

DEPARTMENT OF ENVIRONMENTAL QUALITY

OFFICE OF OIL, GAS, AND MINERALS

FERROUS MINERAL MINING

(By authority conferred on the environmental quality by section 63103 of 1994 PA 451, MCL 324.63103)

PART 1. GENERAL PROVISIONS

R 425.1 Purpose; other laws neither superseded nor contravened.

Rule 1. These rules implement the act and do not supersede or contravene any provisions of law regarding the inspection or regulation of mining, water and air pollution, soil erosion and sedimentation, or water impoundments.

History: 1979 AC.

R 425.2 Definitions.

Rule 2. (1) "Abandoned" or "abandonment" means termination of mining operations, or cessation of use of the mining area or any portion thereof, with intent not to resume.

(2) "Act" means Act No. 92 of the Public Acts of 1970, as amended, being §425.181 et seq. of the Michigan Compiled Laws. Terms defined in the act have the same meaning when used in these rules.

(3) "Environment plan" means an operator's written proposal for reclamation of the mining area or portion thereof.

(4) "Lean ore" means a mineral which is not recoverable under existing economic conditions or technology.

(5) "Reclamation" means that reconditioning or rehabilitation of the mining area or portions thereof for useful purposes and the protection of the natural resources, including the control of erosion and the prevention of land or rock slides and air and water pollution.

(6) "Reclamation plan" means an environment plan that is approved by the supervisor.

(7) "Surface overburden" means earth materials, including sand, gravel, and clay, lying above bedrock.

History: 1979 AC.

R 425.3 Exploration.

Rule 3. Removal of overburden and extraction of limited amounts of materials is not open-pit mining when done only for the purpose of exploration and to the

extent necessary to determine the location, quantity, or quality of a mineral deposit. If the disturbed land does not become a part of a mining operation within 2 years, the operator shall grade and revegetate within practical limitations and in a manner acceptable to the supervisor.

History: 1979 AC.

R 425.4 Notice of removal of materials.

Rule 4. (1) An operator proposing to remove materials in connection with the production or extraction of minerals by open-pit mining methods shall submit written notice to the supervisor as follows:

(a) At least 30 days prior to the commencement of mining within a new mining area.

(b) Within 30 days of a change of ownership in an ongoing operation.

(2) The notice shall include the following:

(a) Name and address of operator.

(b) Mineral to be mined.

(c) Location of mining property by fraction of section and township and range.

(d) For new operations, the date mining will commence.

(e) Name, address, and telephone number of person with official authority to represent operator in reclamation matters.

History: 1979 AC.

R 425.5 Annual plan map.

Rule 5. (1) An accurate plan map on a topographic base, with an appropriate scale as approved by the supervisor, shall be submitted in duplicate to the supervisor annually on or before March 15.

(2) The map shall show the following as of December 31 of the previous year, or as near to December 31 of the previous year as operations permit, color-coded and with legend, so as to distinguish:

(a) Location and boundary of the mining area.

(b) Mine plant or plants.

(c) Open pit or pits.

(d) Surface overburden stockpiles.

(e) Waste rock stockpiles.

(f) Lean ore stockpiles.

(g) Streams, lakes, and reservoirs.

(h) Tailings basins.

(i) Roads.

(j) Sequential numbers or letters or other method, as approved by the supervisor, permanently assigned to portions of the mining area which have been abandoned prior to abandonment of the total mining operation.

(k) Changes in the mining area during the preceding year, indicated by vertical (north-south) crosshatching or other method as approved by the supervisor.

(l) Anticipated changes in the mining area during the current year, indicated by horizontal (east-west) crosshatching or other method as approved by the supervisor.

(m) Elevations of stockpiles and tailings basins.

(n) Drainage on and away from the mining area, showing directional flow of water in drainage ways, natural watercourses, and streams, intermittent and flowing, including discharge from the mining operation.

(o) Name of the geologist, engineer, or surveyor responsible for the preparation of the map.

(p) Date of preparation.

(3) The map shall be accompanied by a report on any reclamation work accomplished, or experimental reclamation work performed, during the preceding year.

History: 1979 AC.

R 425.6 Notice of abandonment; evidence of continuing use.

Rule 6. (1) An operator shall submit written notice to the supervisor within 6 months of the abandonment of the mining area or any portion thereof.

(2) When activities on or use of the mining area, or any portion thereof, have ceased for more than 1 year, or when, by examination of the premises or other means, the supervisor determines that the mining area or any portion thereof has in fact been abandoned by an operator, the supervisor shall give the operator written notice of his intention to declare the mining area or portion thereof abandoned. Determinations by the supervisor shall be made on sound mining practices.

(3) Within 30 days following receipt of the notice, the operator shall have an opportunity to submit evidence that the use of the mining area or portion thereof is continuing. If the supervisor finds the evidence satisfactory, he shall not make the declaration.

History: 1979 AC.

R 425.7 Report of reclamation activities; statement; accompanying data.

Rule 7. Within 30 days after abandonment of the mining area or any portion thereof, and annually thereafter on or before March 15 until the reclamation is completed and approved by the supervisor, an operator shall submit to the supervisor a detailed report of reclamation activities, completed during the preceding year, and a statement of the amount and nature of reclamation to be performed during the current year. The report shall be accompanied by maps and any other data which clearly demonstrate the progress and success of reclamation activities.

History: 1979 AC.

R 425.8 Environment plan.

Rule 8. (1) Upon request of the supervisor, an operator shall submit his long-range environment plan for the mining area.

(2) An operator, on his own initiative, may submit an environment plan covering the mining area or any portion thereof to the supervisor at any time prior to abandonment.

(3) An environment plan shall include the following:

(a) A detailed description of the mining area.

(b) The reclamation problems involved.

(c) The operator's plan of action to prevent erosion and pollution, to attain revegetation, and to achieve the ultimate reclamation of the mining area in accordance with the purposes and requirements of the act and the rules adopted thereunder.

(d) An estimate time schedule for completion of the plan, and the proposed purpose for which the land is to be used upon completion.

(e) Estimated cost of reclamation.

(f) Other pertinent information that the supervisor may deem necessary.

(4) If circumstances warrant, or if development of an environment plan is dependent upon unknown factors which cannot or will not be determined except during the progress of the operation, a partial plan may be submitted and supplemented as new plans are developed.

(5) If the surface landowner and the operator are 2 separate persons, the surface landowner shall be given an opportunity to comment on the operator's environment plan before the operator submits the plan to the supervisor.

History: 1979 AC.

R 425.9 Evaluation of environment plan.

Rule 9. (1) Upon receipt of an environment plan, the supervisor shall evaluate it in terms of the reclamation required by the act. The supervisor may consult with and obtain assistance of other divisions of the department in the evaluation process. The supervisor may reject a plan or any part thereof, and shall give reasons in writing, together with recommendations for modification of a plan to meet his objections, if the reclamation specified by a plan does not conform to the requirements of the act and these rules, or if, in the opinion of the supervisor, it is not feasible or is otherwise undesirable because of the following:

(a) Erosion is likely to occur in the sloping, terracing, or other treatment of stockpiles and tailings basins, which may result in injury or damage to fish and wildlife or the pollution of public waters or which may cause injury to the property or person of others.

(b) Vegetation or other practical treatment of tailings basins and stockpiles, upon becoming permanently inactive, is not satisfactory.

(c) The surface overburden banks of open pits in rock, and the entire bank of open pits in unconsolidated materials, upon their abandonment will not be stabilized.

(d) The cleanup of plantsite and mining areas, and the removal of debris therefrom on termination of the mining operation, will not be satisfactory.

(2) If the supervisor rejects an environment plan, an operator may resubmit the plan as revised so as to meet the supervisor's objections.

(3) If an environment plan is satisfactory, the supervisor shall approve it and promptly notify the operator by written statement that compliance with the plan by the operator fulfills the requirements of the act with respect to the mining area or any portion thereof involved. The approval of an environment plan for a long-lived mining operation may be conditioned on periodic review in light of new research and changed reclamation technology. An approved environment plan shall be referred to as the reclamation plan.

(4) A reclamation plan may be modified at any time by mutual consent of the supervisor and operator to adjust to changed conditions or technology, or to correct an oversight.

(5) The supervisor may modify the reclamation plan when:

(a) Modification of the plan is necessary so that it will conform with existing laws.

(b) The supervisor determines that the previously approved plan is clearly impossible or clearly impractical to implement and maintain.

(c) The supervisor determines that the previously approved plan is obviously not accomplishing the intent of the act.

(6) When an operator disposes of his interest in a mining area prior to approval of reclamation by sale, lease, assignment, termination of lease, or otherwise, the supervisor may release the operator from the duties imposed upon him by the act and rules as to the operation, but only if the successor operator or owner assumes the obligations of the former operator with reference to the reclamation of the mining area.

History: 1979 AC.

R 425.10 Conducting reclamation activities concurrently with mining operations.

Rule 10. Reclamation activities, particularly those relating to control of erosion and air and water pollution, to the extent feasible, shall be conducted by the operator concurrently with the mining operation, and in any event shall be initiated at the earliest possible time after abandonment of any portion of the mining area.

History: 1979 AC.

R 425.11 Reclamation upon termination or abandonment.

Rule 11. (1) An operator shall remove all worthless debris and rubbish from the plantsite and mining area within 1 year of the date of termination of operations or abandonment of the property.

(2) A mining area shall be reclaimed by an operator pursuant to the act, these rules, and the reclamation plan within 2 years after abandonment or within the time set forth in the operator's reclamation plan approved by the supervisor.

(3) Upon written request of an operator, the supervisor may grant an extension of the reclamation period if necessary to accomplish acceptable reclamation.

History: 1979 AC.

R 425.12 Notice and approval of completed reclamation.

Rule 12. (1) An operator shall submit written notice to the supervisor upon completion of reclamation work on the mining area or portions thereof.

(2) The supervisor shall proceed promptly to make his determination as to the approval of the reclamation work and shall notify the operator in writing of either the approval of the work or all reasons for disapproval. The supervisor may consult with and obtain the assistance of other divisions of the department in making his determinations.

(3) Approval of vegetative cover shall not be granted until the planting has survived at least 2 growing seasons with reasonable assurances of being self-sustaining.

History: 1979 AC.

R 425.15 Surety or security bond.

Rule 15. (1) The supervisor, if he has reasonable doubts as to an operator's financial ability to comply with the rules as to actions to be taken after completion of mining operations, or any phase thereof, may require an operator to file a surety bond in an amount equal to the expected cost of reclamation for each acre, or fraction thereof, of the area subjected to mining.

(2) In determining the amount of the surety bond or security bond the supervisor shall take into consideration the character and nature of the lands to be reclaimed, the future suitable use of the land involved, and the cost of the reclamation to be required.

(3) A security bond in the amount equal to the required surety bond may be deposited in lieu of a surety bond. A security bond shall consist of cash or negotiable securities and shall be deposited with the department of treasury. The securities shall be registered in the name of the state treasurer, who shall charge a fee sufficient to reimburse him for not less than actual and necessary expenses incurred in connection with the deposits.

(4) The supervisor shall have reasonable doubts as to an operator's financial ability to comply with the rules as to actions to be taken after completion of mining operation or any phase thereof when, upon the request of the supervisor, the operator cannot demonstrate that he has the financial ability to perform the reclamation as required by the act and rules.

History: 1979 AC.

R 425.16 Liability on surety or security bond.

Rule 16. (1) Liability on a surety bond or security bond is conditioned upon compliance with the act and these rules, and continues until the mining area reclamation is completed and approved by the supervisor.

(2) The supervisor shall advise the surety and the principal when liability is terminated on a bond filed for the portion or the whole of the mining area reclaimed.

A security bond deposited with the state treasurer shall be released only upon written direction of the supervisor.

(3) The supervisor shall look to the surety or the security bond for correction of unsatisfactory conditions not otherwise corrected, and all expenses shall be paid through the surety or security bond in case of default by the principal.

History: 1979 AC.

PART 2. RECLAMATION OF OPEN PITS

R 425.21 Stockpiling of surface overburden.

Rule 21. Unless otherwise authorized by the supervisor, surface overburden removed in the development of an open pit shall be stockpiled separately from other materials.

History: 1979 AC.

R 425.22 Surface overburden banks.

Rule 22. Surface overburden banks shall be sloped at an angle which will minimize erosion, promote vegetation, and be consistent with a proposed use of the area. The bank, or that portion above the projected level of a body of water formed in the open pit, shall be stabilized by the planting of a vegetative cover appropriate to a future use of the land.

History: 1979 AC.

R 425.23 Rock banks.

Rule 23. (1) Pit banks in rock shall not have a prescribed angle of slope, but precautions shall be taken to provide adequate safety.

(2) Where, upon termination of mining operations, a body of water of sufficient area and depth results which is used for residential, recreation, or wildlife purposes, if natural conditions do not exist, portions of the solid rock bank shall be stepped or other measures taken to permit a person to escape from the water.

History: 1979 AC.

R 425.24 Sloping and grading within open pit.

Rule 24. Unless it is anticipated that an open pit will be flooded after abandonment, any waste rock or residual materials within the pit shall be sloped and graded so as to promote regeneration of vegetation.

History: 1979 AC.

R 425.25 Backfilling of pit; approval of sanitary landfill.

Rule 25. Backfilling of a pit is not required, but any backfilling shall be with nontoxic, nonflammable, noncombustible solids, unless approved for a sanitary landfill. Plans for use as a sanitary landfill shall be accompanied by written approval of the appropriate state agency.

History: 1979 AC.

PART 3. RECLAMATION OF STOCKPILES

R 425.31 Top surface of stockpile.

Rule 31. The top surface of a stockpile shall be reduced to a topography which provides proper drainage and favorable conditions for revegetation, minimizes erosion, and is consistent with a future sequential use of the mining area.

History: 1979 AC.

R 425.32 Surface overburden stockpiles.

Rule 32. (1) Surface overburden stockpiles shall be sloped at an angle which minimizes erosion, promotes vegetation, and is consistent with a future use of the mining area.

(2) Where substantial natural vegetation is not expected within 5 years, or where erosion is occurring, or where the supervisor finds erosion likely to occur, which results or may result in injury or damage to fish and wildlife, the pollution of air or water, or which is causing or might cause injury to the property or person of others, surface overburden stockpiles shall be stabilized by planting with a vegetative cover, or by other treatment, to prevent erosion or pollution or injury.

History: 1979 AC.

R 425.33 Rock or lean ore stockpiles.

Rule 33. (1) Rock or lean ore stockpiles shall be sloped at an angle to minimize the possibility of land or rock slides and to be consistent with a future use of the mining area.

(2) Unless otherwise authorized by the supervisor, waste rock stockpiles shall be covered with surface overburden sufficient to provide for vegetation, particularly on the slopes or surfaces visible from public roads.

History: 1979 AC.

R 425.34 Stockpiles erosion, or sliding.

Rule 34. Where a stockpile is eroding or sliding and resulting in injury or damage, or the operator has reason to believe that erosion or sliding may result in injury or damage to fish and wildlife, the pollution of public waters, injury to persons or damage to adjacent property not intended for use in mining, or where the supervisor finds that injury or damage is likely to occur, the operator shall take immediate steps, such as grading, sloping, removal, or other stabilization, to correct the condition.

History: 1979 AC.

R 425.35 Acid-forming, toxic, flammable, or combustible material.

Rule 35. All acid-forming, toxic, flammable, or combustible material from the mining process shall be stockpiled so as to minimize erosion by air and water and to prevent pollution of the air and surface and ground water. Preventive measures required by the supervisor may include covering the piles with clean fill or mixing with them a material that is not acid-forming, toxic, flammable, or combustible and graded so that surface water drains away from disposal area.

History: 1979 AC.

PART 4. RECLAMATION OF TAILINGS BASINS AND AUXILIARY LANDS

R 425.41 Tailings basin dikes.

Rule 41. (1) Before a person constructs a dike or dam for a tailings basin, including an impoundment of water for clarification or reuse, that person shall determine whether Act No. 184 of the Public Acts of 1963, as amended, being §281.131 et seq. of the Michigan Compiled Laws, or Act No. 346 of the Public Acts of 1972, being §281.951 et seq. of the Michigan Compiled Laws, is applicable.

(2) If not constructed of concrete, asphalt, or a similar material, a dike or dam of a tailings basin, including an impoundment of water for clarification or reuse, shall be constructed so that the outer face is capable of being stabilized by vegetation or other treatment to the satisfaction of the supervisor.

(3) Where erosion of a dike of a tailings basin, including an impoundment of water for clarification or reuse, is occurring, or is likely to occur, and where that erosion results or may result in loss of the confined tailings, injury or damage to fish or wildlife, the pollution of air or water, or which might cause injury to the property or person of others, the dike shall be repaired. Earthen dikes shall be stabilized by planting with a vegetative cover or by other treatment to the satisfaction of the supervisor.

History: 1979 AC.

R 425.42 Tailings basin drainage system.

Rule 42. A suitable system shall be constructed to regulate or control drainage of water, including surface run-off, from within the diked area of a tailings basin to prevent breaching of the dikes, both during and after termination of the mining operation. The system may consist of, but is not limited to, decant towers, erosion-resistant spillways, or solid rock ledge overflow.

History: 1979 AC.

R 425.43 Stacked tailings.

Rule 43. Stacked tailings within a tailings basin shall be reduced to a slope which will permit effective vegetation or other treatment for the control of erosion.

History: 1979 AC.

R 425.44 Stabilization of tailings basin.

Rule 44. (1) Where substantial natural vegetation is not expected within 5 years after abandonment, and where research reveals that vegetation can be accomplished within practical limitations, that portion of a tailings basin not covered by water shall be planted with a vegetative cover appropriate to a future use of the land and to prevent air and water erosion and pollution. Vegetation which has potential for providing a rapid, permanent, adequate, economical cover shall be given priority.

(2) Where vegetation reasonably cannot be accomplished within practical limitations, the tailings basin shall be stabilized by other treatment to prevent air and water erosion and pollution.

History: 1979 AC.

R 425.45 Dike protection.

Rule 45. If a substantial area and depth of water are to remain within a diked area of a tailings basin after abandonment, that portion of the inner face of the dike which might be subject to erosion by wave action shall be protected by riprap or other erosion-resistant solid cover.

History: 1979 AC.

R 425.46 Borrow pits.

Rule 46. (1) The banks of borrow pits in the mining area used for dike or other construction, and located outside the tailings basin, shall be sloped at an angle which will minimize erosion and promote vegetation.

(2) Where substantial natural vegetation is not expected within 5 years, or where erosion is occurring, or the supervisor finds it likely to occur, which results or may result in injury or damage to fish and wildlife or the pollution of air or water, the pit shall

be planted with a vegetative cover appropriate to a future use of the land and to prevent erosion.

History: 1979 AC.

R 425.47 Abandoned roads.

Rule 47. Abandoned roads in the mining area, upon termination of the mining operation, shall be graded or otherwise prepared to minimize erosion and to promote vegetation. If necessary, abandoned roads shall be stabilized by the planting of an appropriate vegetative cover.

History: 1979 AC.

R 425.48 Investigation and inspection of mining areas.

Rule 48. Investigation and inspection of mining areas by the supervisor or his authorized representative may include, but not be limited to:

- (a) Inspection of all mining areas.
- (b) Taking photographs.
- (c) Taking and removal of soil and plant samples.

History: 1979 AC.

R 425.49 Hearings and judicial review.

Rule 49. (1) An interested person who feels aggrieved by an action or inaction of the supervisor may request a contested hearing on the matter involved. Also, the supervisor on his own motion may commence a hearing for the purpose of receiving information before issuing an order. The hearing shall be conducted by the supervisor in accordance with provisions for contested cases in Act No. 306 of the Public Acts of 1969, as amended, being §24.201 et seq. of the Michigan Compiled Laws.

(2) A determination, action, or inaction by the supervisor following the hearing shall be subject to judicial review as provided in Act No. 306 of the Public Acts of 1969, as amended.

History: 1979 AC.