with chemical characteristics that could restrict vegetation establishment and growth shall be analyzed by an approved soils laboratory. The results of these tests shall be filed with the final planting plan.

15.4.4. Function of Annual and Biennial Cover Crops - On areas where excessive erosion is likely to occur, rapid establishment of vegetative cover shall be required. Seeding of annuals and biennials on such areas shall be considered as a means for achieving temporary vegetative cover only and not acceptable in the achievement of permanent cover. See Table 5.

15.4.5. Development of Planting Plan - Planting plans will be a part of the approved reclamation plan. The planting plan will be as follows:

15.4.5.a. A prediction of the minesoil class and the basis for the same;

15.4.5.b. A treatment plan to neutralize acidity;

15.4.5.c. A description of mechanical seed bed preparation;

15.4.5.d. Rate and analysis of fertilization;

15.4.5.e. Rates and types of mulch;

15.4.5.f. Perennial vegetation including herbaceous and woody plants where appropriate, rate and species to be applied;

15.4.5.g. Areas to be planted or seeded to trees and shrubs;

15.4.5.h. Land use objective;

15.4.5.i. Maintenance schedule if appropriate; and

15.4.5.j. Identify who will complete revegetation treatments. Seeding will be concurrent with the operation as mining and backfilling.

15.5. Development of Final Planting Plan - A final planting plan shall be prepared and submitted to the director for his approval within thirty (30) days after the grading and backfilling of the operation have been approved.

15.6. Plant Material Selection and Treatment.

15.6.1. Specifications - All planting plans for woody vegetation will include provisions for herbaceous cover using a suitable mixture from Table One. The following specifications should govern the selection and establishment of seeds and plants used in the revegetation of surface minesoil and based upon the following capability class:

15.6.1.a. On favorable minesoil material, prepared for perennial cover crop use, non-stony and with pH 5.5 or higher, one of the following mixtures should be used:

15.6.1.a.A. Seed mixtures #1, 2, 3, 4, or 5 from Table One, of these regulations should be applied where annual maintenance treatment is assured. Mixture #4 should be applied where the graded portion of minesoil is to be used as a firebreak or occasionally as a haulageway;

15.6.1.a.B. Establishment of grass, legume or perennial grass cover crop should require the following treatment:

15.6.1.a.B.(a). Inoculation of legume seed with proper strain;

15.6.1.a.B.(b). Triple inoculation rate if

hydro-seeded;

15.6.1.a.B.(c). Protection of seeded minesoil area from grazing livestock;

15.6.1.a.B.(d). Application of lime to pH 6.0 for mixture #4, to pH 6.5 to 7.0 for all other mixtures;

15.6.1.a.B.(e). Application of fertilizer will be based on a minesoil test for lime, phosphorus, and potash from a soils lab or will be a minimum of 2UO lbs., ammonium nitrate and 200 lbs. triple super phosphate or equivalent;

15.6.1.a.B.(f). Preparation of seed bed by harrowing, discing or other approved methods; and

15.6.1.a.B.(g). Completion of fall seeding for legumes should be completed by September first.

15.6.1.a.B.(h). Maintenance of cover crop should be carried out by the operator or his assignee until the cover crop is adjudged by the Director to be satisfactorily established and may require the following treatment:

15.6.1.a.B.(h)(A). Maintain pH 6.5 - 7.0 for Mixture;

15.6.1.a.B.(h)(B). Maintain pH 6.0 - 6.5 for Mixture 29 39 4 and 6;

15.6.1.a.B.(h)(C). Maintain pH 5.5 - 6.0 for Mixture 4; and

15.6.1.a.B.(h)(D). Topdress every two years with 400 lbs. per acre 0-20-20 for Mixture 5.

15.6.1.b. On favorable minesoil material prepared for woodland and wildlife use, any one mixture from Table Two of this regulation, along with proportions and treatment prescribed for it, should be selected for use in the direct seeding of herbaceous species and planting of trees and seedlings.

15.6.1.b.A. Establishment of plant growth for woodland cover should require:

15.6.1.b.A.(a). Spring planting of seedlings not later than May 1 and preferably before April 15; and

15.6.1.b.A.(b). Spacing of shrubs and all trees in a pattern eight feet by eight feet apart of 680 trees per acre.

15.6.1.b.A. Establishment of crown vetch-rye grass or Serecia-tall Fescue mixtures for wildlife cover may be done in accordance with Section _____ of this regulation.

15.6.1.c. On moderately favorable minesoil material, prepared for woodland and wildlife use, with pH 5.5 and above, graded but stony, on moderate to steep slopes, non-stony and stony, one of the mixtures with specified proportion and treatment from Table Three, of this regulation should be used.

15.6.1.c.A. Overseeding on moderate to steep slopes on tree planting sites shall be carried out on minesoil in order to prevent siltation, establish ground cover and minimize erosions. Seed one of the mixtures from Table One.

15.6.1.c.B. Establishment of plant growth shall require inoculation of legume seed with proper strain and shall be protected from grazing by livestock. Triple inoculation rate if hydroseeding.

15.6.1.d. On favorable minesoil material prepared for woodland and wildlife use, which includes all extremely steep and/or stony minesoil, one of the mixtures with specified proportions and treatment from Table Three of this regulation should be used.

15.6.1.d.A. Establishment of plant growth should require:

15.6.1.d.A.(a). Broadcasting Mixture 1 and 3 before May 1 and frost seeding mixture by early March.

15.6.1.d.A.(b). Black locust seed must be seventy percent or more viable. All legumes must be inoculated and must be protected from grazing by livestock. Triple inoculation rate if hydroseeding. Mixture No. 1 of Table Three should be used for extremely stony areas when tested acidity indicated a pH of 4.0 or better.

15.6.1.e. Other species of trees, shrubs, grasses, legumes, or vines may be approved by the Director.

15.7. Mulch.

15.7.1. Mulch Specifications - Mulch shall be used on all disturbed areas. Annual grains such as oats, rye, wheat, etc., may be used instead of mulch when it is shown to the satisfaction of the Director that the substituted grains will provide adequate stability and that they will be replaced by species approved for the postmining use. Approved materials and minimum rates to be applied are as found in Table 38-2Ba as

follows:

<u>Material</u>	<u>Rate/Acre</u>
Straw or Hay	1-2 tons - material may be anchored with asphalt emulsion or other techniques approved by the Director
Wood fiber or wood cellulose products	1,000 lbs.
Shredded bark	50 cubic yards

15.7.2. The following materials may be used with wood fiber or wood cellulose on a limited basis upon approval by the Director or his duly authorized agent.

<u>Material</u>	<u>Rate/Acre</u>	<u>Minimum Rate/Acre for Fiber or Wood Cellulose</u>
Genagua 743	25 gallons	500 lbs.
Curason AK or HA	25 gallons	500 lbs.
Aerospray 70	25 gallons	500 lbs.

15.7.3. Any other suitable materials including latex or plastic compounds may be approved by the Director.

15.8. Standards for Evaluating Vegetative Cover.

15.8.1. Final Planting Report - A planting report shall be prepared by the operator and filed with the Director on the prescribed form when the planting of a permit area is completed. All planting reports shall be certified by the operator or by the party with which the operator contracted for planting.

15.8.2. Time for Inspection - The operator shall review all areas he has under bond prior to the recognized spring and fall planting seasons. The operator shall cause those areas deficient of vegetative cover to be treated, graded, seeded, planted, mulched, limed, or whatever, to establish a satisfactory stand of vegetation.

TABLE ONE

WHERE THE POSTMINING LAND USE IS HAY OR PASTURE, OR OTHERWISE REQUIRES HERBACEOUS VEGETATIVE COVER, THE FOLLOWING MIXTURES ARE APPROVED.

1.	Alfalfa	20	lbs.	5.	Crown Vetch	15	lbs.
	Orchardgrass	10	lbs.		Tall Fescue	20	lbs.
					**Weeping Lovegrass	3	lbs.
2.	Birdsfoot Trefoil	10	lbs.	6.	Crown Vetch	15	lbs.
	Tall Fescue	15	lbs.		Rye Grass	15	lbs.
3.	Birdsfoot Trefoil	10	lbs.		**Weeping Lovegrass	3	lbs.
	Orchardgrass	10	lbs.				
4.	Sericea (Hulled)	20	lbs.				
	Red Top	3	lbs.				
	Tall Fescue	15	lbs.				

APPROVED MIXTURES FOR OVERSEEING OF TREE AND SHRUB SEEDLINGS

7.	Tall Fescue	30	lbs.	FOR ELEVATIONS ABOVE 2500			
	Sericea	15	lbs.				
8.	Tall Fescue	20	lbs.	10.	Tall Fescue	20	lbs.
	Rye Grass	10	lbs.		Red Top	4	lbs.
	Sericea	15	lbs.	11.	Tall Fescue	20	lbs.
9.	Tall Fescue	20	lbs.		**Weeping Lovegrass	3	lbs.
	**Weeping Lovegrass	3	lbs.	12.	Tall Fescue	20	lbs.
	Sericea	15	lbs.		Sweet Clover	10	lbs.

* Establishment of vegetation includes liming to pH range 5.5 - 7.0. Application of fertilizer shall be based on soil test results from a soils laboratory. Without a soil test, apply 600 lbs. 10-20-10 or equivalent, and protection from grazing during the seedling state.

** Red Top may be substituted for Weeping Lovegrass for late summer and fall seedings at a rate of 3 lbs. per acre.

TABLE TWO

APPROVED WOODLAND PLANT MIXTURES

(Nursery Grown Seedlings)

- | | | |
|----|---|---|
| 1. | Black Locust (3000')
White Pine | Plant in bands 6 rows or more in width
Black Locust not to exceed 50% |
| 2. | Black Locust (3000')
Virginia Pine | Plant in bands 6 rows or more wide
Black Locust not to exceed more than 50% |
| 3. | Scotch Pine
White Pine
Red Pine (above 2000')
Virginia Pine (below 2500') | Use mixture of two or more if available
Plant in bands 6 rows or more |
| 4. | Black Locust (below 3000')
Tulip Poplar (below 3000')
Sycamore (below 2500')
Red Oak | Use up to one-half locust with one or more of hardwood species. Plant in bands 6 or more rows in each species. |
| 5. | Autumn Olive and adapted pine or hardwoods | Where owner's interest in wildlife improvement, plant in bands of 3 to 6 rows preferable with pines or in blocks of one-fourth acre spaced 600' apart |
| 6. | European Black Alder (below 2500')
Sycamore
Indigo Bush
Autumn Olive | Use these plants where protection from grazing is impractical or protection will not be maintained. For wildlife habitat improvement use 3 to 6 row bands where two or more species are planted. |
| 7. | European Black Alder | Use European Black Alder where pH is near 5.5. |
| 8. | Black Locust | Use only on steep erodible outcrops |
| 9. | Sweet Crab Apple*
Washington Hawthorne*
Indigo Bush or Autumn Olive | On bench of areas where owners primary interest is wildlife habitat improvement, plant in clumps of 12 spaced 10' to 12' apart. Clumps should be spaced 200' to 300' apart, plant in between with pine, |

- | | | |
|-----|---------------------------------|---|
| 10. | Blackberry* | Plant on bench spaced 6 x 6 in blocks 100 plants per block. |
| 11. | Grey Dogwood*
Silky Cornell* | On bench near water impoundments spaced 8 x 8. |

*Should be planted only on the more favorable sites. Preferably a north or northeastern aspect with a pH of 5.5 or above.

TABLE THREE

*APPROVED MIXTURES HERBACEOUS AND WOODY SPECIES FOR DIRECT SEEDING

1.	Tall Fescue	30 lbs	
	Sericea	15 lbs.	
	Black Locust**	3 lbs	
2.	Tall Fescue	20 lbs	
	Rye Grass	10 lbs.	
	Sericea	15 lbs.	
	Black Locust**	3 lbs	
3.	Tall Fescue	20 lbs	
	Weeping Lovegrass	3 lbs.	
	Sericea	15 lbs	
	Black Locust**	3 lbs	
4.	Tall Fescue	30 lbs.	Better suited to higher elevations above 2500'
	Birdsfoot Trefoil	10 lbs	
	Black Locust**	3 lbs	
5.	Tall Fescue	20 lbs	Better suited to higher elevations to 2500'
	Red Top	3 lbs	
	Birdsfoot Trefoil	10 lbs.	
	Black Locust**	3 lbs	

* Application of fertilizer shall be based on soil test results from a soils laboratory. Without a soil test, apply a minimum of 200 lbs. ammonium nitrate and 200 lbs. triple super phosphate. Equivalent amounts of nitrogen and phosphorus is acceptable.

** Black Locust seed may be omitted on the bench areas or where erosion is not a serious problem, or at elevations above 2000', 1/4 lb./acre Virginia Pine; 1/4 lb/acre White Pine, and 3 lbs./acre Japonica Intermedia may be substituted for Black Locust.

TABLE FOUR

APPROVED MIXTURES FOR WATERWAYS, DIVERSIONS DRAINAGE STRUCTURES, HAULAGEWAYS, HIGHWALL ACCESS, ETC.

1.	Tall Fescue	50 lbs
	Birdsfoot Trefoil	10 lbs
	Red Top	3 lbs.
2.	Perennial Rye Grass	20 lbs
	Tall Fescue	30 lbs
	Birdsfoot Trefoil	10 lbs.
	Red Top	3 lbs
3.	Tall Fescue	40 lbs.
	Crown Vetch	15 lbs.
	Red Top	3 lbs
4.	Tall Fescue	50 lbs
	Crown Vetch	15 lbs.
5.	Tall Fescue	30 lbs.
	Reed Canarygrass	20 lbs
	Red Top	3 lbs.

NOTE: Weeping lovegrass at 3 lbs. per acre may be substituted for Red Top for spring and early summer seedlings on well drained areas.

* Application of fertilizer shall be based on soil test results from a soils laboratory. Without a soil test, apply a minimum of 200 lbs. amonium nitrate and 200 lbs. triple super phosphate. Equivalent amounts of nitrogen and phosphorus fertilizer is acceptable.

TABLE FIVE

ANNUAL AND BIENNIAL COVER CROPS FOR TEMPORARY COVER

GRASSES	RATE - POUNDS/ACRE	SEASON
Balbo Rye	30 - 60	Fall
Abruzzi Rye	30 - 60	Fall
Wheat	30 - 60	Fall
Oats	30 - 60	Fall
Japanese Millet	10 - 15	Summer
Millets - German, Foxtail	10 - 15	Summer
Sudan Grass - Sorghum Hybrid	10 - 20	Summer
Pearl Millet	10 - 20	Summer
Sudan Grass	10 - 20	Summer
Annual Rye Grass	10 - 15	Spring or Fall
LEGUMES		
Kobe Lespedeza	5 - 10	Summer
Korean Lespedeza	5 - 10	Summer
Hairy Vetch	20 - 40	Fall
Sweet Clover	10 - 20	Summer
FORBS		
Buckwheat	30 - 60	Summer

Application of fertilizer shall be based on soil test results from a soils laboratory. Without a soil test, apply a minimum of 200 lbs- amonium nitrate and 200 lbs. triple super phosphate. Equivalent amounts of nitrogen and phosphorus fertilizer is acceptable.

38.2B.16. Mapping.

16.1. Maps shall be prepared from enlarged 7.5 minute USGS quadrangle, or aerial mapping showing equivalent information. The scale of these maps shall be 500' to the inch or less. Modification, progress, and final maps shall be of the same scale as the approved pre-plan map.

16.2. Map Size - All maps and plans shall be submitted on standard print paper, 24 inches by 36 inches or less. If supplementary maps or plans are attached, match lines shall be used.

16.3. Color Code - A color code shall be used in preparing all maps to indicate critical features of the permit area as follows:

- 16.3.1. Red shall indicate mineral to be removed;
- 16.3.2. Yellow shall indicate the total disturbed land;
- 16.3.3. Blue shall indicate water and drainage;
- 16.3.4. Brown shall indicate special uses;
- 16.3.5. Green shall indicate regrading.

38.2B.17. Approval of Person to Prepare a Complete Reclamation and Mining Plan - Any person preparing a complete reclamation and mining plan for the area of land to be disturbed as required by the provisions of Article 4, Chapter 22, Section (9), Code of West Virginia, as amended, or by the regulations, shall first submit to the director a written resume of his past experience and training. A written test may also be administered. On the basis of such resume and written test, he shall be adjudged qualified or not as the case may be, and so notified by the Director in writing.

38.2B.18. Permit or End of Strip Marker - A two-inch (2") pipe shall be driven into the earth with a minimum of three feet (3') exposed to permanently mark the beginning and ending points of the area under permit. It shall be identified by painting the exposed portion of the pipe red. Any suitable substitute may be approved. The assigned permit number shall be permanently affixed to the permit marker or end of strip marker.

38-2B.19. Proof of Insurance - Each applicant or permittee shall have on file in the office of the Director a true copy of an

original policy of insurance issued by an insurance company authorized to do business in this state covering all surface-mining operations of the of the applicant or permittee in this state and affording personal injury protection in an amount not less than one hundred thousand dollars and property damage including blasting damage, protection in an amount of not less than three hundred and ten thousand dollars. Each permit application or permit renewal application shall contain an original Certificate of Insurance reflecting that this original policy of insurance is still in effect.

38-2B-20. Mining within 100 feet of a Public Road. - The Director shall not give approval to surface mine any area which is within one hundred feet of any public road, unless adequate screening and other measures approved by the Director are to be utilized and the permit application so provides, except that the one-hundred-foot restriction aforesaid shall not include ways used for ingress and egress to and from the minerals as herein defined and the transportation of the removed minerals and except that the Director may permit the roads to be relocated or the area affected to lie within one hundred feet of the public road if, the Director shall:

20.1. Where the public road is to be closed or relocated, require the applicant to obtain necessary permission from the authority with jurisdiction over the public road.

20.2. Provide an opportunity for a public hearing in the locality of the proposed mining operation for the purpose of determining that the interests of the public and affected landowners will be protected.

20.3. Upon request for a public hearing by any person, require the applicant to hold a public hearing and give notice of the date, time, and place of the hearing in a newspaper of general circulation in the area of the proposed mining operation at least two (2) weeks in advance of the hearing date.

20.4. Make a written finding within thirty (30) days following the hearing or after the close of the comment period as to whether or not the interests of the public and the affected landowners will be protected. Each participant of record at the public hearing shall be notified of the Director's findings.

38.2B.21. Extraction of Coal incidental to the extraction of other minerals - For those surface mining operations which include the extraction of coal incidental to the extraction of other minerals, as provided for in 22-3-3 (u), coal production shall not exceed sixteen and two-thirds percent of the tonnage of all minerals produced for use or sale. Tonnage reports for coal and non-coal mineral production shall be submitted to the Director on a quarterly calendar basis. The tonnage of allowable

coal production shall be calculated based upon the tonnage of all minerals produced during the current and previous three calendar quarters.

38.2B.22. Other Mining Operations on Surface Mined Areas.

22.1. Director's Approval - Reclamation plans for other mining operations to be carried out on a surface mined area on which the regrading, backfilling or revegetation have not been completed, shall require prior approval by the director.

22.2. Application Requirements - Application for approval of such reclamation plans shall be accompanied by the following:

22.2.1. Application form to be prescribed by the director;

22.2.2. A map of the surface mining permit area, showing the portion of land to be disturbed by the other mining operations, including haulageways;

22.2.3. A performance bond or equivalent as provided in Section sixteen (16), Article 4, Chapter 22, Code of West Virginia, as amended, the requirement for the first acre or fraction thereof of disturbed lands being one thousand dollars (\$1,000) and for each additional acre or fraction thereof of disturbed land and additional one thousand dollars (\$1,000); and

22.2.4. Written permission for other mining operations from the owner of the surface rights and/or the owner of the mineral rights of the controlling parts of the same.

38.2B.23. Applicability of Code and Regulations - All requirements for backfilling, regrading, revegetation and bond release procedures as set forth in Article 4, Chapter 22, Code of West Virginia, as amended, and in Section eight (8) and nine (9) of the regulations of the Reclamation Commission shall apply with equal force to the reclamation of disturbed areas from other mining operations.

38.2B.24. Modifications/Incidental Boundary Revisions/Permit Transfers/Operator Reassignments.

24.1. Should the director or applicant determine that modifications to the approved permit are necessary or desirable because of geologic structure, topography, particular watershed or permit conditions, the applicant may apply to the director on forms prescribed by the director for modification to the approved permit. All modification approvals must be in conformity with

Article 4, Chapter twenty-two (22), Code of West Virginia, as amended.

24.2. Modifications to the approved permit which involve incidental boundary revisions shall be limited to minor shifts or extensions of the permit boundary into non-mineral removal areas or areas where any mineral extraction is incidental to or of only secondary consideration to the intended purpose of the incidental boundary revision (IBR), unless, all public notice requirements and bonding requirements are in conformity with Article 4, Chapter twenty-two (22), Code of West Virginia, as amended.

24.3. Applications for ownership transfer of permits may be made to the director on forms prescribed by the director. All permit transfer approvals must be in conformity with Article 4, Chapter twenty-two (22), Code of West Virginia, as amended. The director may require a demonstration that the applicant has the financial resources and professional ability to carry out the approved mining and reclamation plan of the approved permit. No transfer of a permit shall be approved by the director to any applicant who is permit blocked under Articles 3 or 4, Chapter twenty-two (22), Code of West Virginia, as amended.

24.4. Applications for assignment of an operator other than the permittee for a permit may be made to the director on forms prescribed by the director. All operator assignment approvals must be in conformity with Article 4, Chapter twenty-two (22), Code of West Virginia, as amended. No application for assignment of an operator for a permit shall be approved by the director to any applicant who is permit blocked under Article 3 or 4, Chapter twenty-two (22), Code of West Virginia, as amended.

38.2B.25. State and Federal Compliance - The issuance of a prospecting or surface mining permit pursuant to Article 4, Chapter 22, Code of West Virginia, as amended, and any rules and regulations promulgated thereunder authorizes the operations covered by said permit, but does not release the permit holder from any other legal duties imposed by the laws of this State of these United States.

BRIEFING DOCUMENT - RULES AND POLICY

BUREAU OF ENVIRONMENT DIVISION OF ENVIRONMENTAL PROTECTION

July 13, 1994

- A. AUTHORITY: West Virginia Code: §22-1-3, §22-1-3a, and §22-4-18
- B. SCOPE This rule repeals the existing rule relating to the surface mining of minerals other than coal (quarry operations). The new rule expands the scope of the existing rule to include more comprehensive requirements for reclamation, drainage control, blasting etc.
- C. JUSTIFICATION Recent attention has been brought to bear on the environmental impacts of quarrying operations in certain areas of the State. Particular emphasis has been placed on use and detonation of explosives within the proximity of residential dwellings and commercial, agricultural and industrial sites. Other concerns have been raised regarding water quality and erosion from unreclaimed waste rock areas. Proposed legislation has been under consideration for the past three years, but bills which have been introduced have not yet been passed. These rules will provide some relief for environmental concerns until legislative action can be taken on pending bills.
- D. CSR CITE CSR 38-2B
- E. FEDERAL CITE There are no federal counterpart regulations, however Congressional action is pending for a federal Non-Coal Minerals Act.
- F. TIME SCHEDULE July 13, 1994 File with the Secretary of State - Public Review
August 15, 1994 File agency approved rule with Legislative Rule-Making Review Committee.

Prepared By:

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Approved By:

John C. Hayes, Jr.

Authorized By:

[Signature]

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