



United States Department of the Interior

OFFICE OF SURFACE MINING RECLAMATION AND ENFORCEMENT

Washington, D.C. 20240



JUN 21 1999

Memorandum

To: Regional Directors
Field Office Directors

From: Director, Office ~~of~~ Surface Mining

Subject: Whether and to what extent the requirements for restoring approximate original contour to mined and disturbed areas apply to valley fills.

One of the issues that has arisen from our oversight of the West Virginia program and from the Bragg v. Robertson litigation is whether excess spoil disposal sites, particularly valley fills, must be reclaimed to their approximate original contour (AOC). This memorandum and its attachment explain Office of Surface Mining's (OSM) position on that issue.

The attached opinion from the Associate Solicitor for Mineral Resources analyzes the pertinent sections of the Surface Mining Control and Reclamation Act and its implementing regulations. That analysis, with which I concur, shows that the requirement to restore disturbed areas to AOC does not apply to valley fills. Consequently, I concur with the following statement made on page A-19 of the *West Virginia Oversight Evaluation Report on Approximate Original Contour and Postmining Land Use: Evaluation Year 1998* (OSM Rep.): "Valley fills are outside the mined area to which AOC applies. Therefore, valley fills themselves are not subject to a requirement to achieve AOC." This interpretation is consistent with OSM's past treatment of the issue of excess spoil.

If you have any questions about this, please feel free to contact me, Mary Josie Blanchard, Assistant Director, Program Support, at (202)208-4264, or John Craynon, Chief, Technology Development Staff, at (202) 208-2866.

Attachment



United States Department of the Interior

OFFICE OF THE SOLICITOR
Washington, D.C. 20240



IN REPLY REFER TO:

JUN 18 1999

Memorandum

To: Director
Office of Surface Mining

From: Associate Solicitor
Division of Mineral Resources

Subject: Analysis of the Application of Approximate Original Contour Requirements to Valley Fills

Section 515 of SMCRA sets forth environmental protection performance standards applicable to surface coal mining operations. 30 U.S.C. § 1265. Among these standards is the requirement to return the land to AOC—pursuant to Subsection 515(b)(3), mine operators must "backfill, compact . . . , and grade in order to restore the approximate original contour of the land with all highwalls, spoil piles, and depressions eliminated." 30 U.S.C. § 1265(b)(3). The use of the term "land" in this subsection might imply that the AOC requirement applies broadly to any area affected by mining, including the off-site areas where excess spoil fills are placed. However, for a number of reasons, this cannot be the proper construction.

As outlined in the discussion below: (1) SMCRA and the implementing regulations establish a framework which distinguishes between two types of land areas and two types of spoil material; (2) Neither SMCRA nor the implementing regulations include excess spoil disposal fills in the mined or disturbed areas which must be returned to AOC; (3) Neither the SMCRA provisions relating to excess spoil fills nor the implementing regulations require fills to be returned to AOC; rather they focus on applying appropriate engineering standards to the construction of the fills.

1. SMCRA and the implementing regulations establish a framework which distinguishes between two types of land areas and two types of spoil material.

As just mentioned, SMCRA Section 515(b)(3), which sets forth the general AOC requirement, specifies that operators must "restore the approximate original contour of the *land*..." See 30 U.S.C. § 1265(b)(3) (emphasis added). The use of the term "land" in this subsection might imply that the AOC requirement applies broadly to any area affected by mining, including the off-site areas where excess spoil fills are placed. The definition of the term "approximate original contour," in SMCRA Section 701(2), however, would seem to preclude such a broad interpretation of the AOC requirement. 30 U.S.C. § 1291(2). Section 701(2) specifies that AOC is achieved by "backfilling and grading" the "mined area".

(2) “approximate original contour” means that surface configuration achieved by backfilling and grading of the *mined area* so that the reclaimed area, including any terracing or access roads, *closely resembles the general surface configuration of the land prior to mining and blends into and complements the drainage pattern of the surrounding terrain*, with all highwalls and spoil piles eliminated; water impoundments may be permitted where the regulatory authority determines that they are in compliance with Section 515(b)(8) of this Act.

30 U.S.C. § 1291(2)(emphasis added). The regulatory definition of AOC essentially reiterates the language of SMCRA. See 30 C.F.R. §701.5. Neither provision mentions disturbed areas, excess spoil fills or valley fills, or, for that matter, any off-site areas. Thus SMCRA creates two categories of land: (1) that to which AOC applies; and, (2) all other areas.

The framework of SMCRA also defines two types of spoil material. In various parts of Section 515 of SMCRA both “spoil” and “excess spoil” are referred to. See, for example, 30 U.S.C. § 1265(b)(3), which discusses spoil and excess spoil and 30 U.S.C. § 1265(b)(22) which deals exclusively with excess spoil.

The key regulatory provision that distinguishes between the two types of spoil is the definition of “excess spoil” at 30.C.F.R. § 701.5:

Excess spoil means spoil material disposed of in a location other than the mined-out area; *Provided, That spoil material used to achieve the approximate original contour or to blend the mined-out area with the surrounding terrain in accordance with Sections 816.102(d) and 817.102(d) of this Chapter in non-steep slope areas shall not be considered excess spoil.*

30.C.F.R. § 701.5 (emphasis added).The proviso at the end of this definition makes clear that spoil which is used “to achieve the approximate original contour” does not constitute “excess spoil.” A different way of putting this is that the term “excess spoil” does not include any spoil which is used to comply with the AOC requirements in 30 C.F.R. §§ 816.102(a) (the “disturbed areas provision”) or 817.102(a).¹

¹ The proviso also specifies that “excess spoil” does not include a second kind of spoil, any spoil used “to blend the mined-out area with the surrounding terrain in accordance with Sections 816.102(d) and 817.102(d).

2. **Neither SMCRA nor the implementing regulations include excess spoil disposal fills in the mined or disturbed areas which must be returned to AOC.**
 - a. **Under SMCRA and its implementing regulations, the AOC requirement applies principally to the area from which coal has been removed and not to off-site areas where valley fills may be located; a separate configuration requirement, set forth in SMCRA Section 515(b)(22), applies to excess spoil.**

As discussed previously, SMCRA Section 515(b)(3) specifies that operators must “restore the approximate original contour of the *land...*” See 30 U.S.C. § 1265(b)(3) (emphasis added). The definition of the term “approximate original contour,” in SMCRA Section 701(2), specifies that AOC is achieved by “backfilling and grading” the “mined area”. 30 U.S.C. § 1291(2) The regulatory definition of AOC essentially reiterates this language. See 30 C.F.R. §701.5. Significantly, neither provision mentions disturbed areas, excess spoil fills or valley fills, or, for that matter, any off-site areas. Even more significantly, as used in the definition, the terms “mined area” and “backfilling” strongly suggest that the AOC requirement applies not to off-site areas, but only to those areas from which the coal has been removed. Although neither term is defined in the Act or the regulations, both terms are commonly employed in the industry and have recognized meanings. Thus, the *Dictionary of Mining, Mineral, and Related Terms* (1968) defines “*mined area*” as “the area from which mineral has been removed.” The term “backfill” has similar implications. The *Dictionary of Mining, Mineral, and Related Terms* (1968) defines “backfilling” as “the filling in again of a place from which the rock or ore has been removed.” Recognizing that these terms had commonly understood meanings, OSM, in its final rules on spoil disposal promulgated in 1983, declined to define the phrase “mined-out area” because it believed that it was sufficiently clear that the term referred to “the area of the mining pit where the coal has been removed.” See 48 Fed. Reg. 23359 (May 24, 1983).²

Based on the commonly understood meanings of the terms “mined area” and “backfilling,” the definition of AOC contained in both SMCRA and the regulations can be paraphrased as “that surface configuration achieved by the filling again of the area where the coal has been removed so that the reclaimed area . . . closely resembles the general configuration of the land prior to mining...” This helps clarify that Congress intended for the AOC requirement to apply to the area from which coal has been removed, not to other areas.

² At issue was 30 C.F.R. § 816.102(b) which states that the spoil, except excess spoil disposed of in accordance with ss 816.71-816.74, must be returned to the “mined-out area.” Two commenters wanted the term “mined-out area” defined. One commenter had pointed out that the mined-out area for underground mines could be either the mine workings or the surface area overlying them. The commenter had further suggested that instead of using the phrase “mined-out area,” OSM should require the spoil to be retained in the “area where overburden has been removed.”

This conclusion that the AOC requirement does not apply to excess spoil is supported by the fact that SMCRA establishes configuration requirements for excess spoil that are separate and distinct from those for the mined area. SMCRA Section 515(b)(22), which deals with excess spoil and its placement, mandates, among other things, that excess spoil material be placed in such a manner that: “the final configuration is compatible with the natural drainage pattern and surroundings and suitable for intended uses . . .” 30 U.S.C. § 1265(b)(22)(G); see also 30 C.F.R. § 816.71 (e)(3). This provision requiring compatibility “with the natural drainage pattern and surroundings,” would, at the very least, prevent operators from disposing of excess spoil in ways which so alter the land surface that it neither blends into the surrounding topography which is returned to AOC nor bears any relationship to the original drainage pattern of the site.

b. OSM’s regulatory requirement that “disturbed areas” be returned to AOC does not mean that the AOC requirement applies to valley fills.

OSM’s regulations apply the AOC requirement not only to “mined areas” but also to “disturbed areas:”

- (a) *Disturbed areas* shall be backfilled and graded to--
 - (1) *Achieve the approximate original contour*, except as provided in Paragraph (k) of this Section;
 - (2) *Eliminate all highwalls, spoil piles, and depressions*, except as provided in Paragraph (h) (small depressions) and in Paragraph (k)(3)(iii) (previously mined highwalls) of this Section;
 - (3) Achieve a postmining slope that does not exceed either the angle of repose or such lesser slope as is necessary to achieve a minimum long-term static safety factor of 1.3 and to prevent slides;
 - (4) Minimize erosion and water pollution both on and off the site; and
 - (5) Support the approved postmining land use.

30 C.F.R. § 816.102(a)(the “‘disturbed areas’ provision”) (emphasis added). Some members of the public have claimed that “valley fills,” or “excess spoil fills,” constitute “disturbed areas” and that, consequently, the AOC requirement applies to valley fills. At first blush, the regulatory definition of the term “disturbed area,” which includes areas “upon which . . . spoil . . . is placed by surface coal mining operations,” might appear to lend some support to this interpretation.³

³ The full definition of “disturbed area” is as follows:

Disturbed area means an area where vegetation, topsoil, or overburden is removed or upon which topsoil, spoil, coal processing waste, underground development waste, or noncoal waste is placed by surface coal mining operations. Those areas are classified as disturbed until reclamation is complete and the performance bond or other assurance of performance required by J of this Chapter is released.

See 30 C.F.R. § 701.5. A closer examination, however, reveals that the “disturbed areas” provision was not intended to address valley fills. Instead, as mentioned above and discussed in more detail below, OSM’s regulations recognize two kinds of spoil: (1) “excess spoil,” on one hand, and (2) “spoil material used to achieve the approximate original contour or to blend the mined-out area with the surrounding terrain,” on the other. The argument that the “disturbed areas” provision applies to valley fills thus ignores the architecture of OSM’s regulations which distinguish between the two types of spoil and apply different standards to them.

As just mentioned, the regulatory definition of “disturbed areas” at 30.C.F.R. § 701.5 refers to areas “upon which . . . *spoil* . . . is placed by surface coal mining operations” and the “disturbed areas” provision at 30 C.F.R. § 816.102(a) mentions “*spoil* piles.” The regulatory history confirms that these references are not to “excess spoil.” In the final preamble to the 1983 rule on backfilling and grading, OSM addressed the comments of parties who wanted clarification on precisely this issue:

One commenter wanted the term "spoil piles" clarified so that it does not mean excess spoil sites. The commenter noted that excess spoil is used for purposes other than backfilling and grading and is disposed of according to the revised excess spoil rules in proposed § 816.71. Another commenter wanted this paragraph [the “disturbed areas” provision at Section 816.102(a)(2)] changed to reflect the proposed new definition of excess spoil, which excludes spoil that is used to blend spoil from the mined-out area with the surrounding terrain.

48 Fed. Reg. 23356, 23358 (May 24, 1983). OSM responded by explaining that the “disturbed areas” provision was not intended to address excess spoil:

In area mining, the spoil piles referred to in final § 816.102(a)(2) are those formed during the mining operation from shovel or dragline operations. These are the spoil piles that must be backfilled, compacted, and graded according to Section 515(b)(3) of the Act. In other mining methods, spoil piles are comprised of overburden that is disposed of in the pit area after the coal is removed. Such overburden is not considered excess spoil and must be placed according to the provisions of §§ 816.102-816.105.

Excess spoil includes material that is disposed of in a location other than the mined-out area, except for material used to blend spoil with the surrounding terrain in achieving AOC in nonsteep

slope areas. Generally, excess spoil includes only that spoil that is not needed to restore AOC. *The spoil piles referred to in § 816.102(a)(2) are not considered excess spoil which would be disposed of according to the provisions of § 816.71 because they are necessary to restore AOC. The spoil piles referred to in § 816.102(a)(2) remain in, or are returned to, the area from which the overburden was removed.*

Id. (Emphasis added.) Similarly, in the 1983 rulemaking on excess spoil fills, OSM explicitly stated that spoil used to achieve AOC is not “excess spoil.”

In recognition of the fact that Congress has authorized variances from the AOC restoration requirement the final rule does not specify that excess spoil be spoil in excess of that required to achieve the approximate original contour. Authorized variances from AOC would make the spoil, normally required to restore AOC, excess spoil (e.g., mountaintop removal mining). *The final rule specifically recognizes, however, that spoil used to achieve AOC is not excess spoil.*

48 Fed. Reg. 32910, 32911 (July 19, 1983) (emphasis added).

OSM’s regulations, moreover, apply different standards to the two types of spoil: the regulations at 30 C.F.R. §§ 816.71-74⁴ and 817.71-74⁵ address the disposition of excess spoil; while the regulations at 30 C.F.R. §§ 816.102⁴ and 817.102,⁵ *including the “disturbed areas provision” in subsection 816.102(a)*, address the disposition of “spoil material used to achieve the approximate original contour or to blend the mined-out area with the surrounding terrain.” If OSM had intended for excess spoil fills to be subject to the “disturbed areas” provision, it would have made no sense for it to enact separate provisions dealing with the disposition of excess spoil.

3. Neither the SMCRA provisions relating to excess spoil fills nor the implementing regulations require these fills to be returned to approximate original contour (AOC).

a. SMCRA nowhere requires that excess spoil fills be configured to AOC.

There are four sections of SMCRA that specifically mention excess spoil. As shown below, none of these provisions requires that excess spoil fills be configured to AOC. Of these, the most important is Section 515(b)(22), which deals exclusively with excess spoil and its

⁴ The regulations in Part 816 address surface mining activities.

⁵ The regulations in Part 817 address underground mining activities.

placement.⁶ If excess spoil fills were supposed to be returned to AOC, one would expect that this subsection would contain something akin to the AOC requirement that the mined area “closely resemble the general surface configuration of the land prior to mining.” No such provision exists. With respect to the configuration of excess spoil fills, Section 515(b)(22) specifies only that “the final configuration of the fill [must be] compatible with the natural drainage pattern and surroundings and suitable for intended uses.” 30 U.S.C. § 1265 (b)(22)(G).

Another reference to excess spoil or excess overburden occurs in the last part of Section 515(b)(3) in a proviso addressing surface mining where the volume of overburden is large relative to the thickness of the coal deposit. In such cases the operator is *first* required to restore the approximate original contour of the mined area and *then* backfill, grade and compact the excess spoil or overburden using a different standard:

And provided further, That in surface coal mining where the volume of overburden is large relative to the thickness of the coal deposit and where the operator demonstrates that due to volumetric expansion the amount of overburden and other spoil and waste materials removed in the course of the mining operation is more than sufficient to restore the approximate original contour, the operator shall after restoring the approximate contour, backfill, grade, and compact (where advisable) the excess overburden and other spoil and waste materials to attain the lowest grade but not more than the angle of repose, and to cover all acid-forming, and other toxic materials, in order to achieve an ecologically sound land use compatible with the surrounding region and that such overburden or spoil shall be shaped and graded in such a way as to prevent slides, erosion, and water pollution and is revegetated in accordance with the requirements of this Act;

30 U.S.C. § 1265(b)(3). As this passage makes clear, the excess spoil from such operations is not required to be shaped to AOC. Instead this section imposes a different set of requirements: (1) the operator must backfill, grade, and compact (where advisable) the excess overburden and other spoil and waste materials to attain the lowest grade but not more than the angle of repose; (2) he must cover all acid-forming, and other toxic materials; (3) the two preceding activities

⁶ Section 515(b)(22) of SMCRA (30 U.S.C. §1265(b)(22)) places stringent standards on the placement of excess spoil. The spoil is to be transported and placed in a controlled manner so that mass stability is assured and mass movement is prevented. Appropriate surface and internal drainage systems are to be used to prevent infiltration of water, spoil erosion and movement. A qualified registered professional engineer is to certify that the fill is in conformance with professional standards. The placement of the spoil must ensure that all other performance standards of the Act are met.

must be done in such a way as to achieve an ecologically sound land use compatible with the surrounding region; and (4) the operator must shape and grade the overburden or spoil in such a way as to prevent slides, erosion, and water pollution.

Excess spoil is also mentioned in the two subsections of SMCRA that provide for variances from AOC— Section 515(c) relating to mountaintop removal variances, and Section 515(e) relating to steep slope variances. 30 U.S.C. §§ 1265 (c), (e). Section 515(c), the mountaintop removal provision, contains a proviso that “all excess spoil material not retained on the mountaintop shall be placed in accordance with the provisions of subsection (b)(22) of this section...” Section 515(e), the steep slope provision, requires, *inter alia*, “that only such amount of spoil will be placed off the mine bench as is necessary to achieve the planned postmining land use, insure stability of the spoil retained on the bench, meet all other requirements of this Act, and all spoil placement off the mine bench must comply with subsection 515(b)(22).” 30 U.S.C. § 1265(e)(4). The major difference between the two sections is that the steep slope mining operations proposed in 515(e) will leave a highwall that must be reclaimed. In both cases, however, the proposed variances from AOC will necessarily create relatively flat land after mining. Indeed, these variances are supposed to be issued only in cases where such relatively flat land is necessary for the proposed postmining land use. See H.R. Rep. No. 95-218, at 101,124 (1977). This need for relatively flat land would be thwarted if the excess spoil fills or valley fills had to be restored to AOC.

Finally, one of the performance standards relating to steep slope mining in SMCRA Section 515(d)(1) contains the following proviso about excess spoil: “*Provided*, That spoil material in excess of that required for the reconstruction of the approximate original contour under the provisions of paragraph 515(b)(3) or 515(d)(2) shall be permanently stored pursuant to section 515(b)(22).” 30 U.S.C. § 1265(d)(1). Once again, this provision makes no mention of any requirement to return excess spoil fills to AOC.

b. The legislative history confirms that the configuration of excess spoil fills was to be carefully engineered, not specifically to be returned to AOC.

As the legislative history indicates, the concern of Congress was not to prohibit excess spoil fills, but to specify appropriate engineering standards for their construction. For example, in the Committee Report on the House version of SMCRA, Congress specified the need to ensure proper drainage and stability in the construction of these fills.

Surplus spoil disposal areas must be carefully engineered to avoid instability, drainage control problems and erosion. Recent field studies for the Environmental Protection Agency have identified problems with some approaches to the disposal of spoil in mountain valleys or hollows. The consultants to EPA concluded that the ultimate stability of spoil disposal technologies being used in the valleys and hollows of several Appalachian States are

unknown. Given the size and the complexity of the engineering involved for the disposal areas, specific standards such as the following should be considered:

- Carefully place durable rock drains through the complete length of the proposed fill area...
- Drains must be placed running from all seeps or springs in the fill area to the toe of the fill.
- Sediment ponds should be placed below the toe of each fill to catch all drainage.
- Excess spoil material should be placed and compacted in lifts or stair step-like benches insuring that particle alignment will tend to be perpendicular to the typical failure plane...
- Lifts should be contoured so that all drainage flows off the fill to rip-rapped drainage ways constructed in undisturbed material on either side of the fill.
- Rock cores from the drainage system should not protrude above the fill mass because they may contribute to erosion of the fill face if the surface of the core becomes silted at the bench-core interface...

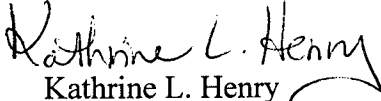
H.R. Rep. No. 95-218, at 101(1977).

The intent of these Congressional recommendations were incorporated into Section 515(b)(22) of SMCRA and the provisions of 30 C.F.R. §§ 816.71-74. Adhering to these standards does not require an excess spoil fill to be returned to AOC. Instead, complying with the requirements results in a three-dimensional excess spoil fill (i.e., valley fill) that has been placed in a valley (See 30 C.F.R. § 701.5 for valley fill definition). The structure displaces a certain length of a valley (profile), a certain width of a valley, and a certain depth of a valley. The spoil material is required to be placed in horizontal lifts and the final surface elevation (top of fill) is required to be graded so that the final slope will be toward properly designed drainage channels. See 30 C.F.R. §§ 816.71-74.

Summary

OSM believes that Congress was specific in its intent that the mined area be returned to AOC. After considering the language of the Act, its rulemaking process, and its policies, OSM has concluded that excess spoil piles (valley fills) are outside the mined area to which AOC applies and that Congress did not intend for excess spoil fills (i.e., valley fills) to be returned to AOC, but rather that they be designed for long-term stability and drainage control. OSM also does not intend for excess spoil fills (valley fills) to be subject to the requirements contained in the

regulations requiring the disturbed area to AOC. OSM was very specific in its definition of *disturbed area* as to what areas the term applied, which did not include excess spoil disposal areas. Therefore, valley fills are not subject to a requirement to achieve AOC.


Kathrine L. Henry