

DEPARTMENT OF MINES, MINERALS AND ENERGY

DIVISION OF MINERAL MINING

COMMUNICATIONS MEMORANDUM 01-93

March 20, 1993

REFERENCE: Section 3.6.4a Reclamation Schedule—Mineral mining Regulations, page 6 to 22.

Reclamation Schedule. Shall include a statement of the planned land use to which the disturbed land will be returned through reclamation and the proposed actions to assure suitable reclamation. The method of grading, removal of metal, lumber, and debris, including processing equipment, buildings, and other equipment relative to the mining operation, seeding, fertilizing, and liming shall be specified.

INQUIRY: Mineral mining operators are interested in on-site disposal of on-site generated mineral mine wastes. A simplified procedure for such disposal has been developed through cooperative efforts of the Department of Waste Management and the Department of Mines, Minerals and Energy.

REVIEW: Regulation 3.6.4a requires that the Operation/Reclamation Plan detail disposal and handling of metal, lumber, debris, equipment and buildings, or in other words, mine generated wastes.

Some of these waste items previously have not been clearly exempted from the Department of Waste Management (DWM) regulations, and accordingly, disposal plans have basically involved placement in a DWM approved landfill.

The Department of Waste Management has promulgated new regulations, which will become effective on March 8, 1993. These new regulations provide for a DWM exemption for certain on-site generated mine wastes and allow for on-site disposal, provided the disposal is authorized by the DMM mining permit.

These wastes include:

Drill steel	Tree stumps/land clearing debris
Crusher liners	Large off-the-road (OTR) tires
Conveyor belting	Scrap metal/wood
Steel cable	Steel reinforced air hoses
Screen cloth	Broken concrete/block
Punch plate	V-belts

DIVISION

DIRECTIVE: Mine site disposal of certain on-site generated mine wastes can take place under the authority of Mineral Mining Regulation 3.6.4a and the attached guidelines.

Before any mine site disposal of these wastes begins, the operator must amend the existing permit or detail the activity in any new application for a mining permit. Information required for permit approval is detailed in the attached guidelines.

No on-site disposal may take place prior to DMM approval of the appropriate Operation/Reclamation Plan.

Questions regarding mine site disposal and the permitting and amendment process may be directed to the site Mine Inspector or Mark Goff at the Division of Mineral Mining Office at (434) 329-0602.

This memorandum and the attached guidelines apply only to on-site generated wastes.

Attachment

GUIDELINES FOR ON-SITE DISPOSAL OF ON-SITE GENERATED SOLID WASTES

General

1. Existing permits must be amended prior to on-site disposal of on-site generated bulky mineral mining wastes as enumerated below. New applications for permits should detail any on-site disposal so future amendments will not be necessary.
2. There must be compliance with all existing operating and permit requirements.
3. Operators should recycle wastes to the maximum extent feasible and possible.
4. No garbage or common wastes such as empty oil containers, filters, liquids, etc. should be placed in the on-site disposal area. These materials should be placed in a permitted off-site waste disposal facility.
5. The disposal site should be properly maintained. All waste materials should be strategically placed to maximize storage volume and to provide special handling as required by the different waste categories.
6. The operator should clearly designate the area to be used for on-site disposal. In addition, the operator should comply with the following conditions:
 - a. The disposal area should be shown on the permit map.
 - b. The disposal site should be in an area that will not be further disturbed by mining.
 - c. The disposal site should be in an area that is not likely to be disturbed during implementation of the post-mining land use as designated in the approved reclamation plan.
 - d. The disposal area should be located as far from streams, water bodies, wells, etc. as possible, but in no case should be less than 100 feet from a surface body of water, less than 200 feet from a well, spring or other groundwater source of drinking water, or less than 50 feet from any public road right-of-way.
 - e. The disposal area should be located in the most impervious rock or soils available.
 - f. All disposal areas should be on permitted property and should be properly bonded.
 - g. All completed disposal areas should be reclaimed in accordance with applicable mining standards as well as with any additional standards set forth in these guidelines.
7. The operator should submit detailed narratives and plans that include the following:
 - a. Specific procedures for placement of wastes. This should include any measures taken to prepare the waste for disposal, the material on which the waste is to be placed, the depth of cover to be placed over the waste, the thickness of waste layer prior to covering, the time schedule for covering waste, and the type and source of material used for a cover.

- b. The specific wastes to be placed in the disposal area. Disposal of wastes prior to approval by the Division of Mineral Mining (DMM) will result in enforcement action requiring removal of the unapproved wastes. Only on-site generated wastes are eligible for on-site disposal. Disposal of any off-site generated wastes require Department of Waste Management (DWM) approval.
- c. Specific drainage and sediment control plans for the disposal area.
- d. Specific procedures for final closure and reclamation of the disposal area.

Metals

Any metals to be disposed of on-site should be on-site generated wastes with little or no recycling potential. These metals may include drill steel, screen cloth, punch plates, crusher liners, steel cable and other non-recyclable scrap metals.

1. All materials that are large enough to protrude from the disposal area or into the cover layer should be cut, crushed or otherwise reduced to a size that can be accommodated by the site disposal area.
2. Steel cables should be wound onto spools and disposed of on the spool. Where spools are not available, cable may be coiled and secured with wire ties. Steel cables may also be cut into short segments for disposal. Segment lengths could vary depending on disposal site size and method of placement in the disposal area.

Rubber

The waste rubber products to be disposed of on-site could include non-recyclable conveyor belting, V-belts, air hoses and large, heavy equipment tires.

1. Conveyor belting should be rolled prior to placement in the disposal area. Short segments of belt may be placed on flat surfaces in the disposal area (i.e., pit floor or flat soil surface created on a covered waste lift). Lengths of segments disposed of in this manner could vary depending on the disposal area configuration.
2. V-belts may be buried in the on-site disposal area. Longer V-belts may be cut or coiled and tied prior to disposal.
3. Air hoses, generally steel-reinforced, should be coiled and bound with wire ties or cut into shorter lengths, suitable for the waste area, prior to disposal.
4. Large off-road tires ideally should be split prior to disposal. Because this is impractical in many cases, consideration should be given to sufficient cover to prevent any possible floatation. Depth of cover may be decreased by using a layer of boulders or stone rubble as part of the covering. Filling of the tire void with sand, fine crushed stone, or other suitable material may also reduce cover depth.
5. Only off-road tires with an outside diameter of 36 inches or greater should be placed in the on-site disposal area.

Demolition Waste

1. Demolition waste consisting of broken concrete, asphalt, brick, cinder blocks and stone is generally considered inert. Broken concrete, brick and block may be used for riprap in diversion ditches and pond outlets where suitable and approved in mine operating plans.
2. Excess demolition debris may be placed in the disposal area as a lower layer of the cover material. The heavier concrete material may be well suited to covering the off-road tires disposed of on-site.
3. Demolition debris may also be used to backfill slopes to grades acceptable for reclamation and revegetation. Allowable slopes should not exceed 2 horizontal to 1 vertical.
4. All demolition debris used as outlined in Sections 1-3 above should be free of wood and other building materials. Wood may be handled as described in "Trees, Stumps, and Land Clearing Debris" below.
5. This section applies only to disposal of on-site generated demolition debris. Debris from off-site sources cannot be brought onto the mine site for use or recycling without prior written DMM approval.
6. Demolition waste containing paper or other construction materials should not be placed in the on-site disposal area, but should be properly disposed of in a permitted off-site waste disposal facility.

Trees, Stumps, and Land Clearing Debris

1. Trees, stumps, and land clearing debris generated by mining activity may be disposed of on-site. However, every effort should be made to reduce the quantities of these materials. These efforts may include the following:
 - a. Limited quantities of suitable materials may be used to construct brush barriers for sediment control purposes subject to DMM approval.
 - b. If possible, trees should be sold to sawmills for pulp or sold for firewood.
 - c. Trees may be chipped and the chips used or sold as mulch. Some businesses have large portable chippers and will perform chipping on-site and then remove the chips for sale.
2. Land clearing debris or wood from on-site building demolition may be burned on-site when in compliance with local ordinances and Department of Air Pollution Control regulations. Areas may be designated for storage of these materials while awaiting favorable conditions for burning.
3. Stumps and heavier tree trunks may be buried in mined-out pits or backfill associated with slope reduction on highwalls. In these cases, the debris should be placed in the deepest part of the fill and as far from any face slopes as possible. Vegetative debris should not be buried in the structural portion of any fill, berm, or embankment, and should not be placed in any embankment constructed to dam or retain water, slurries or tailings.
4. Vegetative debris to be buried should be covered with the most impervious soil material available to a depth equal to or greater than $\frac{1}{2}$ the thickness of the material layer being buried. Minimum cover

should not be less than 4 feet. Depth-of-cover standards should be maintained on top and on all sides of the waste material.