

June 5, 1990

TO: Dianne R. Nielson, Director

FROM: Lowell P. Braxton, Associate Director, Mining *LPB*

RE: TDN #89-02-116-002, Blazon Mine No. 1, North American Equities,
ACT/007/021, Carbon County, Utah

In reviewing the backfilling and grading requirements of the Coal Regulatory Program (UMC 817.101 and R614-301-553), it would appear that with respect to reclamation of the portal area, the activities conducted might best be considered portal closures and portal faceups. These activities included portal sealing as per the reclamation plan and creation of a cut and fill terrace on the portal bench.

The provisions for cut and fill terraces are described in each of the above-referenced sections of the old and new regulations. I have prepared a side-by-side comparison of these regulations as an attachment.

I have also attached a copy of Figure 7, Typical Section of Reclaimed Mine Bench, which supports the final configuration of a cut and fill terrace on the portal bench.

The as-built configuration of the reclaimed portal bench is generally that depicted in the above-referenced Figure 7. In the approximate center of the reclaimed portal bench, the present configuration of fill placement blends into the undisturbed slope with the elimination of the a cut and fill terrace for roughly 40 feet. Examination of photographs taken during the past two field seasons suggests that where the cut and fill terrace was not implemented, runoff has been concentrated across the fill, with the resultant need to place the log erosion control devices shown in the photographs.

Clearly, the cut and fill terrace is functioning as contemplated in the regulations with the minor exception noted above. In future responses to the above-referenced TDN, we should indicate the applicability of the cut and fill terrace to this particular reclamation activity, while noting the general success of its field performance.

Although I believe the principal area of concern in the TDN was the portal area, the TDN noted highwalls in the area east of the concrete pad, and along access roads. The reclaimed configuration of the cut slope east of the concrete pad is within a few degrees of premine-surface slope. I believe reclamation efforts in Utah will be seriously compromised if reclamation this close to premining contours is not permitted.

The TDN cites an exposed coal seam at this location. It should be noted that this is a rider seam of limited lateral continuity and was not an objective of the mining effort. Similar riders outcrop throughout the geologic section in the Blazon Mine environs. We should avoid discussions that deal with the issue of covering exposed rider seams, and focus on the overall revegetation efforts required to reclaim such areas. I believe the access road highwalls, and the cut slope east of the cement pad should be viewed in terms of the post-mining land-use, and discussed with OSM in conjunction with a visit to other reclaimed Utah mines. I recommend that visit include Huntington #4 and Gordon Creek #'s 3 & 6, and if you have an extra four hours in that schedule that you consider Hidden Valley.

I have discussed Randy's participation in the June 26 field trip, and will ask Pam to contact Bill Malencik for support too.

vb
Attachment
cc: D. Haddock
J. Helfrich
R. Harden
H. Sandbeck
MI78/137&138

} not copied - They were copied on letter
To H. Tipton LB



State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

Norman H. Bangertter
Governor

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June 15, 1990

Mr. W. Hord Tipton, Deputy Director
Office of Surface Mining
Department of the Interior
1951 Constitution Avenue N.W.
Washington, D C 20240

TIP
Dear Mr. Tipton

Re: TDN #89-02-116-002, Blazon Mine No. 1, North American Equities, ACT/007/021, Carbon County, Utah

In reviewing the backfilling and grading requirements of the Coal Regulatory Program (UMC 817.101 and R614-301-553), it would appear that with respect to reclamation of the portal area, the activities conducted might best be considered portal closures and portal faceups. These activities included portal sealing as per the reclamation plan and creation of a cut and fill terrace on the portal bench.

The provisions for cut and fill terraces are described in each of the above-referenced sections of the old and new regulations. I have prepared a side-by-side comparison of these regulations as an attachment.

I have also attached a copy of Figure 7, from the approved mining and reclamation plan Typical Section of Reclaimed Mine Bench, which supports the final configuration of a cut and fill terrace on the portal bench.

The as-built configuration of the reclaimed portal bench is generally that depicted in the above-referenced Figure 7. In the approximate center of the reclaimed portal bench, the present configuration of fill placement blends into the undisturbed slope with the elimination of the cut and fill terrace for roughly 40 feet. Examination of photographs taken during the past two field seasons (including those sent you earlier this year) suggests that where the cut and fill terrace was not implemented, runoff has been concentrated across the fill, with the resultant need to place the log erosion control devices shown in the photographs.

Clearly, the cut and fill terrace is functioning as contemplated in the regulations with the minor exception noted above. The placement of the log erosion control devices has, as noted, allowed the reclaimed configuration to meet performance standards.

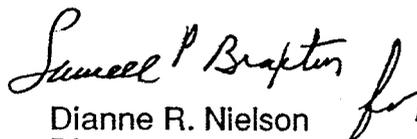
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Mr. W. Hord Tipton
June 15, 1990

In conducting the field trip, I hope we can concentrate on the applicability of the reclaimed mine configuration to the field conditions at the mine site. I believe the portal bench meets the requirements of the mining and reclamation plan, and is a good reclamation effort given availability of materials for reclamation and the steep nature of the mine site.

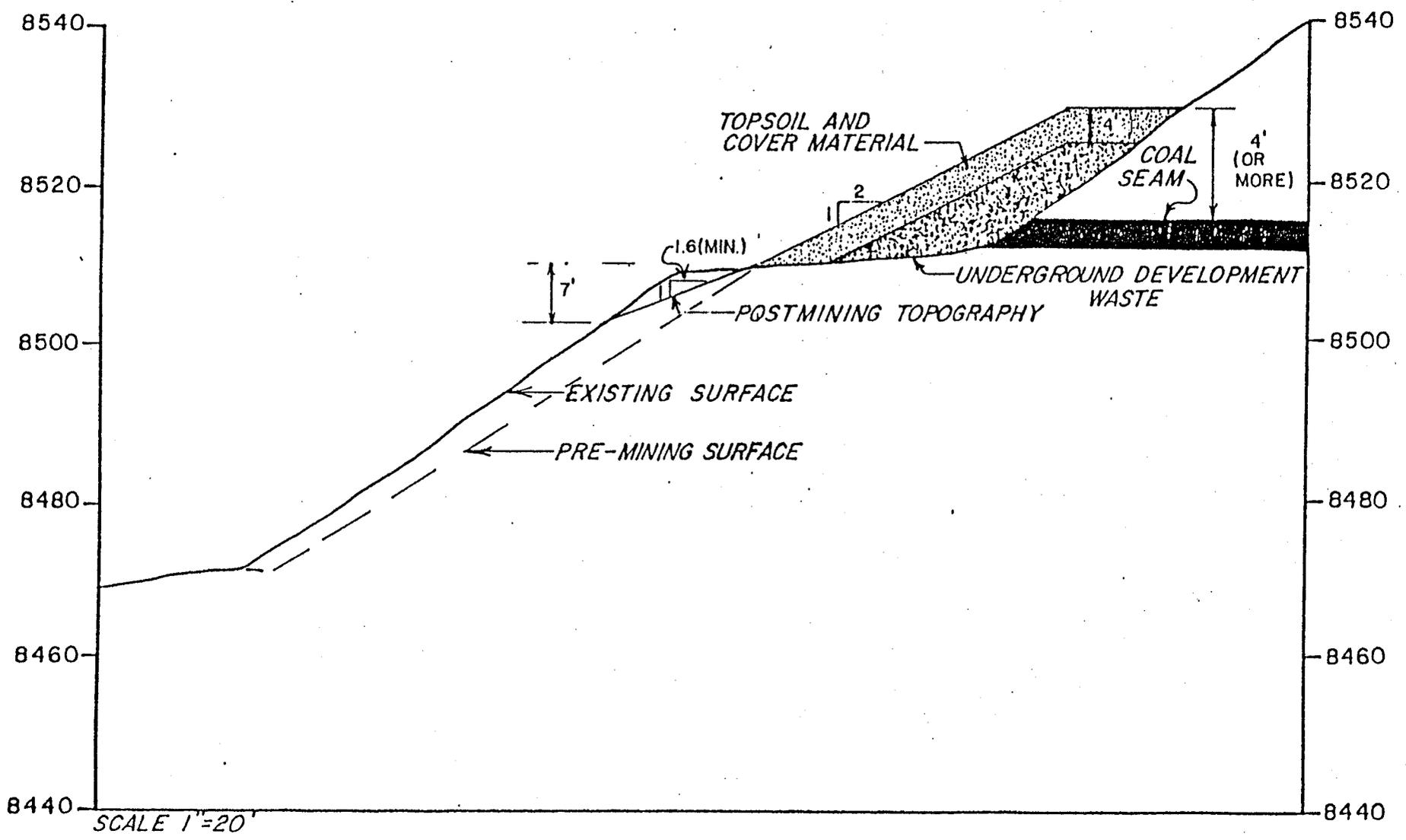
With respect to the field trip, we will meet your 1:33 p.m. flight in Salt Lake City (CO 1297) on Tuesday, June 26, and will make reservations for you and Bob Hagen at the Day's Inn in Price. On the 27th we will look at two Title V reclaimed mine sites (Huntington #4 and Gordon Creek #3 & #6) which have similar topographic constraints and which have undergone partial bond release. We will then visit the Blazon site and discuss the resolution of the outstanding TDN issues. I will make reservations for you at the Hilton in Salt Lake City for the night of June 27.

I am looking forward to this trip and to the resolution of this outstanding issue.

Best regards,


Dianne R. Nielson
Director

vb
Enclosure
cc: R. Hagen, AFO, OSM
L. Braxton
D. Haddock
R. Harden
J. Helfrich
P. Grubaugh-Littig
B. Malencik
MI78/146&147



TYPICAL SECTION RECLAIMED MINE BENCH

FIGURE 7

UMC 817.101 Backfilling And Grading: General Requirements

553. Backfilling and Grading. Backfilling and grading design criteria must be described in the permit application. For the purposes of UNDERGROUND COAL MINING AND RECLAMATION ACTIVITIES nothing in R614-301-553 will prohibit the placement of material in road and portal pad embankments located on the downslope, so long as the material used and the embankment design comply with the applicable requirements of R614-301-500 and R614-301-700 and the material is moved and placed in a controlled manner.

553.100. Disturbed areas will be backfilled and graded to:
553.110. Achieve the approximate original contour, except as provided in R614-301-553.600 through R614-301-553.642;
553.120. Eliminate all highwalls, spoil piles, and depressions, except as provided in R614-301-552.100 (small depressions); R614-301-553.620 (previously mined highwalls); and in R614-301-553.650 (retention of highwalls);

553.130. 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;

553.140. Minimize erosion and water pollution both on and off the site; and

553.150. Support the approved postmining land use.
553.200. Spoil and Waste. Spoil and waste materials will be compacted where advisable to ensure stability or to prevent leaching or toxic materials.

553.210. Spoil, except as provided in R614-301-537.200, for the purposes of UNDERGROUND COAL MINING AND RECLAMATION ACTIVITIES, and except excess spoil disposed of in accordance with R614-301-211, R614-301-212, R614-301-412.300, R614-301-512.210, R614-301-512.220, R614-301-514.100, R614-301-528.310, R614-301-535.100 through R614-301-535.130, R614-301-535.300 through R614-301-535.500, R614-301-536.300, R614-301-542.720, R614-301-553.240, R614-301-745.100, R614-301-745.300, R614-301-745.400, and will be returned to the mined-out surface area (UNDERGROUND COAL MINING AND RECLAMATION ACTIVITIES) or mined-out area (SURFACE COAL MINING AND RECLAMATION ACTIVITIES).

553.220. Spoil may be placed on the area outside the mined-out surface area (UNDERGROUND COAL MINING AND RECLAMATION ACTIVITIES) or mined-out area (SURFACE COAL MINING AND RECLAMATION ACTIVITIES) in nonsteep slope areas to restore the approximate original contour by blending the spoil into the surrounding terrain if the following requirements are met:

553.221. All vegetative and organic material will be removed from the area;

553.222. The topsoil on the area will be removed, segregated, stored, and redistributed in accordance with R614-301-232.100 through R614-301-232.600, R614-301-234, R614-301-242, and R614-301-243; and

553.223. The spoil will be backfilled and graded on the area in accordance with R614-301-537.200, R614-301-552 through R614-301-553.230, R614-301-553.260 through R614-301-553.420, R614-301-553.600, and R614-301-553.900.

553.230. Preparation of final graded surfaces will be conducted so that the final-graded surfaces are configured in a manner that minimizes erosion and provides a surface for replacement of topsoil that will minimize slippage.

553.240. The final configuration of the fill (excess spoil) will be suitable for the approved postmining land use. Terraces may be constructed on the outslope of the fill if required for stability, control of erosion, to conserve soil moisture, or to facilitate the approved postmining land use. The grade of the outslope between terrace benches will not be steeper than 2h:1v (50 percent).

553.250. Refuse Piles.

553.251. The final configuration for the refuse pile will be suitable for the approved postmining land use. Terraces may be constructed on the outslope of the refuse pile if required for stability, control of erosion, conservation of soil moisture, or facilitation of the approved postmining land use. The grade of the outslope between terrace benches will not be steeper than 2h:1v (50 percent).

553.252. Following final grading of the refuse pile, the coal mine waste will be covered with a minimum of four feet of the best available, nontoxic and noncombustible material, in a manner that does not impede drainage from the underdrains. The Division may allow less than four feet of cover material based on physical and chemical analyses which show that the requirements of R614-301-244.200 and R614-301-353 through R614-301-357.

553.260. Disposal of coal processing waste and underground development waste in the mined-out surface area (UNDERGROUND COAL MINING AND RECLAMATION ACTIVITIES) or mined-out area (SURFACE COAL MINING AND RECLAMATION ACTIVITIES) will be in accordance with R614-301-210, R614-301-512.230, R614-301-513.400, R614-301-514.200, R614-301-515.200, R614-301-528.322, R614-301-528.320, R614-301-536 through R614-301-536.200, R614-301-536.500, R614-301-536.900, R614-301-542.730, R614-301-553.250, and R614-301-746.100 through R614-301-746.200, except that a long-term static safety factor of 1.3 will be achieved.

553.300. Exposed coal seams, acid- and toxic-forming materials, and combustible materials exposed, used, or produced during mining will be adequately covered with nontoxic and noncombustible materials, or treated, to control the impact on surface and ground water in accordance with R614-301-731.100 through R614-301-731.522 and R614-301-731.800, to prevent sustained combustion, and to minimize adverse effects on plant growth and the approved postmining land use.

553.400. Cut-and-fill terraces may be allowed by the Division where:
553.410. Needed to conserve soil moisture, ensure stability, and control erosion on final-graded slopes, if the terraces are compatible with the approved postmining land use; or

553.420. Specialized grading, foundation conditions, or roads are required for the approved postmining land use, in which case the final grading may include a terrace of adequate width to ensure the safety, stability, and erosion control necessary to implement the postmining land-use plan.

553.500. Previously Mined Areas.

(a) Surface areas disturbed incident to underground coal mining activities shall be backfilled and graded in accordance with the time schedule approved by the Division as a condition of the permit.

(b) Backfilling and grading.

(1) All areas affected by surface operations except those where settled fills have become stabilized and revegetated, shall be graded and restored to closely resemble the general surface configuration of surrounding terrain and blend into and complement the drainage pattern of the surrounding terrain, and be reclaimed to be capable of supporting the approved postmining land use. All spoil shall be transported, backfilled and compacted (where advisable to ensure stability or to prevent leaching of acid or toxic-forming materials) and graded to eliminate highwalls, spoil piles and depressions, except or as specifically approved by the Division, where the underground mining activity is in steep slope terrain, reduce highwalls to achieve the requirements of this paragraph. All applicable requirements for insuring a static safety factor of 1.5 and protecting the hydrologic balance of the surrounding terrain as specified in this regulation, the program and the Act shall be met.

(2) Backfilled material shall be placed to minimize adverse effects on ground water, minimize offsite effects, and to support the approved postmining land use.

(3) The postmining graded slopes need not be uniform.

(4) Cut-and-fill terraces may be used upon approval by the Division in order to conserve soil moisture, ensure stability, and control erosion on final graded slopes. Cut-and-fill terraces may be allowed, if the terraces are compatible with the approved postmining land use and are appropriate substitutes for construction of lower grades on the reclaimed lands. The terraces shall meet the following requirements:

(i) The width of the individual terrace bench shall not exceed 20 feet, unless specifically approved by the Division as necessary for stability, erosion control, or roads included in the approved postmining land use plan.

(ii) The vertical distance between terraces shall be as specified by the Division to prevent excessive erosion and to provide long-term stability.

(iii) The slope of the terrace outslope shall not exceed 1v:2h (50 percent). Outsoles which exceed 1v:2h (50 percent) may be approved, if they have a minimum static safety factor of more than 1.3, provide adequate control over erosion, and closely resemble the surface configuration of the land prior to mining.

(iv) Culverts and underground rock drains may be used on the terrace only when approved by the Division.

(5) The person who conducts underground coal mining activities shall—

(i) Retain all overburden and spoil on the solid portion of existing or new benches unless all the requirements of 817.71 are met; and

(ii) Backfill and grade to the most moderate slope possible, to eliminate or reduce the highwall which does not exceed either the angle of repose or such lesser slope as is necessary to achieve a minimum static safety factor of 1.3. In all cases the highwall shall be eliminated or reduced, as determined by the Division.

(6) Small depressions may be constructed, if they—

(i) Are approved by the Division to minimize erosion, conserve soil moisture, or promote vegetation;

(ii) Do not restrict normal access; and

(iii) Are not inappropriate substitutes for lower grades on the reclaimed lands.

(7) All final grading, preparation of overburden before replacement of topsoil, and placement of topsoil, shall be done along the contour to minimize subsequent erosion and instability. If such grading, preparation, or placement along the contour is hazardous to equipment operators, then grading, preparation, or placement in a direction other than generally parallel to the contour may be used. In all cases, grading, preparation, or placement shall be conducted in a manner which minimizes erosion and provides a surface for replacement of topsoil which will minimize slippage.

(8) The Division may allow the retention of highwalls when the criteria in (1) above are met and

(i) The "retained" highwall is not significantly greater in height or length than the dimensions of existing cliffs in the surrounding area;

(ii) The residual highwall is similar in structural composition to the preexisting cliffs in the surrounding area and is compatible with the visual attributes of the area, and

(iii) The residual highwall is compatible with the geomorphic processes of the area.