A system of lateral rock underdrains shall connect this rock core to each area of potential drainage or seepage in the disposal area. The underdrain system and rock core shall be designed to carry the 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. Rocks used in the rock core and underdrains shall meet the requirements of §816.71(f).

(2) A filter system to ensure the proper long-term functioning of the rock core shall be designed and constucted using current, prudent engineering practices.

(3) Grading may drain surface water away from the outslope of the fill and toward the rock core. In no case, however, may intermittent or perennial streams be diverted into the rock core. The maximum slope of the top of the fill shall be 33h:1v (3 percent). A drainage pocket may be maintained at the head of the fill during and after construction, to intercept surface runoff and discharge the runoff through or over the rock drain, if stability of the fill is not impaired. In no case shall this pocket or sump have a potential capacity for impounding more than 10,000 cubic feet of water. Terraces on the fill shall be graded with a 3 to 5 percent grade toward the fill and a 1 percent slope toward the rock core.

[48 FR 32926, July 19, 1983]

§816.73 Disposal of excess spoil: Durable rock fills.

The regulatory authority may approve the alternative method of disposal of excess durable rock spoil by gravity placement in single or multiple lifts, provided the following conditions are met:

(a) Except as provided in this section, the requirements of §816.71 are met.

(b) The excess spoil consists of at least 80 percent, by volume, durable, nonacid- and nontoxic-forming rock (*e.g.*, sandstone or limestone) that does not slake in water and will not degrade to soil material. Where used, noncemented clay shale, clay spoil, soil or other nondurable excess spoil materials shall be mixed with excess durable rock spoil in a controlled manner such that no more than 20 percent of the fill volume, as determined by tests performed by a registered engineer and approved by the regulatory authority, is not durable rock.

(c) A qualified registered professional engineer certifies that the design will ensure the stability of the fill and meet all other applicable requirements.

(d) The fill is designed to attain a minimum long-term static safety factor of 1.5, and an earthquake safety factor of 1.1.

(e) The underdrain system may be constructed simultaneously with excess spoil placement by the natural segregation of dumped materials, provided the resulting underdrain system is 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 are met.

(f) Surface water runoff from areas adjacent to and above the fill is not allowed to flow onto the fill and is diverted into stabilized diversion channels designed to meet the requirements of §816.43 and to safely pass the runoff from a 100-year, 6-hour precipitation event.

[48 FR 32926, July 19, 1983, as amended at 48 FR 44780, Sept. 30, 1983]

§816.74 Disposal of excess spoil: Preexisting benches.

(a) The regulatory authority may approve the disposal of excess spoil through placement on a preexisting bench if the affected portion of the preexisting bench is permitted and the standards set forth in §§816.102(c), (e) through (h), and (j), and the requirements of this section are met.

(b) All vegetation and organic materials shall be removed from the affected portion of the preexisting bench prior to placement of the excess spoil. Any available topsoil on the bench shall be removed, stored and redistributed in accordance with §816.22 of this part. Substitute or supplemental materials may be used in accordance with §816.22(b) of this part.

(c) The fill shall be designed and constructed using current, prudent engineering practices. The design will be certified by a registered professional engineer. The spoil shall be placed on

the solid portion of the bench in a controlled manner and concurrently compacted as necessary to attain a long term static safety factor of 1.3 for all portions of the fill. Any spoil deposited on any fill portion of the bench will be treated as excess spoil fill under § 816.71.

(d) The preexisting bench shall be backfilled and graded to—

(1) Achieve the most moderate slope possible which does not exceed the angle of repose;

(2) Eliminate the highwall to the maximum extent technically practical;

(3) Minimize erosion and water pollution both on and off the site; and

(4) If the disposal area contains springs, natural or manmade water courses, or wet weather seeps, the fill design shall include diversions and underdrains as necessary to control erosion, prevent water infiltration into the fill, and ensure stability.

(e) All disturbed areas, including diversion channels that are not riprapped or otherwise protected, shall be revegetated upon completion of construction.

(f) Permanent impoundments may not be constructed on preexisting benches backfilled with excess spoil under this regulation.

(g) Final configuration of the backfill must be compatible with the natural drainage patterns and the surrounding area, and support the approved postmining land use.

(h) Disposal of excess spoil from an upper actively mined bench to a lower preexisting bench by means of gravity transport may be approved by the regulatory authority provided that—

(1) The gravity transport courses are determined on a site-specific basis by the operator as part of the permit application and approved by the regulatory authority to minimize hazards to health and safety and to ensure that damage will be minimized between the benches, outside the set course, and downslope of the lower bench should excess spoil accidentally move;

(2) All gravity transported excess spoil, including that excess spoil immediately below the gravity transport courses and any preexisting spoil that is disturbed, is rehandled and placed in horizontal lifts in a controlled manner, concurrently compacted as necessary to ensure mass stability and to prevent mass movement, and graded to allow surface and subsurface drainage to be compatible with the natural surroundings and to ensure a minimum long-term static safety factor of 1.3. Excess spoil on the bench prior to the current mining operation that is not disturbed need not be rehandled except where necessary to ensure stability of the fill;

(3) A safety berm is constructed on the solid portion of the lower bench prior to gravity transport of the excess spoil. Where there is insufficient material on the lower bench to construct a safety berm, only that amount of excess spoil necessary for the construction of the berm may be gravity transported to the lower bench prior to construction of the berm.

(4) Excess spoil shall not be allowed on the downslope below the upper bench except on designated gravity transport courses properly prepared according to § 816.22. Upon completion of the fill, no excess spoil shall be allowed to remain on the designated gravity transport course between the two benches and each transport course shall be reclaimed in accordance with the requirements of this part.

[48 FR 32927, July 19, 1983, as amended at 56 FR 65635, Dec. 17, 1991]

§ 816.79 Protection of underground mining.

No surface mining activities shall be conducted closer than 500 feet to any point of either an active or abandoned underground mine, except to the extent that—

(a) The activities result in improved resource recovery, abatement of water pollution, or elimination of hazards to the health and safety of the public; and

(b) The nature, timing, and sequence of the activities that propose to mine closer than 500 feet to an active underground mine are jointly approved by the regulatory authority, the Mine Safety and Health Administration, and the State agency, if any, responsible for the safety of underground mine workers.

[48 FR 24651, June 1, 1983]