

## CHAPTER B.

### EVALUATION REPORTS AND CROSS SECTIONS

This chapter contains individual discussions of each of the 10 permits initially selected for this review. Each discussion describes the type of mining, mining status, postmining land use, and AOC status of the permit, as well as the number of excess spoil fills constructed or to be constructed at the site.

It is difficult, by narrative means alone, to adequately compare the final contour of a section of reclaimed land to the premining contour of the same area. Therefore, OSM has included computer-generated cross sections of each permit area.

The cross sections support the narrative descriptions provided for each permit. The cross sections in this report are intended to compare the premining topography with the final configuration after mining and reclamation. In order to provide a better understanding of this relationship, a brief description of these cross sections, and how they were derived, follows:

A 1968 Bureau of Mines publication, A Dictionary of Mining, Mineral, and Related Terms (U.S. Department of the Interior, 1968), defines cross section as a “profile portraying an interpretation of a vertical section of the earth ...” Generally, in mine surveying, this would involve establishing a baseline on a topographic map so that it would run the centerline and the length of a ridge or mountain. The next step in the process would be to profile or take cross sections of the baseline, usually every 100 feet. This process necessitates determining the ground elevation at known points along the cross section line. These cross sections, taken at right angles or perpendicular to the baseline, represent a slice “through the mountain” and provide a vertical profile of the existing terrain.

For this evaluation, the evaluation team established a line that, in its judgment, would be representative of the centerline of a ridge or mountain and made the measurements along that one line as opposed to measuring points on several lines at right angles from the centerline.

Therefore, although data from the permits was often used in the development of the cross section, the representations in this report may appear different from cross sections in the permit that were taken in different places or at different angles from the selected line.

The premining configuration, (ORIGINAL GROUND on the cross sections) was plotted from existing topographic maps while postmining configurations were surveyed by a global positioning system (GPS). Both configurations were plotted (translated to a graph) on the same scale to compare the premining configuration with the postmining configuration.

The team encourages readers to cross-reference the figures, tables, graphs, and cross sections with the descriptions of the 10 permit areas UNDER discussion here.

**1. Virginia By Products Division of Knox Creek  
Permit 1100321**

**Site Designation: Bond Released Mountaintop Removal Permit**

**Virginia By Products Division of Knox Creek , Permit No. 1100321; Issued Nov. 29, 1983**

**Location:** Lat. N 37° 21' 19", Long. W 81° 57' 17", in Buchanan County, Virginia

**File Review Date:** November 30, 1998

**Mining Type:** This surface mining permit is a 156.9 acre mountaintop removal operation with an approved variance on all coal removal areas. This operation mined the Blair and Eagle coal seams using the mountaintop removal mining method. No site visit was conducted on this mining operation.

**Mining Status:** Mining has been completed and this permit has been reclaimed since September 3, 1992. The entire permit has been stabilized with vegetation. A phase III bond release was approved on December 16, 1997.

**Postmining Land Use:** DMME/DMLR originally approved an agricultural postmining land use of hayland/pasture for the entire permit. The premining land use was unmanaged forest. A field visit conducted by OSM in conjunction with the bond release found that the mind area was stabilized with a vegetative ground cover. The bond release found that postmining productivity exceeded premining productivity and that ground cover was 94%.

**Approximate Original Contour:** The mountaintop removal variance approved for the entire mined area allows the area to be restored to a gently rolling plateau with an inward draining hydrologic system. Permit cross-sections show a maximum elevation change of -140 feet and an average change of -95 feet. Because the permit has been bond released and a we no longer have right of entry authority, we did not field survey this site. We did not reproduce or include the permit cross-sections in this report. Field observation from the bond release inspection did not identify major changes in drainage patterns.

**Excess Spoil Fills:** The permit identifies specific spoil volumes for bank (in situ) as eight million cubic yards and bulked or loose spoil volume as 12.3 million cubic yards. The increase in spoil volume due to swell is shown as 4.3 million cubic yards. The original permit proposed to permanently store 10.2 million cubic yards in a durable rock fill. Evaluation of the October 24, 1997, bond release inspection found that the valley fill was installed.

**2. Paramount Coal Corp.  
Permit 1101115**

Site Designation: Steep Slope AOC Variance

**Paramont Coal Corp., Permit # 1101115, Permit issued April 20, 1988**

**Location:** Lat.: 37° 02' 57", Long.: 82° 35' 05", in Wise County, Virginia

**Field Review Date:** December 3, 1998

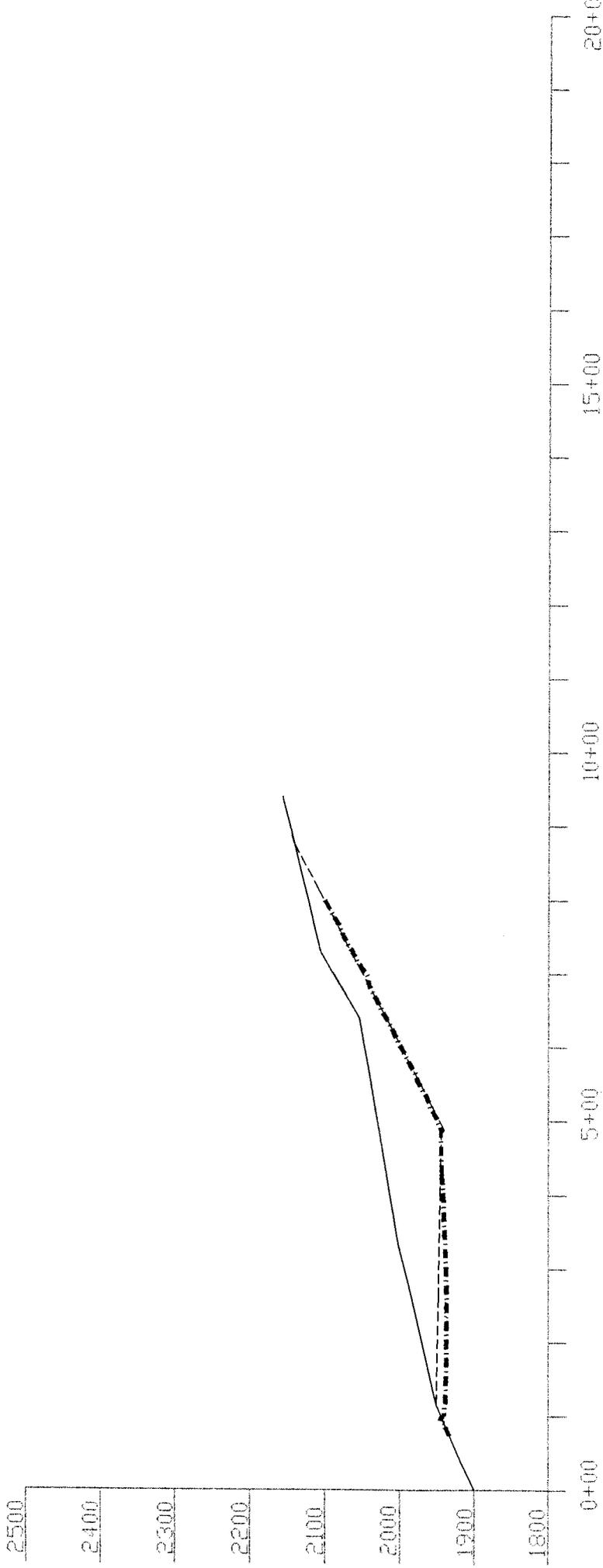
**Mining Type:** This is a completed 109.27 acre steep slope contour mine. One area was revised for a steep slope AOC variance. The AOC variance area did not contain pre-SMCRA mining disturbances. A postmining permit revision provided a cross-section (I-I') in the variance area. It shows the premining contours, the coal excavation limits and the final regrading contours. Cross-section I-I' shows an original contour steep slope profile reclaimed nearly level for 400 feet and then backfilled at 2:1 with the highwall eliminated. A GPS cross-section shows a maximum reduction in elevation of 80 feet and an average reduction in elevation of 45 feet.

**Mining Status:** Coal removal was completed in 1990. In 1990, DMME/DMLR accept an as-built regrade profile as AOC. The AOC variance area was revised into this permit in 1994 subsequent to a joint OSM/ Virginia DMME/DMLR inspection report and state notice of violation.

**Postmining Land Use:** The alternative postmining land use for the AOC variance area is agricultural (commercial tree farm). It has not been effectively implemented. The Virginia program has not approved agriculture or commercial forestry as a postmining land use for AOC variance areas on steep slopes. The premining land use is identified as unmanaged forest and previously mined lands.

**Approximate Original Contour:** A variance from AOC restoration was approved by Virginia DMME/DMLR for part of the permit area. The highwall was completely eliminated in the regrading. Field observations did not identify any major changes in the original drainage patterns.

**Excess Spoil Fills:** No excess spoil fills were planned for this operation. Earthwork calculations for this site were not present in the permit package.



SECTION H

PARAMONT COAL CORPORATION  
 PERMIT NUMBER: 1101115

- ORIGINAL GROUND LINE
  - - - PROPOSED REGRADE
  - · - · - GPS SURVEY LINE
- SCALE: 1" = 200'

**3. Jewell Smokeless Coal Corp.  
Permit 1101308**

Site Designation: Mountaintop Removal Permit

Jewell Smokeless Coal Corporation      Permit No. 1101308      Issued January 14, 1991

**Location:** Lat. 37° 01' 30", 82° 33' 00", in Wise County, Virginia

**Field Review Date:** November 24, 1998

**Mining Type:** This is a mountaintop removal permit, with associated contour and auger mining. The mountaintop removal variance applies only to a portion of the permit. The permit narrative requested the mountaintop removal variance to create useable flat land for the approved agricultural postmining land use of hayland/pasture.

**Mining Status:** This is a reclaimed 339.3 acre permit with complete bond release. The permit review included a check of the DMME/DMLR permit file and cross sections A-A and B-B. These cross sections traversed mountaintop and finger ridge coal removal areas. Included in the permit file review with DMME/DMLR, this permit was photographed from adjacent A & G Coal Corporation, PN 1101352 on November 24, 1998, for a general view of the postmining topography.

**Postmining land Use:** DMME/DMLR approved a postmining land use of hayland/pasture. The premining land use in this area included unmanaged forest, previously surface mined lands and agriculture. The approved postmining land use for the AOC variance (agriculture-hayland/pasture) is appropriate for this permit. At this time the postmining land use is fully implemented on the variance area. The permit consists of a plateau with hay rolls evident. Grazing livestock was observed on November 24, 1998.

**Approximate Original Contour:** The operation has been approved for an mountaintop removal permit. Permit cross-sections identify a maximum elevation change of -50 feet with an average change of -8 feet. We did not reproduce or include the permit cross-sections in this report. Field observation failed to identify major changes in drainage patterns.

**Excess Spoil Fills:** The approved permit identified 52,745,185 cubic yards of spoil with 30% swell (15,823,556 cubic yards) for a total of spoil volume of 68,568,741 cubic yards. A total of 2,921,888 cubic yards of excess spoil will be placed in fills. Completed Valley fill A is designed for 547,300 cubic yards, Valley fill B for 1,709,900 cubic yards, and Valley fill C for 664,688 cubic yards which balances the spoil volume. Completed Valley fills A, B and C have a total spoil volume of 2,921,888 cubic yards.

**4. A & G Coal Corporation**  
**Permit 1101352**

**Site Designation: Mountaintop Removal Permit**

**A & G Coal Corporation**

**Permit No. 1101352**

**Issued June 24, 1991**

**Location:** Lat. 37° 01' 20", Long. 82° 31' 00", in Wise County, Virginia

**Field Review Date:** November 24, 1998

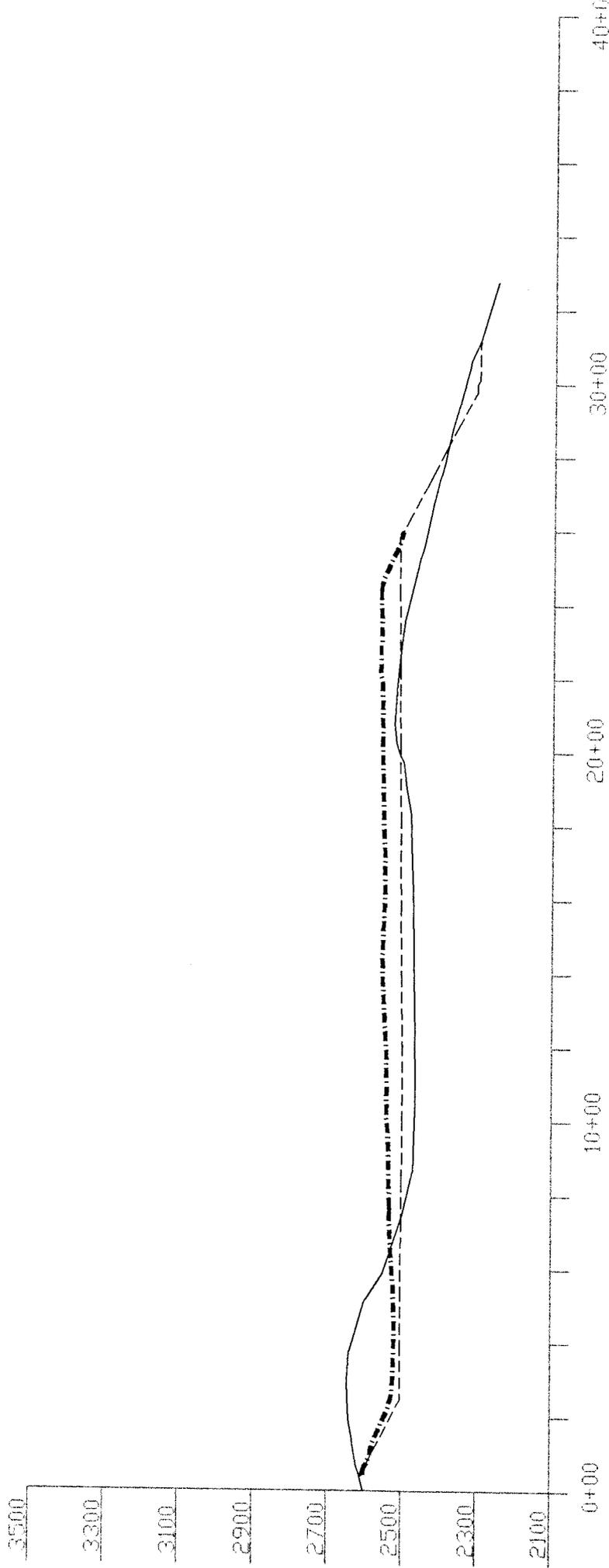
**Mining Type:** This is a mountaintop removal, contour, auger mining operation. The mountaintop removal variance applies to approximately 30 acres of this 658.6 acre active mountaintop permit.

**Mining Status:** This permit is active with approximately 221 acres regraded and vegetated and with 564.34 acres disturbed.

**Postmining land Use:** DMME/DMLR approved a postmining land use of unmanaged forest and hayland/pasture. The premining land use in this area included unmanaged forest, previously surface mined lands and agriculture. This approved postmining land use (agriculture-hayland/pasture) for the AOC variance is appropriate for this permit. At this time the postmining land use is not fully implemented on the variance area.

**Approximate Original Contour:** The permit narrative requests the mountaintop removal variance in the vicinity of cross section 2-2 and 4-4. These sections identify removal of approximately 150 feet of overburden with a regrade line gently sloped inward to an outlet drainage ditch, to create useable flat land for the postmining land use. The rest of the permit will be reclaimed to AOC. The GPS field cross sections 2-2 and 4-4 conformed closely to the original proposed cross section in the permit package on the AOC variance area. The final regraded land form is approximately 35' higher than proposed regraded land form with out-slopes still consistent with approved plans. All mining is completed along sections 2-2 and 4-4. The GPS survey showed maximum elevation changes of -110 feet with an average change of +35 feet. Field observation did not identify major changes to drainage patterns.

**Excess Spoil Fills:** The approved permit identifies 59,044,000 cubic yards of spoil with 12% swell (7,085,280 cubic yards) for a total of 66,129,280 cubic yards. A total of 1,245,943 cubic yards of excess spoil will be placed in fills. Completed Valley fill #1 is designed for 1,090,694 cubic yards, Existing bench fill #1 for 85,958 cubic yards, and Existing bench fill #2 for 69,291 cubic yards which balances the spoil volume. Over half of this permit has active mining with spoil placement continuing. The calculation noted above relates to the cross section areas 2-2 and 4-4 only. Completed Valley fill #1 and Bench fills #1 and #2 have a total spoil volume of 1,245,943 cubic yards.

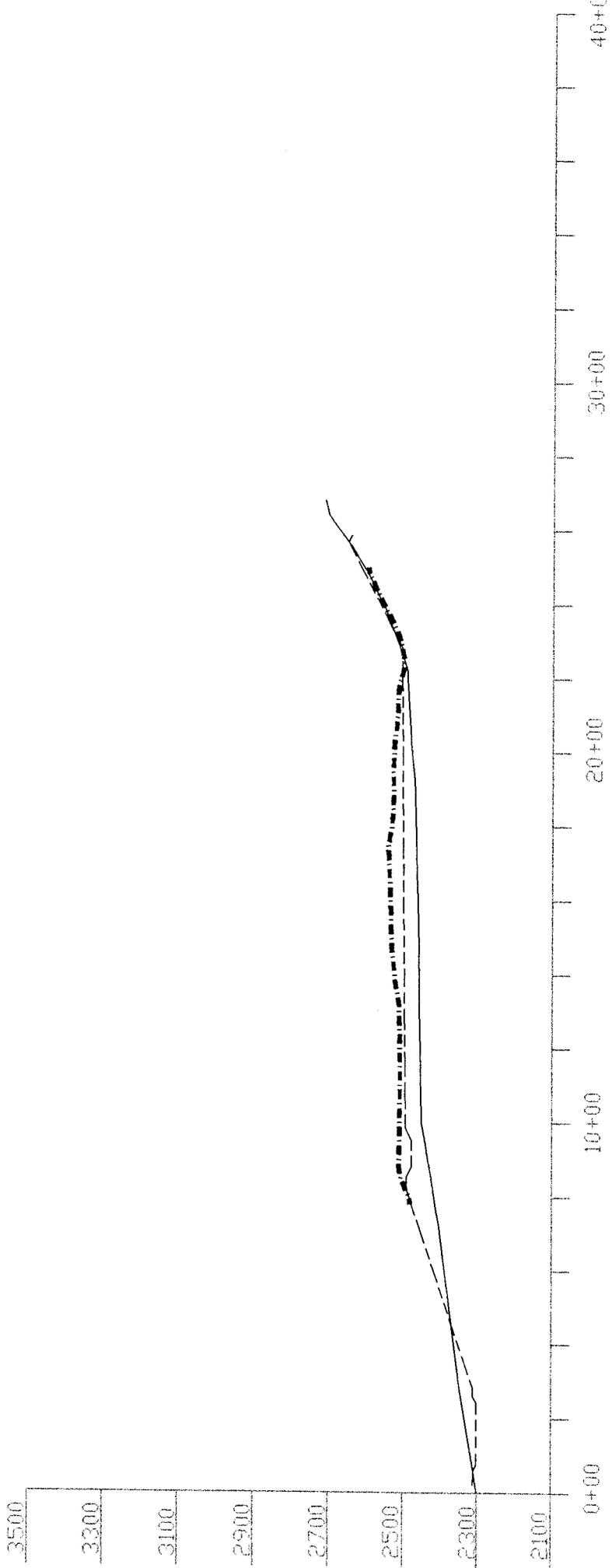


SECTION 2--2

A & G COAL CORPORATION  
 PERMIT NUMBER: 1101352

— ORIGINAL GROUND LINE  
 - - - PROPOSED REGRADE  
 - · - · - GPS SURVEY LINE

SCALE: 1" = 400'



SECTION 4-4

A & G COAL CORPORATION  
 PERMIT NUMBER: 1101352

\_\_\_\_\_ ORIGINAL GROUND LINE  
 - - - - - PROPOSED REGRADE  
 - · - · - GPS SURVEY LINE  
 SCALE: 1" = 400'

**5. Clinchfield Coal Company  
Permit 1101521**

Site Designation: Steep Slope and/or Area Mine Restored to the AOC

Clinchfield Coal Company, Permit No. 1101521; Issued January 23, 1995

**Location:** Lat. N 37° 00' 30", Long. W 82° 14' 15", in Dickenson County, Virginia

**Field Review Date:** December 2, 1998

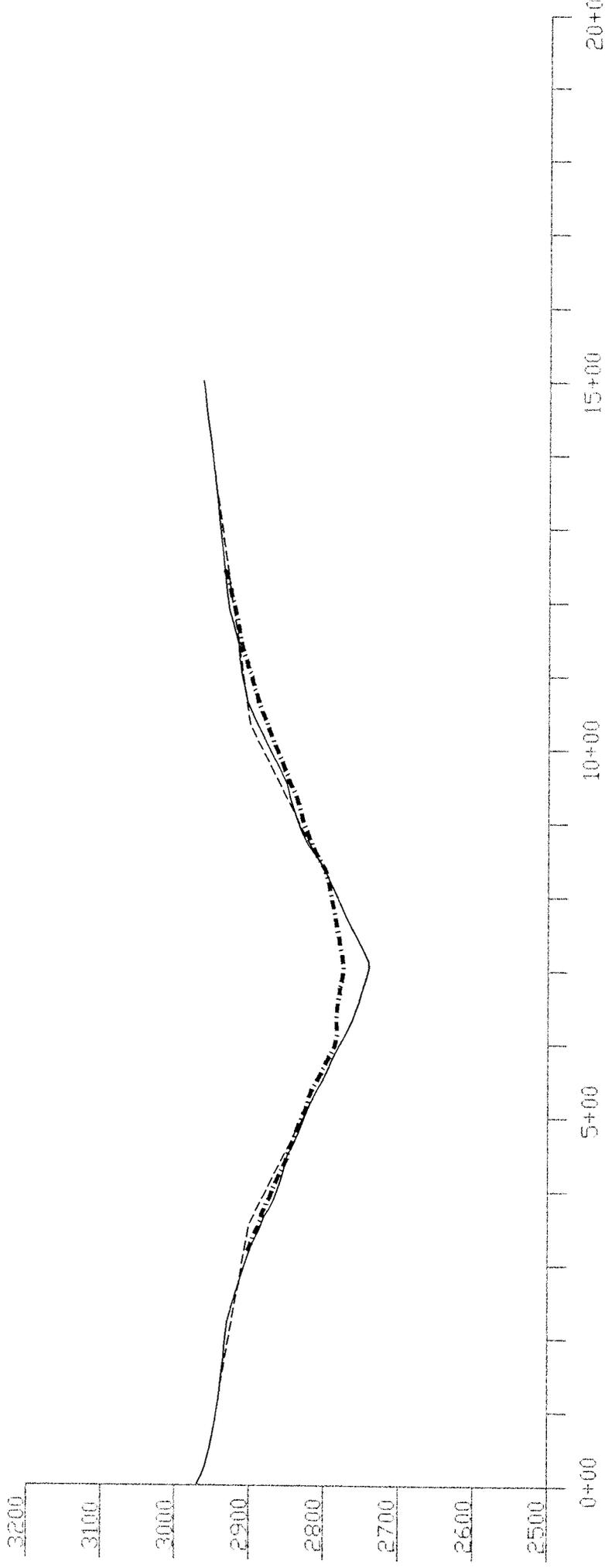
**Mining Type:** This is a 258.60 acre contour and auger mining operation in steep slope areas. AOC restoration was required on this site. The five coal seams originally proposed to be partially mined were mined. The global positioning system (GPS) field cross-sections C and the north half of G were similar to the original postmining sections; however, the GPS cross-sections D and H were lower in elevation than the approved ones.

**Mining Status:** All mining has been completed and this permit has been reclaimed and vegetated since June 5, 1997.

**Postmining Land Use:** DMME/DMLR approved a postmining land use of unmanaged forest. The premining land use was also unmanaged forest. On September 2, 1998, the postmining land use was changed on a small portion of the permit to a commercial use of light industry because that area was proposed for redisturbance by a gas company to install gas lines across the permit. The field visit found that the entire surface mined area was stabilized with a vegetative ground cover which included trees and shrubs; gas lines had recently been installed across the permit. The gas line disturbance was minimal and a young vegetative cover had been started on those disturbed areas.

**Approximate Original Contour:** The proposed backfill was similar to the premining configuration. In one area the backfill toe was located approximately 275 feet from the outcrop leaving a bench which was not originally present; therefore, less material was placed in this area than was originally present. The backfill toe in another area was located approximately 180 feet from the outcrop and the original ground in this area was gently sloping for approximately 400 feet from the outcrop; therefore, more material was placed in this area than was originally present. On another area the backfill was flat on top instead of rolling and was an average of 16 feet lower in elevation. A GPS survey of the site found a maximum elevation change of -50 feet and an average change of -16 feet. No major changes in drainage patterns was noted.

**Excess Spoil Fills:** The original permit identifies 22.6 million cubic yards (CY) of bank (in situ) spoil volume for the entire permit. The permit did not give figures for swell amounts. Based on information obtained during the field visit, the final total overburden volume was estimated to be 27,459,000 CY using a 35 percent swell and deleting 10 percent for the undisturbed areas. The original permit proposed to permanently store 2,291,160 CY in ten durable rock fills. During mining, the volumes of two fills were changed, seven fills were deleted, and three small side hill fills were added for a total final fill volume of 2,286,700 CY.

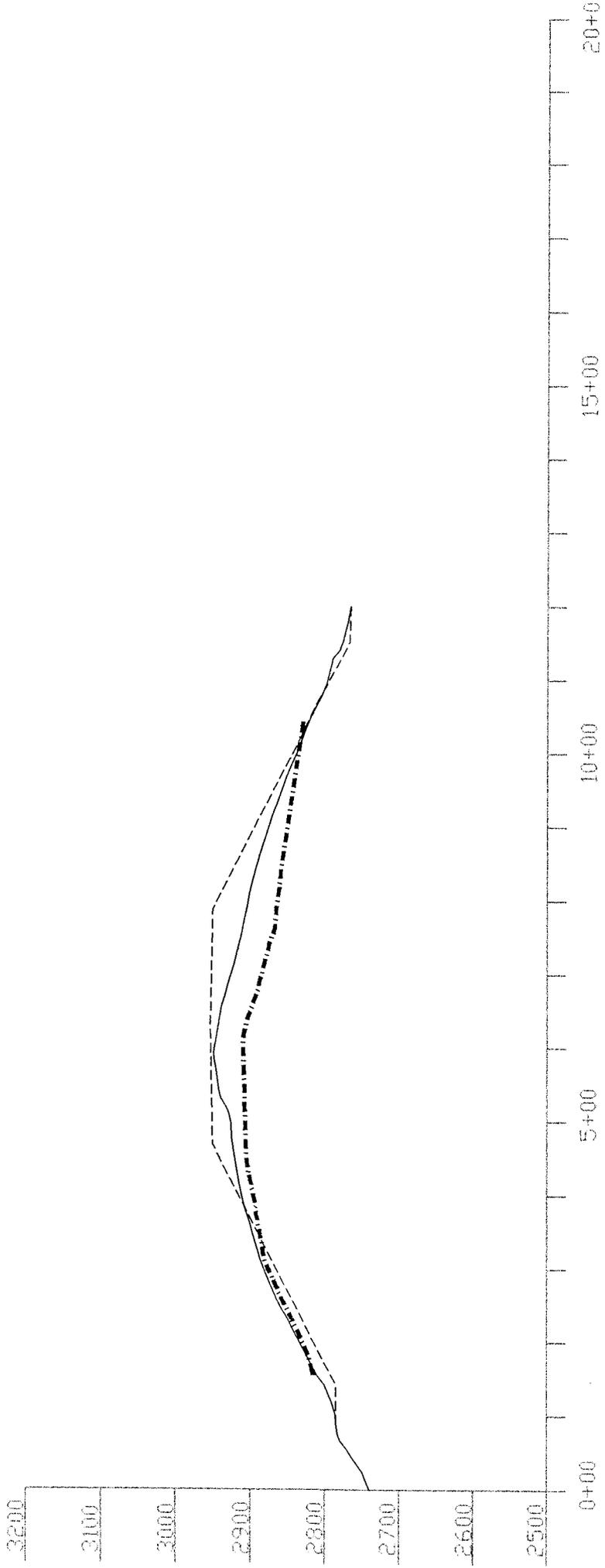


SECTION C-C

CLINCHFIELD COAL COMPANY  
 PERMIT NUMBER: 1101521

— ORIGINAL GROUND LINE  
 - - - PROPOSED REGRADE  
 - · - · - GPS SURVEY LINE

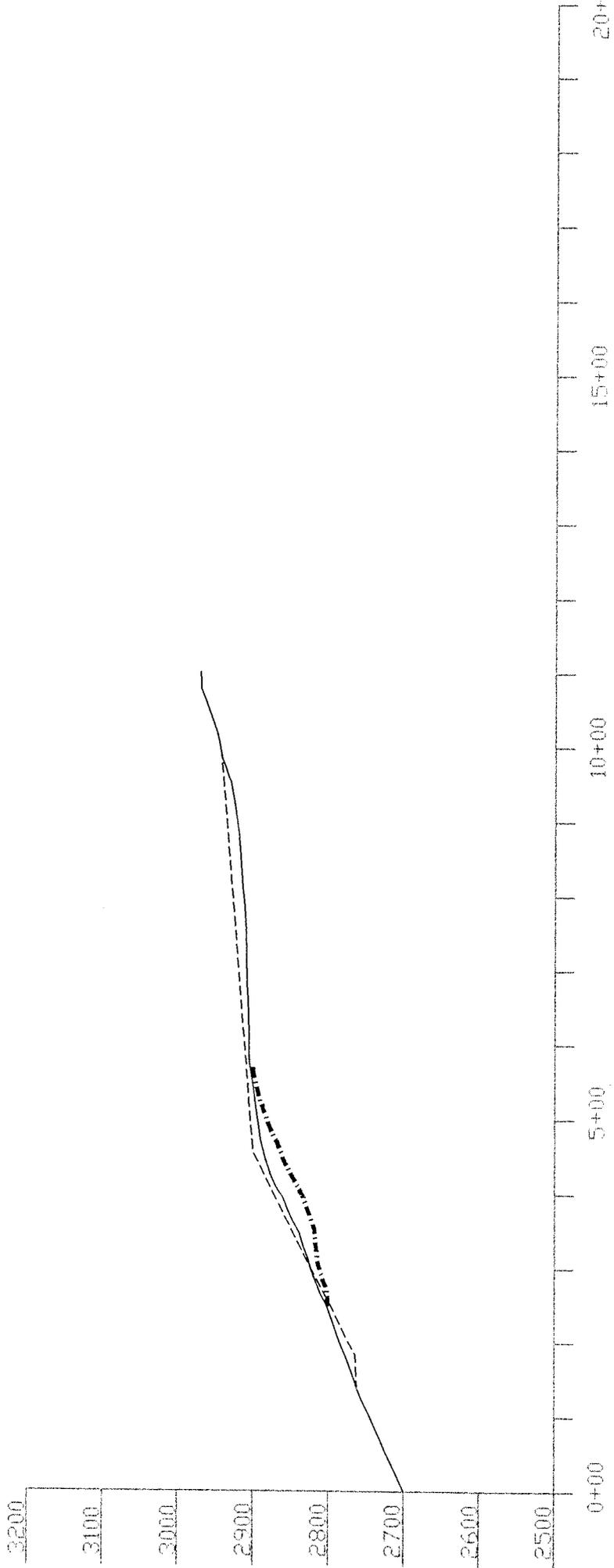
SCALE: 1" = 200'



SECTION D-D

CLINCHFIELD COAL COMPANY  
 PERMIT NUMBER: 1101521

- ORIGINAL GROUND LINE
  - - - PROPOSED REGRADE
  - · - · - GPS SURVEY LINE
- SCALE: 1" = 200'

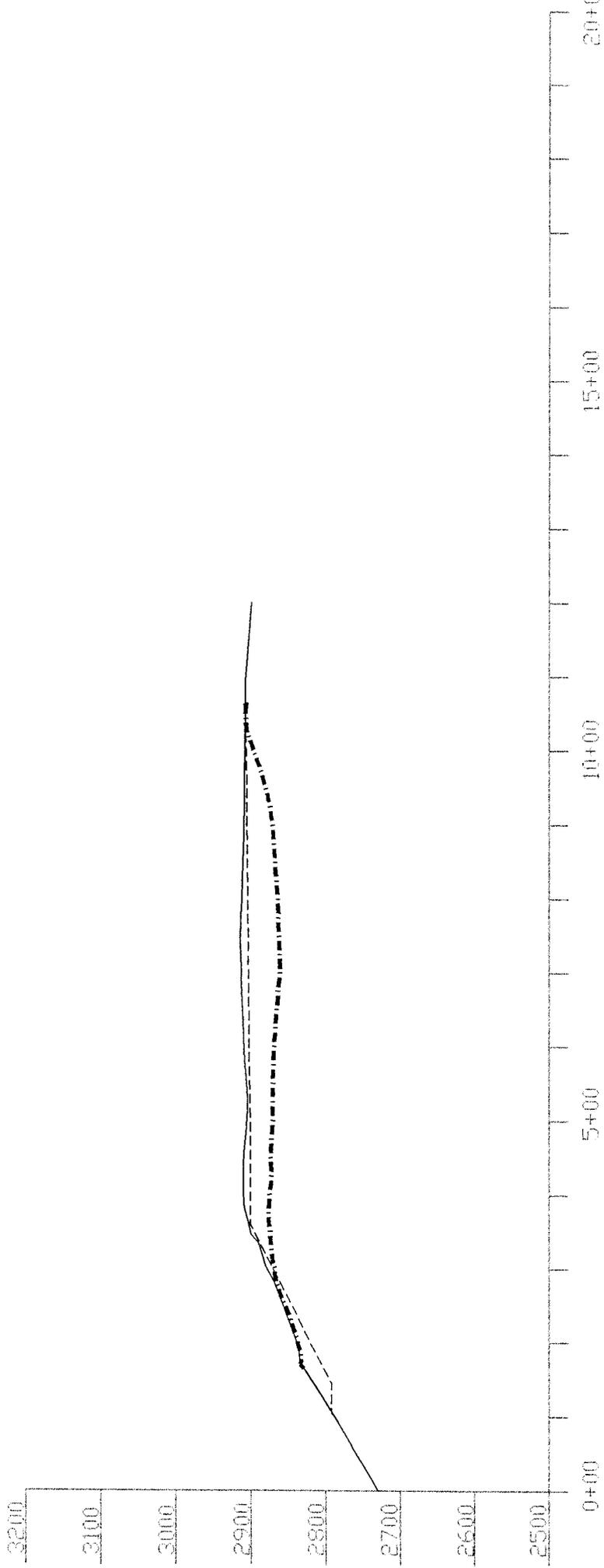


SECTION G-G

CLINCHFIELD COAL COMPANY  
 PERMIT NUMBER: 1101521

- ORIGINAL GROUND LINE
- - - PROPOSED REGRADE
- · - · - GPS SURVEY LINE

SCALE: 1" = 200'



SECTION H-H

CLINCHFIELD COAL COMPANY  
 PERMIT NUMBER: 1101521

\_\_\_\_\_ ORIGINAL GROUND LINE  
 - - - - - PROPOSED REGRADE  
 - · - · - GPS SURVEY LINE  
 SCALE: 1" = 200'

## **6. Motivation Coal Company**

**Permit 1101548**

**Site Designation: Steep Slope and/or Area Mine Restored to AOC**

**Motivation Coal Company, Permit # 1101548, Permit issued November 29, 1995**

**Location:** Lat.: 37° 12' 30", Long.: 82° 09' 00", in Buchanan County, Virginia

**Field Review Date:** December 3, 1998

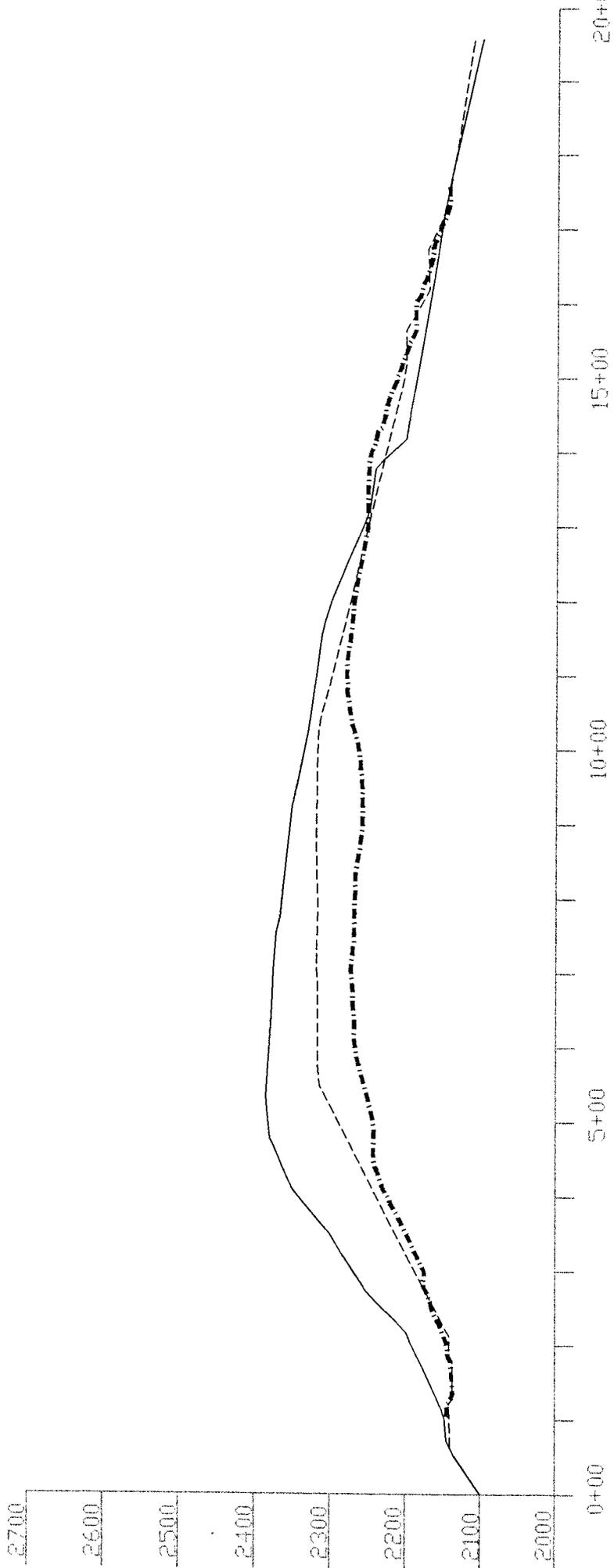
**Mining Type:** This is a 230.16 acre area and contour mining operation that is being returned to AOC. The permit includes some areas of pre-SMCRA mining. The permit plans provide cross-sections indicating the premining elevations, the coal excavation limits on three seams, and the planned and/or completed post-construction cross-sections. Cross-sections B-B' and D-D' were identified as representative of the regraded areas during the review. Two coal seams were entirely mined out in the area of these cross-sections. The restored ridge line has similar slopes and slightly reduced maximum elevations compared to the original ground. Berm diversions along the outcrop barriers and sediment structures have caused minor outslope set-backs. These set-backs contribute to the lower maximum elevations in the regraded areas.

**Mining Status:** This is an active mine that is removing coal. An estimated 210 acres have been disturbed.

**Postmining Land Use:** The permit was approved with a postmining land use of unmanaged forest. The permit identified the premining land uses as unmanaged forest and previously mined areas.

**Approximate Original Contour:** As approved by Virginia DMME/DMLR, the permit area is being returned to AOC. A GPS survey found that the contour had been reduced a maximum of -140 feet with an average change of -45 feet. Field observations did not identify any major changes from the original drainage.

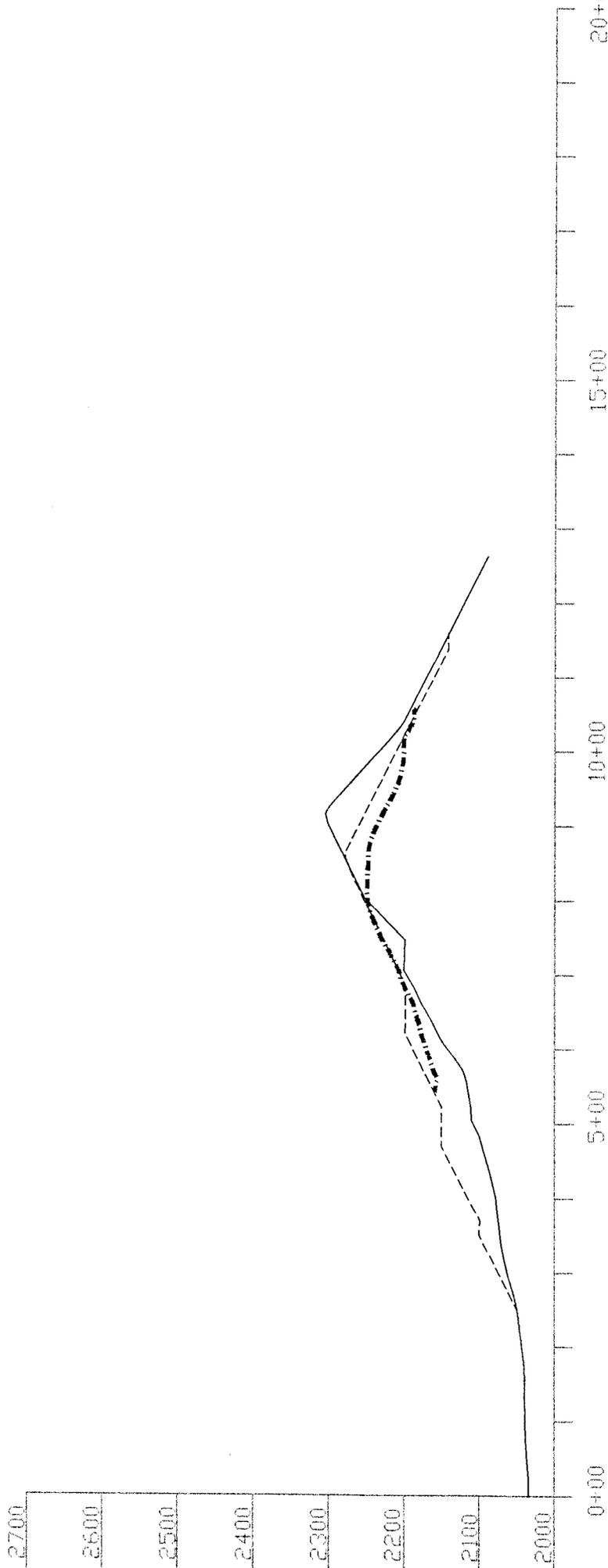
**Excess Spoil Fills:** The permit identifies 23.7 million cubic yards of spoil with a 25 percent swell factor for a total overburden volume of 29.6 million cubic yards. The permittee proposes to place 11.4 million cubic yard of spoil in three excess spoil disposal fills. At the time of our visit, two fills are completed and one is under construction.



SECTION B-B

MOTIVATION COAL COMPANY  
 PERMIT NUMBER: 1101548

- ORIGINAL GROUND LINE
  - - - PROPOSED REGRADE
  - · - · - GPS SURVEY LINE
- SCALE: 1" = 200'



SECTION D-D

MOTIVATION COAL COMPANY  
 PERMIT NUMBER: 1101548

- ORIGINAL GROUND LINE
- - - PROPOSED REGRADE
- · - · - GPS SURVEY LINE

SCALE: 1" = 200'

**7. Cumberland Mountain Mining, Inc.  
Permit 1101556**

**Site Designation: Mountaintop removal permit /Area and Contour Operation**

**Cumberland Mountain Mining, Inc. Permit No. 1101556 Issued May 03, 1996**

**Location:** Lat. 37° 19' 00", Long. 82° 13' 00", in Buchanan County, Virginia

**Field Review Date:** November 19, 1998

**Mining Type:** This is a 363.10 acre mountaintop removal permit also containing contour and auger mining. The permit narrative requested the mountaintop removal variance on a portion of permit. This area was never mined. The rest of the permit was returned to AOC.

**Mining Status:** This permit is inactive with all mining completed on October 21, 1997. The company mined and disturbed 95 acres with no mining conducted on the mountaintop removal area. The mine disturbance on this permit included a sediment basin in the hollow, haulroad, road fill, two head-of-hollow fills and approximately 4,600 feet of contour bench and finger ridge coal removal.

**Postmining land Use:** DMME/DMLR approved a postmining land use of fish and wildlife habitat which included wetland construction and establishment of vegetation to enhance wildlife. The premining land use in this area included unmanaged forest and previously surface mined lands. Fish and wildlife habitat is not an approved postmining land use for which an AOC variance can be granted. In this case the AOC variance area was not mined or disturbed. The disturbed contour mining areas have been reclaimed. At the time of field inspection, the postmining land use was not fully implemented -- grasses were established, but shrubs, trees and wetland were not.

**Approximate Original Contour:** The part of the permit with mountaintop removal variance was never mined. The remainder of the permit was returned to AOC. We did not include cross-sections of the AOC areas in this report. Runoff patterns were not significantly altered by this mining operation.

**Excess Spoil Fills:** The approved permit identifies 31,438,735 cubic yards of spoil with 30% swell (9,431,620 cubic yards) for a total of 40,870,355 cubic yards. Regrading will use 31,082,067 cubic yards leaving 9,788,288 cubic yards excess spoil. Road fill #1 is designed for 71,973 cubic yards, Valley fill #1 for 533,333 cubic yards, Valley fill #2 for 2,339,258 cubic yards, Valley fill # #3 for 4,111,111 cubic yards, and Valley fill #4 for 2,906,666 cubic yards for a total of 9,962,341 cubic yards which makes the spoil volume balance within 2%. The three fills disturbed and used were Road fill #1, Valley fill #1 and Valley fill #2 with total spoil volume proposed of 2,944,564 cubic yards. Excess spoil disposal on this permit is less than proposed because much of the permit was not mined.

**8. Paramount Coal Corporation**  
**Permit 1101602**

**Site Designation: Mountaintop removal Permit**

**Paramont Coal Corporation, Permit No. 1101602; Issued May 23, 1997**

**Location:** Lat. N 36° 59' 42", Long. W 82° 19' 52", in Dickenson County, Virginia

**Field Review Date:** December 1, 1998

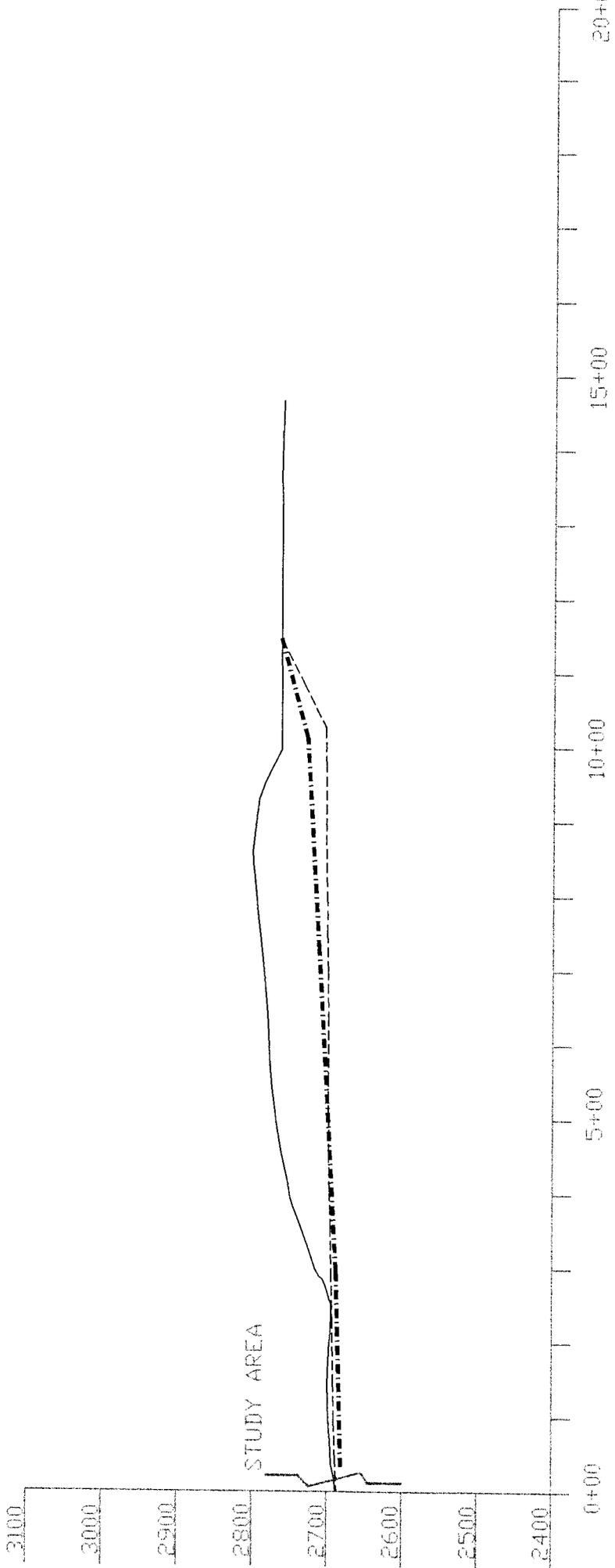
**Mining Type:** This is a 240 acre mountaintop removal permit with an approved variance on mining areas B1 and B2. These areas are represented on cross-sections A, C and D. The variance areas were not clearly identified in the permit. The Dorchester coal seam splits were proposed to be entirely mined.

**Mining Status:** All mining has been completed since June 29, 1998, and this permit has been reclaimed and vegetated. The field visit found that the splits of the coal seam were mined entirely as proposed in the permit.

**Postmining Land Use:** DMME/DMLR approved a postmining land use for the AOC variance areas of hayland/pasture. The premining land use for the permit was hayland/pasture and unmanaged forest. The permit includes letters from the landowners that indicate a desire for hayland/pasture as the postmining land use. The field visit found that the entire surface mined area was stabilized with a vegetative ground cover and cattle were grazing on the permit.

**Approximate Original Contour:** The proposed backfill on the mountaintop removal areas was to be a flat to gently rolling plateau. The global positioning system (GPS) field cross-sections A and C conformed closely to the approved cross-sections A and C; however, GPS field cross-section D was higher in elevation than the originally approved cross-section D. The GPS survey identified an maximum change in elevation of -100 feet, with an average change of -52 feet. Runoff patterns were not significantly altered by this mining operation.

**Excess Spoil Fills:** The original permit identifies 7.4 million cubic yards (CY) of bank (in situ) spoil volume for the entire permit and a 25 percent swell (1.9 million CY) for a total spoil volume of 9.3 million CY. The original permit proposed to permanently store 5.8 million CY in four fills. The field visit found that two fills were completed as designed, one fill was built smaller than designed, and one fill was not built. Final fill volume data was not available.

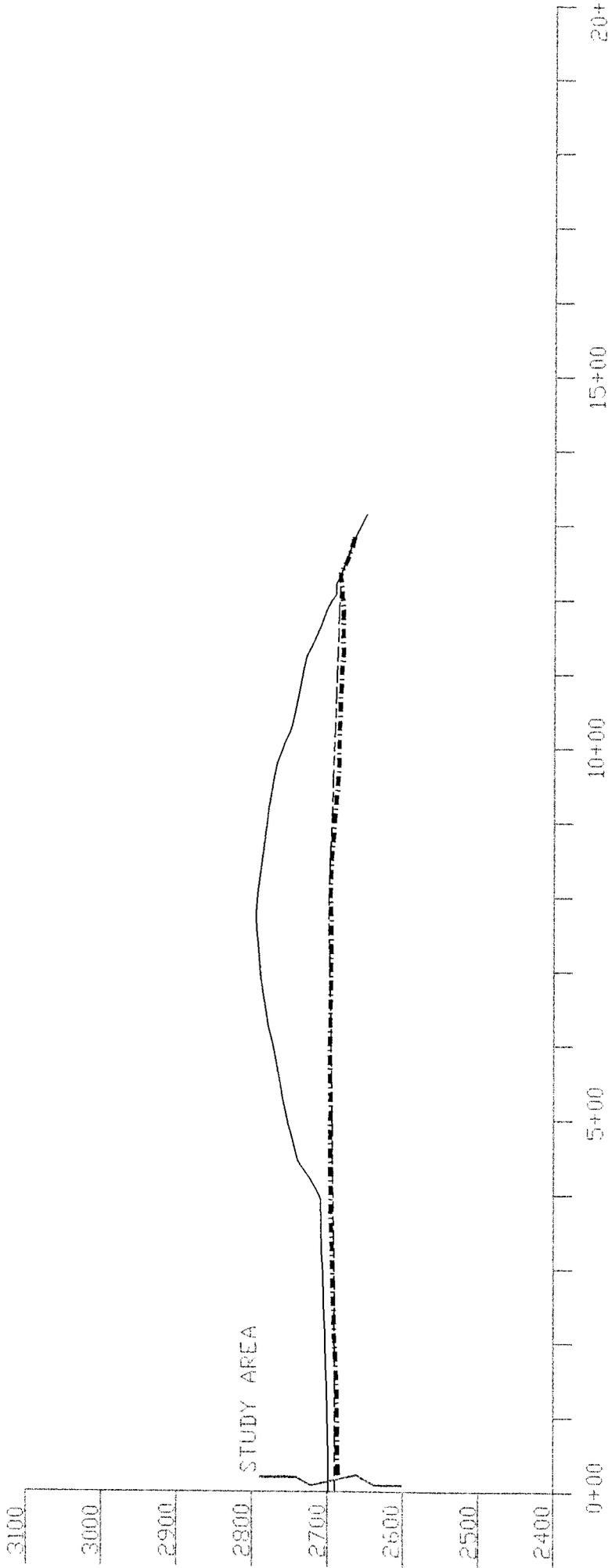


SECTION AA

PARAMONT COAL CORPORATION  
 PERMIT NUMBER: 1101602

— ORIGINAL GROUND LINE  
 - - - PROPOSED REGRADE  
 - · - · - GPS SURVEY LINE

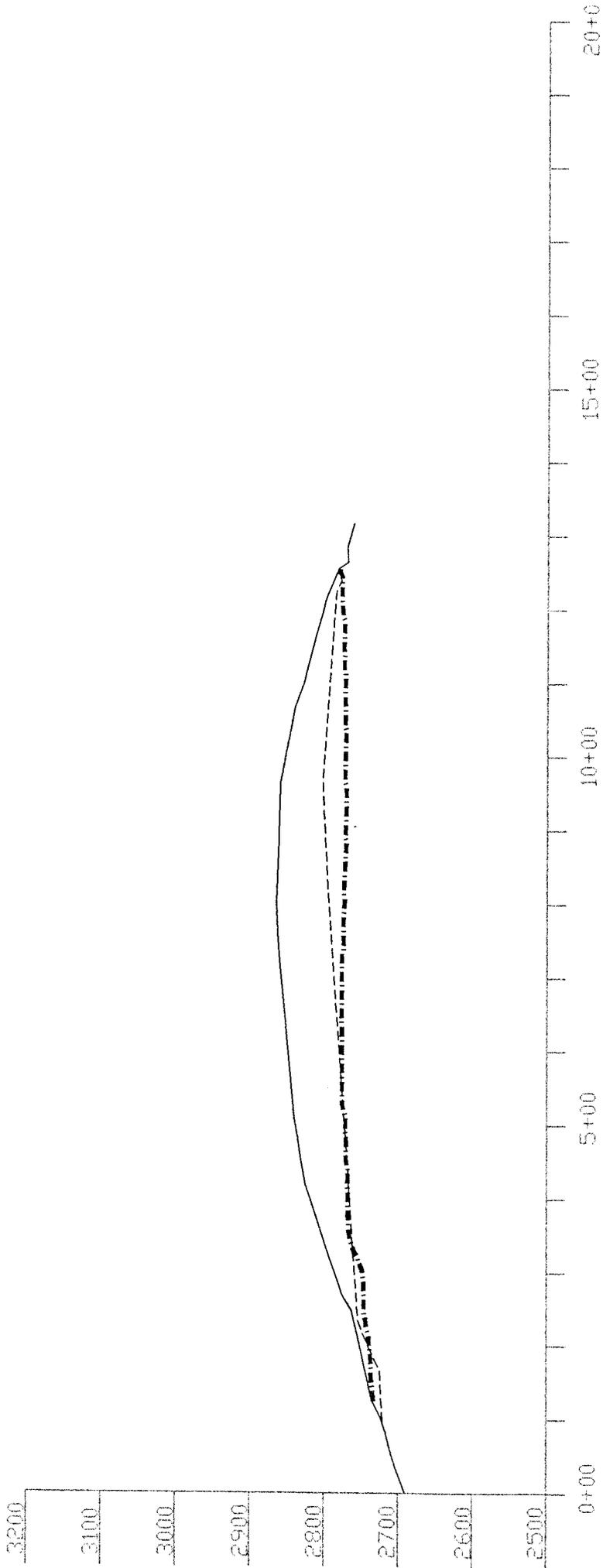
SCALE: 1" = 200'



SECTION CC

PARAMONT COAL CORPORATION  
 PERMIT NUMBER: 1101602

- ORIGINAL GROUND LINE
  - - - PROPOSED REGRADE
  - · - · - GPS SURVEY LINE
- SCALE: 1" = 200'



SECTION DD

PARAMONT COAL CORPORATION  
 PERMIT NUMBER: 1101602

\_\_\_\_\_ ORIGINAL GROUND LINE  
 - - - - - PROPOSED REGRADE  
 - · - · - · GPS SURVEY LINE  
 SCALE: 1" = 200'

**9. Dominion Coal Corporation**  
**Permit 1201133**

*Site Designation: Steep Slope Mine with an AOC Variance*

**Dominion Coal Corporation, Permit No. 1201133; Issued March 27, 1991**

**Location:** Lat. N 37° 10' 15", Long. W 82° 02' 30", in Buchanan County, Virginia

**Field Review Date:** December 1, 1998

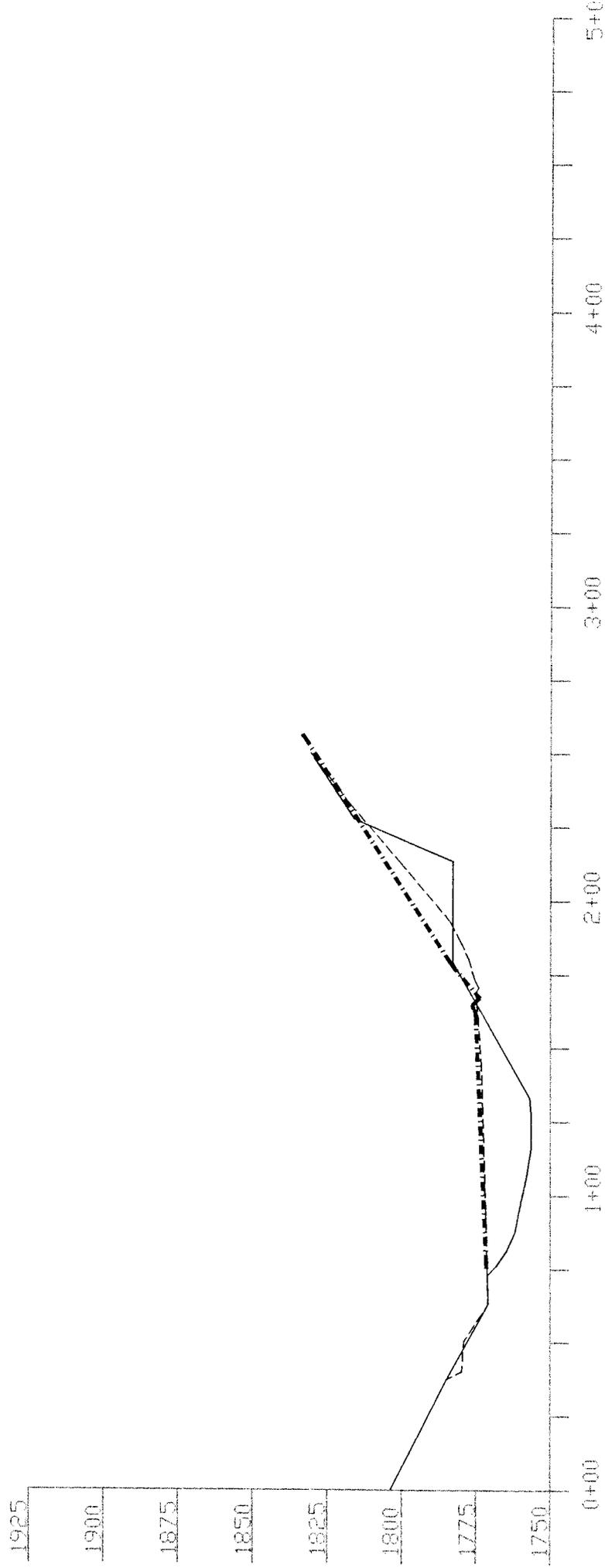
**Mining Type:** This is a underground mining operation that had three portal areas in steep slope terrain identified as portal areas A, B and C. This operation mined the Kennedy coal seam using the room and pillar mining method. Portal areas A and B were initially required to be backfilled to AOC. Portal area C was constructed on an existing bench, without taking a second cut on the highwall, and all available material was required to be used to backfill this area. On November 19, 1996, an AOC variance was approved for portal area B as represented by cross-section A. The AOC variance on portal area B was the subject of this review. The global positioning system (GPS) field cross-section A at portal area B was similar to the approved postmining cross-section A.

**Mining Status:** All mining has been completed and this permit has been reclaimed since February 4, 1997. The entire permit has been stabilized with vegetation. A phase III bond release was approved on June 4, 1997, for the portion of portal area B being used for light industry and this reduced the permit to 13.27 acres.

**Postmining Land Use:** DMME/DMLR originally approved a postmining land use of unmanaged forest for the entire permit. The premining land use was also unmanaged forest. The AOC variance request included a change in the postmining land use to light industrial for that portion of portal area B. The AOC variance approval did not include a demonstration that the watershed would be improved. The field visit found that the backfill on the variance area was stabilized with a vegetative ground cover. The bond released portion of the variance area was actively being used by a construction company as approved in the postmining land use change.

**Approximate Original Contour:** The AOC variance approved at portal area B changed the backfill regrade from highwall elimination using a premining 32 degree backfill slope to highwall elimination using a 38 degree backfill slope, as shown by cross-section A. Our GPS survey of this area showed maximum elevation change of +20 feet and an average change of +8 feet. Runoff patterns were not significantly altered by this mining operation.

**Excess Spoil Fills:** The original permit proposed to construct a permanent refuse disposal valley fill above portal area B; however, this fill was never constructed. Portal area B was constructed by placing the spoil in a fill across the small hollow below the portals. This fill had an estimated volume of 8,518 cubic yards and formed a work bench for the minesite. The AOC variance included changing this fill to a permanent structure to facilitate the light industrial land use and using borrowed material from the refuse fill site to backfill the highwall.



SECTION A-A

DOMINION COAL CORPORATION  
 PERMIT NUMBER: 1201133

— ORIGINAL GROUND LINE  
 - - - PROPOSED REGRADE  
 - · - · - GPS SURVEY LINE

SCALE: 1" = 50'

**10. Sigmon Coal Company, Inc.**  
**Permit 1601519**

*Site Designation: Steep Slope and/or Area Mine Restored to the AOC*

**Sigmon Coal Company, Inc., Permit No. 1601519; Issued December 14, 1994**

**Location:** Lat. N 36° 51' 20", Long. W 82° 55' 26", in Lee County, Virginia

**Field Review Date:** November 24, 1998

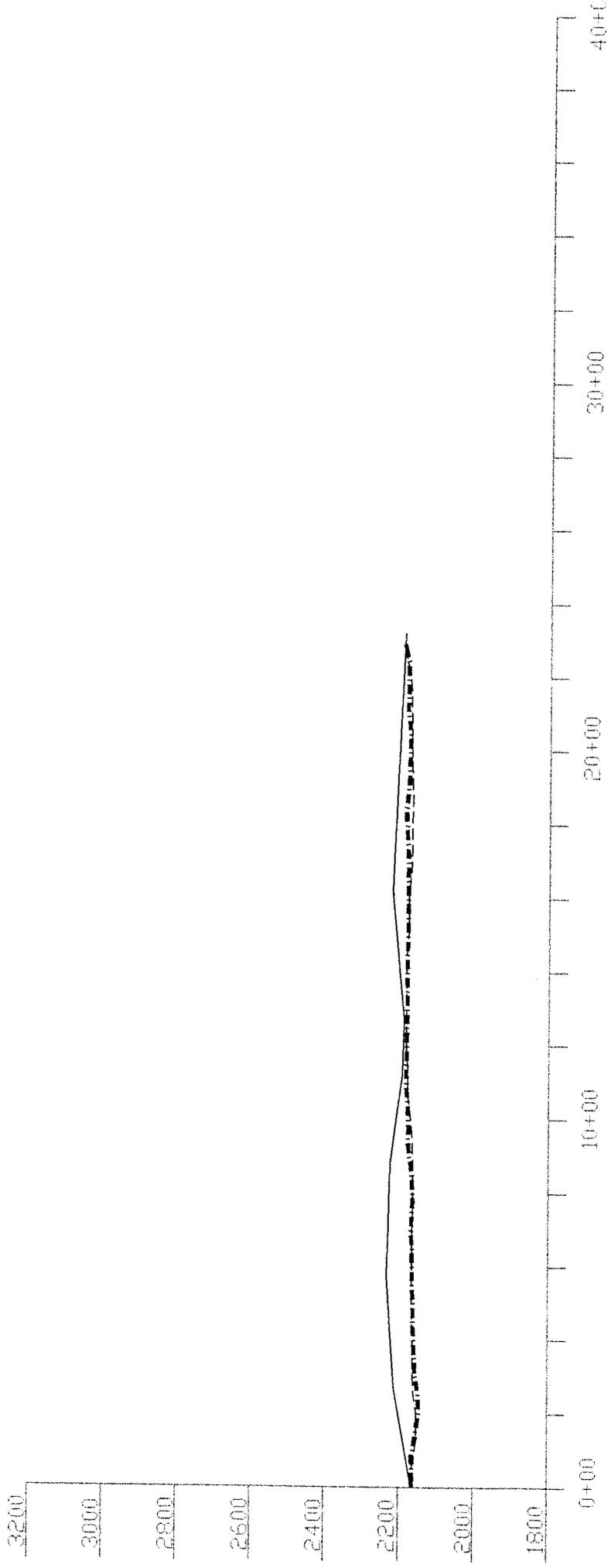
**Mining Type:** The surface mining portion of this 226.6 acre permit is a steep slope and/or area-type mining operation that mined through rolling terrain and pre-existing mining disturbances. The permit narrative considers the final proposed regrade as AOC. The Kelly and Kelly Rider coal seams were proposed to be entirely mined. An excess spoil side hill fill was added on November 14, 1995 for the first cut material.

**Mining Status:** This permit is divided into two separate mine areas connected by an access road. One area is a surface mining area which is the subject of this review. The second area is proposed for four underground mines. As of the date of the field inspection, underground mining had not yet begun. Surface mining was completed sometime around 1996. The field visit found that both coal seams were mined entirely as proposed in the permit (except for one area) and that the outcrop barrier was retained.

**Postmining Land Use:** DMME/DMLR approved a postmining land use of unmanaged forest on the outcrops and hayland/pasture on the remainder of the permit. The premining land use was unmanaged forest and existing mining disturbances. The permit includes letters from the landowners that indicate a desire for hayland/pasture as the postmining land use. The permit also says the dual postmining land use will be compatible with the surrounding area. The field visit found that the entire surface mined area was stabilized with a vegetative ground cover and that horses were grazing and fences were installed on the hayland/pasture portion; however, trees and shrubs had not been planted on the unmanaged forest portion.

**Approximate Original Contour:** The proposed backfill was similar to the premining configuration except it was 20 feet higher (original cross-section A) and the pre-existing highwalls were eliminated. Our GPS survey found that the operations decreased the elevation by a maximum of 60 feet, with an average change of -32 feet. Runoff patterns were not significantly altered by mining activities.

**Excess Spoil Fills:** The original permit identifies 6 million cubic yards (CY) of bank (in situ) spoil volume for the entire permit and a 30 percent swell (1.8 million CY) for a total spoil volume of 7.8 million CY. No excess spoil fills were originally proposed. The side hill fill that was added to the permit was proposed to contain 70,000 CY; however, the field visit found that only about half the proposed amount of spoil (35,000 CY) was placed in the fill.



SECTION A

SIGMON COAL COMPANY, INC.  
 PERMIT NUMBER: 1601519

- ORIGINAL GROUND LINE
- - - PROPOSED REGRADE
- · - · - GPS SURVEY LINE

SCALE: 1" = 400'

**APPENDIX I.**  
**DMME/DMLR - OSM OVERSIGHT WORK PLAN**

PERFORMANCE AGREEMENT

SPECIAL OVERSIGHT STUDY  
OF  
APPROXIMATE ORIGINAL CONTOUR,  
Postmining LAND USE,  
AND  
EXCESS SPOIL DISPOSAL

PERFORMANCE AGREEMENT

Between

Office of Surface Mining  
Big Stone Gap Field Office

And

Department of Mines, Minerals and Energy,  
Division of Mined Land Reclamation

Evaluation Year 1999

## PERFORMANCE AGREEMENT

### I. INTRODUCTION

The Big Stone Gap Field Office (BSGFO) of the Office of Surface Mining (OSM) and the Department of Mines, Minerals and Energy, Division of Mined Land Reclamation (DMME/DMME/DMLR) agree to work together to examine aspects of surface mining operations which include:

- Mountaintop removal (as defined at 4 VAC 25-130-785.14) with a variance from approximate original contour (AOC);
- Mines which remove all of the coal seam or seams in the upper fraction of a mountain but which return the land to AOC; and
- Steep slope mines with an AOC variance pursuant to 4 VAC 25-130-785.16.

The evaluation focuses on the following questions related to these type operations:

- Where DMME/DMLR has granted mountaintop removal or steep slope AOC variances, has an appropriate postmining land use (PMLU) been requested and approved pursuant to 4 VAC 25-130-816/817.133?
- What postmining land configuration does DMME/DMLR accept on mountaintop and other steep slope operations in determining that a given site has been returned to AOC?
- How are excess spoil yardage amounts determined and to what extent are Virginia operations restricted in spoil placement outside the mine pit area?

### II. IMPLEMENTATION

BSGFO will brief DMME/DMLR on the preliminary findings as they are developed. DMME/DMLR comments will be taken into consideration in preparation of the draft reports, and DMME/DMLR will be provided the draft report for review and comment. Any DMME/DMLR comments not incorporated into the final report will be included as an appendix to the final report.

#### A. Scope of Mountaintop removal and Steep slope AOC variances

DMME/DMLR will develop an inventory of mountaintop removal and steep slope operations, consistent with the description and meanings described in the above section titled "Introduction". The inventory will come from the DMME/DMLR inspectable units list and DMME/DMLR will make available to OSM the bond released mountaintop and other steep slope sites with an AOC variance contained in the DMME/DMLR permitting

and enforcement data bases. DMME/DMLR field inspection staff will field verify the number of AOC variances applicable to currently bonded permits and collect general data about those mines. DMME/DMLR and OSM anticipates that this inventory will be completed and provided to BSGFO on November 17, 1998.

## B. Sampling

Preliminary estimates indicate that Virginia has a population of six mountaintop removal permits pursuant to 4 VAC 25-130-785.14 with AOC variances. Currently DMME/DMLR estimates that there are approximately 16 area mining permits which are required to restore the AOC, and an unknown number of steep slope mines that have obtained an AOC variance.

The sample for the study will include 10 permits selected for permit file review and field inspection. The sites will be broken down as follows:

- Two bonded mountaintop removal permits with an AOC variance (file and field inspection).
- Two bond released mountaintop removal permits (file and field inspection).
- Three steep slope and/or area mines which have been restored to the AOC- (file and field inspection).
- Three steep slope mines (contour) with AOC variances (file and field inspection).

These selections will be based on the inventory and will be selectively picked to obtain the specified sample, with emphasis on more recent approvals where operations have advanced to the reclamation stage to allow an evaluation of the approved land configuration. Bond released sites will be selected from those most recently released which contained an approved variance from AOC.

## C. Review Methodology

This study will determine if the approved State regulatory provisions relating to AOC, variances from AOC and PMLU. are being implemented pursuant to applicable regulatory provisions. The study will also review spoil balance calculations in the sampled permits to determine if excess spoil volumes are within expected engineering norms and if the excess spoil volumes approved for placement in fills outside of the mine pit are based upon accepted engineering norms for swell and compaction percentages.

Permit documents for the operations will be reviewed to determine if all approved program requirements related to approval of an AOC variance and changing of the PMLU. have been met. When available, digitized maps of the operation will be used to compare premining topography and postmining topography. The field review will determine if the operations are proceeding pursuant to approved plans, the final surface configuration is consistent with the approved permit and whether the alternative PMLU.

is being developed, or for bond released sites has the requirement for bond release have been met in regards to postmining land use in accordance with the plans and schedule required by DMME/DMLR. Geo- Referencing of the major features of the mine site will be accomplished.

The following activities will occur to complete this evaluation:

1. Create a joint DMME/DMLR/OSM team.
  - a. Name the OSM team leader.
  - b. Name the DMME/DMLR team leader.
  - c. Select team members.
2. Team members will complete the following:
  - a. Apportion assignments.
  - b. Develop the review forms.
3. Select permits.
  - a. Selectively pick the permits from the inventory to obtain the required mix of operational types and operational status to allow review of the applicable standards.
4. Conduct review of permit plans, AOC variance provisions, PMLU provisions and spoil balance equations. (Use Permit Review Form, to be developed).
  - a. Identify types and locations of AOC variances within specific permit.
  - b. Identify AOC variance conditions.
  - c. Determine if AOC variance(s) were issued in accordance with approved program.
  - d. Review and tabulate bank (in situ) spoil volume for permit.
  - e. Review and tabulate bulked or loose volume for permit.
  - f. Review and tabulate excess spoil calculations for permit.
  - g. Identify excess spoil volumes approved for fill placement
  - h. From permit cross-sections determine maximum, minimum and average elevation changes, if any.
5. Conduct field review of the sample permits (Use Site Review Form, to be developed).
  - a. Conduct a "plan-in-hand" site visit with State personnel.
  - b. Note latest revisions and amendments to actual earthwork.
  - c. Compare on-the-ground conditions with approved plans, final cross-sections and latest revisions to such.
  - d. Make horizontal and vertical measurements as required to verify plan and "as built" data.
  - e. Photograph land forms as required.

6. Coordinate with other agencies, as necessary.
  - a. If AOC variance involves local or regional planning agency contact agency to verify variance purpose and data.
  - b. Contact other State and Federal agencies concerning AOC variance conditions as need arises.
  
7. Compile final report.
  - a. Use the Permit Review and Site Review Forms that are to be developed.
  - b. Results will be grouped in tabular form based on type of variance, type of mining, and postmining land use.

### **III. REVIEW PERIOD**

The permit, map, and site reviews will be completed by January 1, 1999.

### **IV. REPORT AND RECOMMENDATION**

DMME/DMLR will be briefed on the review as it progresses. A draft report will be submitted to the BSG Field Office Director and the Director, Division of Mined Land Reclamation two weeks after completion of the permit, map, and site reviews. A copy of the draft report will be submitted to the Appalachian Regional Coordinating Center (ARCC) for comment and consideration of their national concerns. The final report will address comments submitted on the draft and will be completed by February 1, 1999, approximately two weeks after distribution of the draft.

### **V. COORDINATION AND ADMINISTRATIVE MATTERS**

DMME/DMLR technical personnel will be assigned to the Team (as workload and resources allow) and will provide technical input, guidance and support. An OSM technical representative will also be assigned to the Team to assist in the review. The OSM/DMME/DMLR review Team may determine that additional technical assistance is necessary on a case-by-case basis. The assistance may be provided by ARCC staff and/or DMME/DMLR technical personnel.

OSM and DMME/DMLR agree that the primary emphasis of this review is to evaluate mountaintop removal and AOC variances. DMME/DMLR will be responsible for taking appropriate enforcement action on any violation discovered during the review. For permit deficiencies identified during the review, DMME/DMLR will be responsible for taking appropriate action under their program. However, performance standard violations or permit deficiencies not addressed by DMME/DMLR will be handled through the TDN process.

### **VI. REFERENCES TO ADDITIONAL MOUNTAINTOP REMOVAL / VALLEY FILL STUDIES**

The Environmental Protection Agency, the U.S. Army Corps of Engineers, and the U. S. Fish and Wildlife Service are planning to conduct a joint federal evaluation of the impacts and regulation of valley fill activities in the Appalachian Region. This will include the States of Pennsylvania, Maryland, Ohio, West Virginia, Virginia, Kentucky, and Tennessee.

## VII. SIGNATURES

Representing OSM and DMME/DMLR, the following officials agree to the objectives and steps outlined in this plan:

Big Stone Gap Field Office

Department of Mines, Minerals and Energy,  
Division of Mined Land Reclamation

\_\_\_\_\_  
Robert A. Penn, Director

\_\_\_\_\_  
Benny Wampler, Deputy Director

Date:\_\_\_\_\_

Date:\_\_\_\_\_

**APPENDIX II.**

**OSM DIRECTIVE INE - 26, APPROXIMATE ORIGINAL CONTOUR**

**APPENDIX III.**

**LIST OF ONGOING VIRGINIA MOUNTAINTOP PERMITS AS OF NOVEMBER 1,  
1998**

## ON-GOING MOUNTAINTOP REMOVAL PERMITS

| Permittee                        | Permit Number |
|----------------------------------|---------------|
| A & G Coal Corp.                 | 1101352       |
| ANR Coal Co., LLC                | 1101537       |
| Cumberland Mountain Mining, Inc. | 1101556       |
| Virginia Energy, Inc.            | 1101550       |
| H. C. Bostic Coal, Co.           | 1100536       |
| Gromet Coal Co., Inc             | 1100558       |

**APPENDIX IV.**

**LIST OF MOUNTAINTOP AND AREA MINING PERMITS USED TO SELECT SITES  
FOR EVALUATION**

### Sample Population

| Permittee                         | Permit Number | Variance Type |
|-----------------------------------|---------------|---------------|
| Lone Mountain Processing, Inc.    | 1201386       | Steep Slope   |
| Westmoreland Coal Co.             | 1201408       | Steep Slope   |
| Westmoreland Coal Co..            | 1201462       | Steep Slope   |
| Powell Mountain Coal Co.          | 1200863       | Steep Slope   |
| Lone Mountain Processing, Inc.    | 1201395       | Steep Slope   |
| Whitely Fork Coal Corp.           | 1601611       | Steep Slope   |
| Alliance Coal Corp.               | 1601656       | Steep Slope   |
| BJ's Coal Sales, Inc.             | 1301282       | Steep Slope   |
| Motivation Coal Co.               | 1101594       | Steep Slope   |
| Paramont Coal Corp.               | 1101602       | Steep Slope   |
| Paramont Coal Corp.               | 1101115       | Steep Slope   |
| A & G Coal Corp.                  | 1101352       | Mountain Top  |
| ANR Coal Co., LLC.                | 1101537       | Mountain Top  |
| Paramont Coal Corp.               | 1201526       | Remine        |
| Harman Mining Corp.               | 1200200       | Steep Slope   |
| Harman Mining Oorp.               | 1200273       | Steep Slope   |
| Harman Mining Corp.               | 1200297       | Steep Slope   |
| Patrick Coal Corp.                | 1200591       | Steep Slope   |
| Harman Mining Corp.               | 1201364       | Steep Slope   |
| Kyber Coal Co.                    | 1300935       | Dock          |
| Highwall Mining Co. of Va., Inc.  | 1101560       | Steep Slope   |
| Cumberland Mountain Mining , Inc. | 1101556       | Mountain Top  |
| Wellmore Coal Corp.               | 1201435       | Steep Slope   |
| Gromet Coal Co., Inc.             | 1101558       | Mountain Top  |
| Virginia Energy Co.               | 1101550       | Mountain Top  |
| Motivation Coal Co.               | 1101607       | Steep Slope   |
| Harold Keene Co., Inc.            | 1201497       | Steep Slope   |

| <b>Permittee</b>                          | <b>Permit Number</b> | <b>Variance Type</b> |
|---|----------------------|----------------------|
| Dominion Coal Corp.                       | 1201133              | Steep Slope          |
| Permac, Inc.                              | 1200727              | Steep Slope          |
| Permac, Inc.                              | 1201311              | Steep Slope          |
| Virginian By-Products, Div. of Knox Creek | 1300313              | Steep Slope          |
| Wellmore Coal Corp.                       | 1301640              | Steep Slope          |
| Permac, Inc.                              | 1201407              | Steep Slope          |
| Doris Coal Co.                            | 1200512              | Steep Slope          |
| Knox Creek Coal Corp.                     | 1200235              | Steep Slope          |
| Knox Creek Coal Corp.                     | 1301156              | Steep Slope          |
| Jewell Ridge Coal Corp.                   | 1201608              | Steep Slope          |
| Knox Creek Coal Corp.                     | 1401366              | Steep Slope          |
| H. C. Bostic Coal Co.                     | 1100536              | Mountain Top         |
| Consolidation Coal Co.                    | 1201653              | Steep Slope          |

**APPENDIX V.**  
**VIRGINIA SURVEY FORM**

**EY 99 SPECIAL STUDY ON VIRGINIA SITES  
FOR: AOC, PMLU. AND EXCESS SPOIL DISPOSAL**

**I. GENERAL INFORMATION**

(All cited regs. begin with prefix: "4 VAC 25-130-" unless stated otherwise)  
(Use \* to indicate an item has comments at the end of Sections II and III)

1. Company: \_\_\_\_\_
2. Permit Number: \_\_\_\_\_
3. County: \_\_\_\_\_
4. Quadrangle(s): \_\_\_\_\_
5. Latitude and Longitude: \_\_\_\_\_
6. Total Permitted Acres: \_\_\_\_\_
7. This Permit Was Selected for its Review Focus Area as a: (use "X" to check one blank below)  
  
\_\_ a) Bonded Mountaintop removal Permit With An AOC Variance  
  
\_\_ b) Bond Released Mountaintop removal Permit  
  
\_\_ c) Stee4p Slope and/or Area Mines Restored to the AOC  
  
\_\_ d) Steep Slope Area Mines (contour) With the AOC Variance
8. Identify Locations of AOC Variances (Mtn-top or Steep Slope) on the Permit: \_\_\_\_\_
9. General Information Narrative:  
\_\_\_\_\_

**II. PERMIT REVIEW**

1. Identify Post-mining Land Use(s)(PMLU.): \_\_\_\_\_ (780.23)
2. Identify Premining Land Use(s): \_\_\_\_\_ (779.22)
3. Identify Premining Topographic Features (From the Permit Description) with an "x":  
  
a) Inward Draining Plateau \_\_\_\_ b) Ridge \_\_\_\_ c) Mountain \_\_\_\_  
  
d) Small Knoll (or Hill) \_\_\_\_ e) Existing Contour Benches \_\_\_\_

4. Identify Post-mining Topographic Features (From the Permit Description) with an "x":
- a) Inward Draining Plateau \_\_\_    b) Ridge \_\_\_    c) Mountain \_\_\_  
d) Small Knoll (or Hill) \_\_\_    e) Existing Contour Benches \_\_\_
- f) Closely Resembles Pre-mining Configuration \_\_\_
5. Identify Coal Seams within the permit to be Entirely Mined: \_\_\_\_\_
6. Identify Coal Seams within the permit to be Partially Mined: \_\_\_\_\_
7. On Applications with Mountain Top Variances, Were Appropriate Land Use Planning Agencies, if Any, Provided an Opportunity to Comment on the Proposed PMLU.'s ? (Yes/No, if Yes specify which agencies): \_\_\_\_\_
8. Did The Permit Applications or Approval Determine That the PMLU. Will Be:
- a) Equal to or Better Than the Premining Land Use? \_\_\_ (Yes, No or N/A)    (816.133(a) & (785.14(c))
- b) Higher or Better (Alternative) Land Use? \_\_\_ (Yes, No or N/A)    (816.133(c))
9. List the Land Uses(s) of the Land Adjacent to the Permit: \_\_\_\_\_ (780.23)
10. Did the Permit Application or Approval Determine That the PMLU. Will Be Consistent With Adjacent Land Uses and Existing Land Use Plans? \_\_\_ (Yes or No)    (780.23) & (785.14(c)(1)(iv))
11. A. For Mountaintop Removal Mining - Does the Application Contain Specific PMLU. Plans and Assurances That the Proposed Land Use Is:
- a) Approved in One (or more) of the Following Categories? \_\_\_ (Yes or No) (use "X" to check the category(ies))    (785.14(c)(1)
- I) \_\_\_ Industrial
- ii) \_\_\_ Commercial
- iii) \_\_\_ Agricultural
- iv) \_\_\_ Residential
- v) \_\_\_ Public Facility (Including Recreational Facilities)

Explain, if No, or if the Land Use is not Obviously Approvable Under One of the Categories:

\_\_\_\_\_

- b) Compatible With Adjacent Land Uses? \_\_ (Yes or No) (785.14(c)(1)(iii)(A))
- c) Obtainable based on Need and Market? \_\_ (Yes or No) (785.14(c)(1)(iii)(B))
- d) Assured of Investment in Necessary Public Facilities \_\_ (Yes or No) (785.14(c)(1)(iii)(C))
- e) Practicable With Respect to Achieving the Use and Private Financing \_\_ (Yes or No) (785.14(c)(1)(iii)(E))
- f) Supported by Public Agencies Where Appropriate \_\_ (Yes or No) (785.14(c)(1)(iii)(D))
- g) Planned Pursuant to a Schedule That Will Integrate Mining and Reclamation With the PMLU. \_\_ (Yes or No) (785.14(c)(1)(iii)(F))
- h) Designed by an Approved Person (RPE) to Assure the Stability, Drainage, and Configuration Necessary for the Intended Use of the Site \_\_ (Yes or No) (785.14(c)(1)(iii)(G))
- I) For "a" Through "f" above, and for Items 8. a) and 10., Did DMME/DMLR Make Written Findings? \_\_ (Yes/No, if No explain) (785.14(c))

**B. For Mountaintop Removal Mining:**

- a) Is the Permit Clearly Identified as Being for Mountaintop Removal Mining? \_\_ (Yes or No, explain if No) (785.14(c)(5))
- b) Are the Permits Incorporating a Variance Under the Mountaintop Removal Mining Under Section 785.14, Being Reviewed by the DMME/DMLR to Establish That the Permittee Is in Compliance With the Terms of the Variance? \_\_ (Yes or No) (785.14(d)(1&2))

**12. For Applications With Steep Slope AOC Variances:**

- a) Do the Pre-mining Slopes Exceed an Average of 20 Degrees \_\_ (Yes/No, explain if No)
- b) (USE AVAILABLE ENGINEERING ASSISTANCE TO DETERMINE) For Sites with Alternate PMLU., Does the Application Demonstrate That the Watershed of the Permit and Adjacent Area Will Be Improved In Accordance With (785.16(a)(3)) \_\_ (Yes/No or Could Not Determine)
- c) Was the PMLU. Deemed To Be of an Equal or Better Economic or Public Use After Appropriate Federal, State and Local Government Agencies Were Provided an Opportunity to Comment. \_\_ (Yes/No, Explain if No) (785.16(a)(3)(iii))

- d) Identify the Agencies Consulted With Prior to Permit Approval. \_\_\_\_\_  
(785.16(a)(3)(iii) & (816.133(a))
- e) Was the Plan Designed by an Engineer (RPE) to Assure Stability, Drainage and Configuration Necessary for the Intended PMLU.? \_\_ (Yes/No, Explain if No)  
(816/817.133(d)(5))
- f) Did the Landowner(s) Request Approval of the Steep Slope AOC Variance to Achieve the PMLU.? \_\_ (Yes/No, Explain if No)  
(785.16(a)(4))
13. For Both Mountain Top and Steep Slope Applications with AOC Variances, was the Alternate PMLU. approved by the Director After Consulting With the Landowner (or appropriate land management agency) and Finding That the Proposed Land Use Meets the Following Criteria:
- a) There Is a Reasonable likelihood for the Achievement of the Proposed PMLU.? \_\_  
(Yes/No, Explain if No) (816.133(c)(1))
- b) The PMLU. Does Not Present a Public Health or Safety Hazard or Threat of Water Diminution or Pollution? \_\_ (Yes/No, Explain if No) (816.133(c)(2))
- c) The PMLU. Is Not Impracticable or Unreasonable, Inconsistent with Applicable Land Use Policies or Plans, Going to Involve Unreasonable Delays in Implementation, or in Violation of Applicable Federal, State or Local Law? \_\_  
(Yes/No, Explain if No)(816.133(c)(3))
14. Provide the Following With engineering assistance:
- a) Review Permit and Tabulate Bank (in situ) Spoil Volume for Permit \_\_\_\_ (Cubic Yards)
- b) Review Permit and Tabulate Bulked or Loose Volume for the Permit \_\_\_\_ (Cubic Yards)
- c) Review Permit and Tabulate Increase in Spoil Volume Due to Swell \_\_\_\_ (Cubic Yards)
- d) Identify the Excess Spoil Volumes Approved for Fill Placement \_\_\_\_ (Cubic Yards)
- e) Identify the Bulk or Swell Factor \_\_\_\_ (Percent)
- f) From the Permit Cross-sections (for the Inventory Focus Area), Determine the:
- I) Maximum Change In Cross-section Elevation \_\_\_\_ (Feet & X-section ID)
- ii) Minimum Change In Cross-section Elevation \_\_\_\_ (Feet & X-section ID)

iii) Average Change In Cross-section Elevation \_\_\_\_\_ (Feet)

iv) Identify all of the Cross-sections used to calculate the Average Change \_\_\_\_\_

15. Comments and Explanations on Permit Review (Identify Item Numbers Related to Any Specific Explanations):  
\_\_\_\_\_

## II. ON-SITE REVIEW

1. Identify Coal Seams Within the Permit That Have Been Entirely Mined \_\_\_\_\_

2. Identify Coal Seams Within the Permit That Have Been Partially Mined: \_\_\_\_\_

3. Identify Current Re-graded Post-mining Topography Features With an "x":

a) Inward Draining Plateau \_\_\_\_ b) Ridge \_\_\_\_ c) Mountain \_\_\_\_

d) Small Knoll (or Hill) \_\_\_\_ e) Existing Contour Benches \_\_\_\_

f) Closely Resembles Pre-mining Configuration \_\_\_\_

4. On Mountaintop Removal Sites - Were the Appropriate Outcrop Barriers Maintained? \_\_\_\_  
(Yes, No, N/A, explain if No)

5. Has the PMLU. Been Implemented? \_\_\_\_ (Yes or No)

6. For Operations With the Mountaintop Removal AOC Variances - Is the On-The - Ground PMLU. Consistent With Adjacent Land Uses and Existing Land Use Plans ? \_\_\_\_ (Yes/No, explain if NO)

(NOTE: Answer the Next Five Items UTILIZING THE AVAILABLE ENGINEERING ASSISTANCE)

7. For Operations with the Steep Slope AOC Variance(s) - Do the Permit Area Pre-Mining Slopes Exceed an Average of 20 Degrees ? \_\_\_\_ (Yes/No, explain if No)

8. In Regard to Post Mining Topography:

a) Are There Any Field Measurable Variations in Regraded Land Forms From the Approved Cross-sections? \_\_\_\_ (Yes/No, explain if No)

b) Describe the Regraded Land Form. \_\_\_\_\_

9. Identify the Total Number of Fills (constructed and/or under construction). \_\_\_\_

10. If Available From the Permittee, Provide the Following Information:

- a) Bulk or Swell Factor \_\_\_\_\_ (In percent)
- b) Total Overburden Volume \_\_\_\_\_ (Cubic Yards)
- c) Total Fill Volume(s) \_\_\_\_\_ (Cubic Yards)
- d) Identify the Latest Revisions and Amendments to the Actual Earthwork: \_\_\_\_\_

11. Compare the Current On-The-Ground Conditions With the Permit Plan Calculations in Section II Item 14. a - f. \_\_\_\_\_

12. Comments and Explanations for the On-site Review (Identify Item Numbers related to Any Specific Explanations):

\_\_\_\_\_

(g:\public\aoenar99.frm)(revised 11/30/98)