12/95

Permit No. D - 1159

STATE OF OHIO
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINES & RECLAMATION
** Revised
COAL MINING & RECLAMATION PERMIT
~~*Conditional Issuance~~
* Conditional Issuance

Issued to: Bennec, Inc.

38732 National Road, PO Box 208

Morristown, Ohio 43759

Telephone (614) 782-1330
AREA CODE

Application No. 1363

Acreage 267.0

Effective 1-26-1998

Expires 1-25-2003

Type of Operation: X Surface, ____ Underground, ____ Other (indicate) ____

LOCATION OF PERMIT AREA

Names of Landowners	T-__, R-__	Sec.	Lot	Township	County
Wyoming Pocahontas Land Company	6,5	3,4	-------	Wayne	Belmont
American Energy Corp.	6,5	3,4	-------	Wayne	Belmont

***This permit is conditionally issued based on:**

~~**Avoidance with flagging of the additional pond 006 area (6.1 acres) until OHPO and the Division have cleared the Phase I survey report.**~~

Continual compliance with the OSM settlement agreement. Valley Mining, Inc. is a contractor on a violator permit and is also a contractor on this permit.

This permit is issued in accordance with and subject to the provisions, conditions, and limitations of Chapter 1513 of the Revised Code and Chapters 1501:13-1, 1501:13-3 through 1501:13-14 of the Administrative Code.

The approved water monitoring plan for this permit is:

Monitor for quality at: W-2, W-3, W-7, U-3, U-10 and D-10

Monitor for quantity at: W-2, W-3, W-7, U-3, U-10 and D-10

* July 23, 1998

1-26-1998
Date

Chief, Division of Mines & Reclamation

F46

ORIGINAL

AEC 19251

11/95

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINES & RECLAMATION

APPROVAL OF SURFACE COAL MINING PERMIT APPLICATION

1. Name of Applicant BENNOC, INC.

2. Address of Applicant 38722 NATIONAL ROAD, P.O. BOX 208

   City MORRISTOWN State OH Zip 43759

3. Application Number 1363

4. Number of acres to be permitted 267.0

5. Number of acres to be affected first mining year 10.0

6. The quarterly water monitoring plan for this permit shall be:

   Quality: W-2, W-3, W-7, U-3, U-10 and D-10

   Quantity: W-2, W-3, W-7, U-3, U-10 and D-10.

   Note: These monitoring requirements are separate from NPDES monitoring requirements.

7. This application is APPROVED since it demonstrates and the Division has found that the criteria in paragraph (E) of rule 1501: 13-5-01 of the Administrative Code have been met.

   Date DECEMBER 30, 1997 Signed [signature]

ORIGINAL

F51

11/95

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINES AND RECLAMATION

Written Findings

Applicant: Bennoc, Inc.

Application No.: 1363

This application has been reviewed by the Division and these findings, as required by 1501: 13-5-01 (E) of the Ohio Administrative Code, are being made.

1. The permit area is not within an area designated as unsuitable for mining pursuant to 1501:13-3-07 of the Ohio Administrative Code. As of this date two areas within the state have been designated as unsuitable: Guernsey County, Valley Township, Section 8 (for all coal mining operations) and Carroll County, Harrison Township, Sections 4 and 5; Center Township, Sections 27 and 33; Washington Township, Sections 28, 29, 30, 34, 35, and 36 (for full coal recovery underground mining operations).

2. The permit area is not within an area under study for designation as unsuitable for mining based on review of the petitions filed with and being processed by the Division.

3. The permit area is not within one hundred feet of a cemetery based on a field review and map review of the application area and Part 1, D(9) of the permit application.

4. The permit area is not within one hundred feet of the outside right-of-way of a public road based on the field review and map review of the application area and Part 1, D(6) of the permit application.

5. The permit area is not within three hundred feet of an occupied dwelling based on the field review and map review of the application area and Part 1, D(7) of the permit application.

6. The proposed mining operation will not adversely affect publicly owned parks or places included on the National Register of Historic Places based on review of the sites listed in the federal register and Part 1, D(5) of the permit application.

7. The permit area is not within three hundred feet of a public building, school, church, community or institutional building, or public park based on a field review and map review of the application area and Part 1, D(8) of the permit application.

8. The permit area does not include any lands within the boundaries of the National Park System, The National Wildlife Refuge System, The National System of Trails, The National Wilderness Preservation System, The Wild and Scenic Rivers System, including study rivers designated under Section 5(a) of the Wild and Scenic Rivers Act (16 U.S.C. 1276 (a)), or study rivers or study river corridors as established in any guidelines pursuant to that act, National Recreation Areas designated by Acts of Congress, or any nature preserve dedicated pursuant to Chapter 1517. of the Revised Code. This finding is based on review of documents prepared by the National Park Service and the Office of Outdoor Recreation, O.D.N.R., and Part 1, D(1) and D(3) of the permit application.

9. The permit area does not include any federal lands within the boundaries of any National Forest.

10. The permit area is not within one thousand feet of the waterlines of any wild, scenic, or recreational river dedicated pursuant to Chapter 1501., Ohio Revised Code. This finding is based upon the field review and Part 1, D(2) of the permit application.

11. The coal mining operations proposed by this application are not likely to jeopardize the continued existence of threatened or endangered species or are not likely to result in the destruction or adverse modification of their critical habitat as determined under the Endangered Species Act of 1973 (16 U.S.C. 1513 et seq.). The Indiana bat is the only species on the federal list that is in the coal mining region of the state, but per Kent Kroonemeyer's (U.S. Fish & Wildlife) 4-29-85 letter the bat is not in **Belmont** County and there is no critical habitat in Ohio for any of the federally listed species.

12. The private mineral estate has not been severed from the private surface estate based on review of the documents filed to comply with 1501: 13-4-03 (E) of the Ohio Administrative Code. The documents are part of the permit application.

13. The applicant and/or any affiliated company has corrected or is in the process of correcting to the satisfaction of the issuing agencies, all notices of violations and has no unpaid final demand civil penalty assessments. This finding is based on verification of Division issued N.O.V.'s, review of information through the Applicant Violator System, and letters sent to other regulatory agencies. Those letters and documentation of the reviews are included within the permit application file.

14. The applicant is required to submit the acreage fees prior to issuance of the permit. The applicant is not delinquent

in payment of the Federal reclamation fee required by Section 402 of Public Law 95-87 based on review of the Applicant Violator System.

15. The applicant is required to submit the performance bond prior to issuance of the permit. The receipt for payment of bond is part of the permit file.

16. The applicant (and the operator, if applicable) does not control and has not controlled mining operations with a demonstrated pattern of willful violations of Chapter 1513. of the Revised Code and rules adopted thereunder of such nature, duration, and with such resulting irreparable damage to the environment as to indicate an intent not to comply with such provisions. This finding is based on a records search from the Inspection and Enforcement Section on **December 29, 1997**.

17. The chief has made the following specific approvals required by Chapter 1501: 13-01 through 1501: 13-14 of the Ohio Administrative Code: **Buffer Zone Variance Request, Small Area Drainage Exemption, and Test Hole Variance Request**.

18. The postmining land uses have been changed from the premining land uses in accordance with 1501: 13-9-17 of the Ohio Administrative Code. This finding is based on review of Part 2, H(1), H(6), and H(12) of the permit application.

19. The permit area includes soils identified by the SCS as prime farmland and a prime farmland restoration plan has been submitted. This finding is supported by Part 2, I. and Attachment 15 of the permit application.

20. Coal mining and reclamation operations to be performed under the permit will not be inconsistent with other such operations anticipated to be performed during the same permit term in areas adjacent to the proposed permit area.

21. Based on review of Part 2, Items B, C, D, E, F and Part 3, Items A(7), D(9), E, F, H of the permit application, it is found that the proposed operations have been designed to prevent damage to the hydrologic balance outside the permit area.

22. The probable cumulative hydrologic impact assessment for this application area and adjacent areas on the hydrologic regime and water availability is based on review of the Attachment 14's, analysis of existing ground water file data by the Division of Water, and other hydrological and geological data which is part of this application. The impact assessment is as follows: **See Attached CHIA**

23. The applicant has demonstrated and the chief has found that the mining and reclamation plans contained in Parts 2, 3, and 4 of the permit application can be feasibly

24. The permit application does not propose to use an existing structure in connection with or to facilitate the proposed coal mining and reclamation operation based on a field review of the site and Part 3, B(1) of the permit application.

25. The permit application contains the following special categories of mining: **Steep Slope Mining**. The applicant has satisfied the applicable permit requirements of rule 1501:13-4-12 in Part 4 of the permit application.

26. The chief has accounted for the possible effect of the proposed permit on properties listed or eligible for listing on the National Register of Historic Places. Consideration was given to, but not limited to, the following: (a) imposing permit conditions which protect the historic resource, (b) requiring revision of the proposed operation plan before application approval, or (c) concluding in a written finding that no protection measures are necessary.

27. The Division of Mines and Reclamation has determined that permit application number **1363** submitted on **June 27, 1994** and revised **August 19, 1997 and November 12, 1997**, is accurate and complete and that it complies with the requirements of Chapter 1513 of the Revised Code and all rules adopted thereunder.

Robert Hadley — 12/30/97
(Application Manager) (Date)

Lisa J. Morris by B. Atkins — 12/30/97
(Chief, Division of Mines and Reclamation) (Date)

Final Draft Cumulative Hydrologic Impact Assessment
Application #1363 Bennoc, Inc.

Geologist: George Mychkovsky **Date**: 11/3/97

The proposed permit area is located in the Sections 3 and 4 of Wayne Township, Belmont County in the Captina Creek Drainage Basin. The proposed site is located on several ridges on the east and west banks of northeast-flowing perennial stream Piney Creek. The #11 Waynesburg Coal seam of the Pennsylvanian Monongahela Group and the #12 Washington Coal seam of the Permian Dunkard Group will be strip-mined beneath 173.1 acres. The #11 Coal seam outcrops at the ridge-base level between the approximate elevations of 963 ft. msl and 982 ft. msl. while the #12 Coal seam outcrops at the mid-ridge level between the approximate elevations of 1062 ft. msl and 1097 ft. msl. In addition both coal seams will be auger-mined beneath separate areas totaling 82.6 acres. The #11 Coal seam final highwall elevation will be at 1050 ft. Msl, while the #12 Coal seam final highwall elevation will be at 1150 ft. msl . As a result there will be separate highwalls for each coal seam. The proposed permit area was deep-mined for the #8 Pittsburgh Coal seam in the late 1970's and early 1980's beneath 195.3 acres at permit D-0425, with approximately 30.2 acres of surface facility permitted for the underground mine.

The #11 and #12 Coal seams are rather uniform in thickness, with an average of approximately three feet. The pyritic sulfur content of both coal seams is high, ranging from 1.77% to 2.92%. The general dip of the #11 Coal seam is to the southeast at 37 feet per mile, while the #12 Coal seam dips to the southwest at the same gradient. Maximum overburden thickness to be spoiled for each coal seam is approximately 75 feet and is dominated by shale, with clays secondary in abundance and limestone is rare. The buffering capacity of the overburden is generally good, although dark shales immediately above the coal seams are occasionally toxic. Both coal seams are underlain by claystones, which are at least four feet thick. The fact that neither coal wastes nor non-coal wastes will be disposed on the proposed permit area will help to minimize adverse impacts and prevent material damage beyond the permit area.

According to the Ground Water Resources of Belmont County map, wells obtain their water from thin beds of sandstone, shale, and limestone. Average well depth is 95 feet, with yields of two or less gallons per minute (gpm). The Division of Water's Analysis of Existing Ground Water File Data mentions that wells along SR 145 and TR74, TR81, TR87, and TR88 could be affected by mining, however the report mentions that the Division of Water has no records for those wells. The report urges that wells along these roads be located and monitored throughout the mining procedure. The monitoring plan outlined by the applicant adequately addresses this concern.

The applicant has identified four saturated zones developed in bedrock, labeled A through D with increasing depth, within the hydrology review area. These zones range in elevation from 768 ft. msl to 1239 ft. msl. Background sampling has indicated that ground-water quality is generally good, with alkaline pH's typically in the range of 7.5 to 7.9 standard units, high total hardness, and occasionally high total iron. Impact from previous mining is evident by the iron-rich, acid water discharged from the deep mine entry DM-2, which is a drift entry into a small abandoned deep mine developed in the #11 Coal seam. At least two wells, W-1 and W-11Y, were drilled for monitoring and/or industrial supplies on permit D-0425, and are located on the proposed permit area. These

wells, which are no longer in use, are completed in saturated zone D. The surface elevations of these wells are below the #11 Coal cropline, therefore these wells should not be impacted by the proposed mining operation.

The base of zone A, which extends to 1130 ft. msl, will be intercepted by mining of the #12 Coal seam. Zone A, which is used for domestic purposes, recharges four drilled wells, one dug well, and one developed spring. Of these supplies, drilled wells W-2 and W-3 may undergo minor, but long-term diminution. In light of the fact that these wells are within 600 feet of the proposed final highwall of the #12 Coal seam, both of these wells shall be monitored for quantity and quality, although no quality changes are anticipated for either well.

Zone B, which is formed in and above the #12 Coal seam from 1060 ft. msl to 1097 ft. msl, will be intercepted on the permit area. The following unused and undeveloped springs, which serve as the headwaters for first-order intermittent streams, are located along the #12 Coal cropline and will be removed: S-1, S-5, S-6, and S-9. In addition unused developed spring DS-10 will be removed. Mining of the #12 Coal seam will also result in lowering of the water level of zone B beyond the proposed permit area during mining. As a result unused and undeveloped spring S-7 and the first-order unnamed intermittent stream B that it supplies will experience a significant reduction in flow. Dug well DW-7A, which is used for agricultural purposes, is supplied by zone B, however it is hydrologically separated from the northeastern permit area by a small, barren hollow. The mining operation will not disturb the claystone beneath the #12 Coal seam, which is at least 5 feet thick. Consequently a minor saturated water-bearing zone may form in the spoil above this claystone following reclamation. The above-mentioned springs, which will be removed or significantly diminished by mining, may reappear in this spoil zone at flow rates approaching or possibly exceeding pre-mining levels. Due to the fact that no used supplies developed in this zone will be jeopardized, no supplies developed in this zone shall be monitored.

Zone C, which is formed in and above the #11 Coal seam from 950 ft. msl to 995 ft. msl, will be intercepted on the permit area. Consequently the water level of zone C beyond the permit area may be lowered during mining. Slight short-term diminution of domestic well W-7 is possible, as this well, which is supplied by zone C, is located within 1500 feet of the #11 Coal final highwall. In addition minor short-term contamination is possible following mining. Therefore W-7 shall be monitored for quantity and quality. Pre-mining water levels should return to this well following reclamation. Within the permit area, undeveloped and unused spring S-4 will be removed. This spring may return following reclamation as discharge from spoil above the undisturbed #11 claystone. A benefit of the mining operation is that the small, unmapped abandoned deep mines associated with the drift entries DM-1 and DM-2 into the #11 Coal seam will probably be eliminated. As a result sources of acid water and iron contamination will be removed, as the discharge at DM-2 had a pH value of approximately 5.2 standard units and the iron concentration of both discharges exceeded 3 mg/l from samples collected in February 1994. In the event that the deep mines are not eliminated, the intercepted portion(s) will be sealed in accordance with the submitted plans.

The ground-water quality of zones B and C will probably experience minimal changes in pH, total iron, manganese, sulfates, dissolved solids, and suspended solids. This prediction is based solely on the good buffering capacity of the overburden. The lack of previous mining in the area precludes the use of existing monitoring data as a tool in assessing anticipated quality changes. Any changes in ground-water quality are expected to be short-term, and pre-mining quality should return following reclamation.

The mining operation will not disturb the relatively impermeable claystones beneath the #11 and #12 Coal seams. In addition to serving as perching units on which saturated water-bearing zones may form in the reclaimed spoil, the undisturbed #11 and #12 claystones will serve as barriers to downward percolation of ground-water. Consequently the lower saturated zones, such as zone D, will be protected from contamination originating on the permit area. The applicant has identified zone D, which is formed in limestone, sandstone, and shale between 768 ft. and 847 ft. msl, as an acceptable alternative source which could be developed for a replacement supply as necessary.

As mentioned previously, the proposed permit area is drained by several first-order intermittent streams, whose headwaters are located at the cropline of the #12 Coal seam. Removal of these headwaters during mining will result in a decreased baseflow, with longer dry periods for these streams. The headwaters of these streams should return following establishment of a saturated water-bearing zone in the spoil above the #12 claystone upon reclamation. Surface water contribution to Piney Creek, which drains the entire proposed permit area, will be maintained by periodic discharge from the sediment ponds. Permanent sediment ponds will be constructed within the channels of several of these streams. The affected streams will be reconstructed in accordance with the submitted plans, and the Chief granted the submitted stream buffer zone variance request.

Mining will lead to an increased sediment load for the streams, which will be reflected by an increase in the total suspended solids concentration. The increased sediment load will be the result of increased sediment yields from the permit area, which will continue until an adequate vegetative cover is established over the affected area following reclamation. Devegetation of the permit area during mining will also lead to a slight increase in the peak flow of Piney Creek, due to increased runoff. Note that this increase in runoff may be significant, in light of the relatively steep topography of the area. The increases in stream peakflow, sediment load, and other adverse quality impacts will be mitigated by retention of mine surface runoff in the sediment ponds. All drainage from the affected areas will be directed to sediment ponds for any necessary treatment to the applicable effluent limits prior to discharge from the permit area. The Chief granted a Small Area Drainage Exemption covering two acres on the northern portion of the permit.

It is anticipated that intermittent stream water quality will be affected by mining similar to that of the ground-water in zones B and C, in other words minimal changes are anticipated. Given the large discharge of Piney Creek, the proposed mining operation will not have a significant impact on either the flow or quality of this stream. Piney Creek shall be monitored for quality and quantity at U-10 and D-10, as will U-3, which is located on Long Run, a perennial tributary of Piney Creek. In conclusion, the proposed operation will not result in material damage to the hydrologic balance

beyond the permit area.

AEC 19260

ADDENDUM TO PART 3, ITEM E(2), BENNOC, INC.

CHIEF
ODNR DIVISION OF MINES AND RECLAMATION
1855 FOUNTAIN SQUARE CT.
COLUMBUS, OHIO 43224

DEAR CHIEF:

BENNOC INC. IS HEREBY REQUESTING PERMISSION TO CONDUCT SURFACE MINING OPERATIONS WITHIN THE 100 FOOT BUFFER ZONE OF UNNAMED INTERMITTENT STREAMS "A" THRU "J" AND PERENNIAL STREAMS PINEY CREEK AND LONG RUN AS SHOWN ON THE ENCLOSED APPLICATION MAP.

UNNAMED STREAM "A"

MINING ACTIVITIES TO BE CONDUCTED WITHIN THE 100 FOOT BUFFER ZONE OF UNNAMED STREAM "A" WILL CONSIST OF #11 AND #12 COAL REMOVAL (INCLUDING MINING OUT THE STREAM CHANNEL), AUGERING, SPOIL PLACEMENT, DIVERSION DITCH CONSTRUCTION, AND THE CONSTRUCTION OF POND 004. AS SHOWN ON THE APPLICATION MAP APPROXIMATELY 1770 LINEAR FEET OF UNNAMED STREAM "A" WILL BE AFFECTED. AFTER MINING, STREAM "A" WILL BE RECONSTRUCTED AS SHOWN ON THE ATTACHED STREAM RECONSTRUCTION PLANS. AFTER MINING, POND 004 WILL BE REMOVED AND THE AREA RECLAIMED AS SHOWN ON THE STREAM RECONSTRUCTION PLANS.

UNNAMED STREAM "B"

MINING ACTIVITIES TO BE CONDUCTED WITHIN THE 100 FOOT BUFFER ZONE OF UNNAMED STREAM "B" WILL CONSIST OF COAL HAULAGE. AS SHOWN ON THE APPLICATION MAP APPROXIMATELY 400 LINEAR FEET OF UNNAMED STREAM "B" IS PERMITTED. CURRENTLY THE PERMITTED PORTION OF UNNAMED STREAM "B" IS BEING PIPED UNDERGROUND, AND WILL REMAIN AS IS.

UNNAMED STREAM "C"

MINING ACTIVITIES TO BE CONDUCTED WITHIN THE 100 FOOT BUFFER ZONE OF UNNAMED STREAM "C" WILL CONSIST OF #11 AND #12 COAL REMOVAL (INCLUDING MINING OUT THE STREAM CHANNEL), AUGERING, SPOIL PLACEMENT, AND TOPSOIL STORAGE. AS SHOWN ON THE APPLICATION MAP APPROXIMATELY 2240 LINEAR FEET OF UNNAMED STREAM "C" WILL BE AFFECTED. CURRENTLY A PORTION OF STREAM "C" (FROM 0+00 TO PINEY CREEK) IS BEING PIPED UNDERGROUND. DURING MINING, STREAM "C" WILL BE TEMPORARILY RELOCATED AND DIRECTED TO POND 011. SEE ADDENDUM TO PART 3, ITEM H(2). NO SOONER THAN 2 YEARS AFTER THE AFFECTED AREA'S LAST AUGMENTED SEEDING DATED, STREAM "C" WILL BE RECONSTRUCTED IN ITS ORIGINAL LOCATION & THE TEMPORARY RELOCATED STREAM WILL BE REMOVED. SEE ATTACHED STREAM RECONSTRUCTION PLANS.

UNNAMED STREAM "D"

MINING ACTIVITIES TO BE CONDUCTED WITHIN THE 100 FOOT BUFFER ZONE OF UNNAMED STREAM "D" WILL CONSIST OF #11 AND #12 COAL REMOVAL (INCLUDING MINING OUT THE STREAM CHANNEL) AUGERING, SPOIL PLACEMENT, DIVERSION DITCH CONSTRUCTION, AND SUMP CONSTRUCTION. DURING MINING, STREAM "D" WILL BE TEMPORARILY RELOCATED & DIRECTED TO POND 003. SEE ADDENDUM TO PART 3, ITEM H(2). NO SOONER THAN 2 YEARS AFTER THE AFFECTED AREA'S LAST AUGMENTED SEEDING DATE, STREAM "D" WILL BE RECONSTRUCTED IN ITS ORIGINAL LOCATION & THE TEMPORARY RELOCATED STREAM WILL BE REMOVED. SEE ATTACHED STREAM RECONSTRUCTION PLANS.

ORIGINAL 1363

UNNAMED STREAM "E"

MINING ACTIVITIES TO BE CONDUCTED WITHIN THE 100 FOOT BUFFER ZONE OF UNNAMED STREAM "E" WILL CONSIST OF COAL REMOVAL, AUGERING, SPOIL PLACEMENT, DIVERSION DITCH CONSTRUCTION, AND THE CONSTRUCTION OF POND 005. AFTER MINING, STREAM "E" WILL BE RECONSTRUCTED AS SHOWN ON THE ATTACHED STREAM RECONSTRUCTION PLANS. AFTER MINING, POND 005 WILL BE REMOVED AND THE AREA RECLAIMED AS SHOWN ON THE STREAM RECONSTRUCTION PLANS.

UNNAMED STREAM "F"

MINING ACTIVITIES TO BE CONDUCTED WITHIN THE 100 FOOT BUFFER ZONE OF UNNAMED STREAM "F" WILL CONSIST OF #11 COAL REMOVAL (INCLUDING MINING OUT THE STREAM CHANNEL), AUGERING, SPOIL PLACEMENT, AND TOPSOIL STORAGE. AS SHOWN ON THE APPLICATION MAP APPROXIMATELY 650 LINEAR FEET ON UNNAMED STREAM "F" WILL BE TEMPORARILY RELOCATED AND DIRECTED TO POND 006. SEE ADDENDUM TO PART 3, ITEM H(2). AFTER MINING, STREAM "F" WILL BE RECONSTRUCTED AS SHOWN ON THE ATTACHED STREAM RECONSTRUCTION PLANS.

UNNAMED STREAM "G"

MINING ACTIVITIES TO BE CONDUCTED WITHIN THE 100 FOOT BUFFER ZONE OF UNNAMED STREAM "G" WILL CONSIST OF #11 COAL REMOVAL (INCLUDING MINING OUT THE STREAM CHANNEL), AUGERING, AND SPOIL PLACEMENT. AS SHOWN ON THE APPLICATION MAP APPROXIMATELY 460 LINEAR FEET OF UNNAMED STREAM "G" WILL BE AFFECTED. AFTER MINING, UNNAMED STREAM "G" WILL BE RECONSTRUCTED AS SHOWN ON THE ATTACHED STREAM RECONSTRUCTION PLANS.

UNNAMED STREAM "H"

MINING ACTIVITIES TO BE CONDUCTED WITHIN THE 100 FOOT BUFFER ZONE OF UNNAMED STREAM "H" WILL CONSIST OF HAUL ROAD CONSTRUCTION. A 24" DIAMETER CULVERT WILL BE PLACED IN THE CHANNEL AND FILL WILL BE ADDED TO PROVIDE A SUFFICIENT GRADIENT AND WIDTH. AS SHOWN ON THE APPLICATION MAP, APPROXIMATELY 100 LINEAR FEET OF UNNAMED STREAM "H" WILL BE AFFECTED. SEE ADDENDUM TO PART 3, ITEM K(1) FOR HAUL ROAD DESIGN. PRIMARY ROAD 001 WILL REMAIN PERMANENT.

UNNAMED STREAM "I"

MINING ACTIVITIES TO BE CONDUCTED WITHIN THE 100 FOOT BUFFER ZONE OF UNNAMED STREAM "I" WILL CONSIST OF THE CONSTRUCTION OF HAUL ROAD 002. AS SHOWN ON THE APPLICATION MAP, A SMALL TRIANGULAR PORTION OF HAUL ROAD 002 IS WITHIN THE BUFFER ZONE. THE HAUL ROAD IS WITHIN THE 100 FOOT BUFFER ZONE BUT NO CLOSER THAN 70' OF THE STREAM CHANNEL.

UNNAMED STREAM "J"

MINING ACTIVITIES TO BE CONDUCTED WITHIN THE 100 FOOT BUFFER ZONE OF UNNAMED STREAM "J" WILL CONSIST OF HAUL ROAD CONSTRUCTION. A 24" DIAMETER CULVERT WILL BE PLACED IN THE CHANNEL AND FILL WILL BE ADDED TO PROVIDE A SUFFICIENT GRADIENT AND WIDTH. AS SHOWN ON THE APPLICATION MAP, APPROXIMATELY 100 LINEAR FEET OF UNNAMED STREAM "J" WILL BE AFFECTED. SEE ADDENDUM TO PART 3, ITEM K(1) FOR HAUL ROAD DESIGN. PRIMARY ROAD 001 WILL REMAIN PERMANENT.

LONG RUN

MINING ACTIVITIES TO BE CONDUCTED WITHIN THE 100 FOOT BUFFER ZONE OF LONG RUN WILL CONSIST OF THE CONSTRUCTION OF POND 003, #11 COAL REMOVAL, AND DIVERSION DITCH CONSTRUCTION. THE DIVERSION DITCHES AND #11 COAL REMOVAL WILL BE WITHIN THE 100 FOOT BUFFER ZONE OF LONG CREEK BUT THE CHANNEL ITSELF WILL NOT BE DISTURBED BY DIVERSION DITCH CONSTRUCTION OR #11 COAL REMOVAL. PRECAUTIONARY MEASURES TO BE IMPLEMENTED TO HELP REDUCE OFFSITE

ORIGINAL 1303

SEDIMENTATION DURING THE CONSTRUCTION OF POND 003 INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING: 1) CONSTRUCTING THE POND DURING FAVORABLE WEATHER CONDITIONS, 2) CONSTRUCTING THE POND IN A TIMELY MANNER, 3) STABILIZE THE DISTURBED AREA BY SEEDING AS SOON AS CONSTRUCTION IS COMPLETED AND APPROVED, AND 4) WHERE POSSIBLE, PREVENT RUNOFF FROM OFFSITE AREAS FROM FLOWING ACROSS DISTURBED AREAS. POND 003 WILL REMAIN PERMANENT.

PINEY CREEK

MINING ACTIVITIES TO BE CONDUCTED WITHIN THE 100 FOOT BUFFER ZONE OF PINEY CREEK WILL CONSIST OF COAL REMOVAL, SPOIL PLACEMENT, DIVERSION DITCH CONSTRUCTION AND THE CONSTRUCTION OF POND 011, POND 003, AND STREAM CROSSING 001. ALL ACTIVITIES WILL BE WITHIN THE 100 FOOT BUFFER ZONE BUT WILL BE NO CLOSER THAN 20 FEET OF THE STREAM CHANNEL ITSELF, EXCEPT FOR THE STREAM CROSSING AND THE EXIT CHANNELS OF PONDS 003 AND 011. PONDS 003 AND 011 AND STREAM CROSSING 001 WILL REMAIN PERMANENT.

THE FOLLOWING SPECIES AND AMOUNTS OF RIPARIAN VEGETATION WILL BE PLANTED A MINIMUM WIDTH OF 50 FEET ON EACH SIDE OF UNNAMED STREAMS "A" THROUGH "I" AT THE LENGTHS SPECIFIED ABOVE:

SPECIES	AMOUNT/RATE (lbs/ac)
(GRASSES & LEGUMES)	
Perennial Ryegrass	5 lbs/ac
Foxtail Millet	5 lbs/ac
Red Top	3 lbs/ac
Birdsfoot Trefoil	5 lbs/ac
Appalow Lespedeza	15 lbs/ac

(TREES & SHRUBS)

	SPACING	TREES/SHRUBS PER AC.
Green Ash		
Sycamore }	8'x 8'	681
Buttonbush		

Trees and shrubs will be planted by hand.

CARE WILL BE TAKEN TO DISTURB ONLY THOSE PORTIONS OF THE BUFFER ZONES NECESSARY TO ACCOMPLISH THE OBJECTIVES OF THIS PERMIT. ALL WORK WITHIN THE STREAM BUFFER ZONES WILL BE PERFORMED IN A TIMELY MANNER TO PROHIBIT, AS BEST AS CAN BE ACCOMPLISHED, DETRIMENTAL EFFECTS TO THE STREAMS

REFERENCE SHOULD BE MADE TO PERMIT D-0425 FOR BUFFER ZONE APPECTMENT FROM PREVIOUS MINING.

APPROVED ☑
DISAPPROVED ☐
DATE: December 30, 1997
SIGNED
Chief

Yours truly,

ORIGINAL

1363

ADDENDUM TO PART 3, ITEM E(2), BENNOC, INC.

CHIEF
ODNR
DIVISION OF MINES AND RECLAMATION
1855 FOUNTAIN SQUARE COURT
COLUMBUS, OH 43224

DEAR CHIEF,

BENNOC, INC. IS HEREBY REQUESTING A SMALL AREA DRAINAGE EXEMPTION CONTAINING 2.0 ACRES. AS SHOWN ON THE ENCLOSED APPLICATION MAP, THE S.A.D.E. IS LOCATED ALONG THE SOUTH SIDE OF THE NORTH PART OF THE PERMIT. DURING MINING, A LOW WALL WILL BE MAINTAINED AND RUNOFF WILL BE CONTAINED IN THE PIT AND PUMPED TO POND 005 OR POND 006. AFTER MINING, THE S.A.D.E. AREA WILL BE SEEDED AND MULCHED AND A SILT FENCE OR STRAW/HAY BALES WILL BE PLACED ALONG THE TOE OF THE AFFECTED AREA TO RETARD EROSION AND TRAP SEDIMENT. ALL RUNOFF WILL MEET EFFLUENT LIMITATIONS.

YOURS TRULY,

Donald M Graffel, P.E.

APPROVED ☑
DISAPPROVED ☐
DATE: December 30, 1997
SIGNED _____
Chief

ORIGINAL

1363

AEC 19264

ADDENDUM TO PART 2, ITEM B(3) BENNOC, INC

JACK A. HAMILTON & ASSOCIATES, INC.

CONSULTING ENGINEERS & SURVEYORS

Box 471, 342 High Street, Flushing, Ohio 43977 • Phone (614) 968-4947

RECEIVED

MAR 0 8 1994

DIVISION OF RECLAMATION

March 1, 1994

APPROVED ☒
DISAPPROVED ☐
DATE: 3-8-94
SIGNED

Chief
Division of Reclamation
1855 Fountain Square Court
Columbus, Ohio 43224

Re: Drill Hole Variance Request
Bennoc, Inc. (Allison Mine)

Dear Sir:

Pursuant to ORC 1501:13-4-04 (C) (4) please accept this letter as a request to waive the requirements of C (2) (b) of Rule 1501:13-4-04 at Bennoc, Inc's. proposed Allison mine.

As shown on the attached Test Hole Location Map, four (4) Test Holes numbered 1 through 4 have been drilled and analyzed, two represent the overburden on the Waynesburg #11 seam, and two represent overburden on the Washington #12 seam. They have been placed to represent the entire proposed mining area. The elevation of the Washington #12 coal seam ranges from 1065 to 1098. The Waynesburg #11 coal seam elevation ranges from 963 to 990. Bennoc, Inc. proposes to mine a maximum of 60 feet of cover on each respective seam.

The Allison Mine encompasses a total of 367.5 acres proposed affected area, 168.6 of which are coal removal. Four (4) Attachment 12's are being submitted which demonstrate that the overburden above the Washington #12 and Waynesburg #11 seams is relatively consistent, with the exception of a gray shale directly above the #11 coal in TH #3. This shale has evidently 'pinched out' in the valley and is not present in TH #4. Sufficient buffering materials are present at the site.

Hence, approval is hereby being requested to submit four (4) Attachment 12's from the proposed Allison Mine area in lieu of the seven (7) holes necessary to meet the requirement of ORC 1501:13-4-04, C (3) (b).

Yours truly,

Ellen M. Roper

encl: T.H. Location Map
Att. 12 - T.H. #1
Att. 12 - T.H. #2
Att. 12 - T.H. #3
Att. 12 - T.H. #4

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1868

Cathy M. Bihlman, P.S. • Donald M. Brafford, P.E. • Robert L. Griffin, P.S. • Jack A. Hamilton, P.S. • Charles W. Johnson, P.S. • Terry L. Steffl, P.S.

11/92

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

SURFACE COAL MINING AND RECLAMATION
PERMIT APPLICATION

Applicant: BENNOC, INC.

A. Type of Operation: X Surface Mine; _____ Other _____ (Specify)

B. Did a person other than an employee of the applicant prepare this application? X Yes, _____ No. If yes provide:

Preparer's Name JACK A. HAMILTON & ASSOCIATES, INC.

Address P.O. BOX 471, 342 E. HIGH STREET

City FLUSHING State OHIO Zip 43977

Telephone (614) - 968 - 4947

C. I, the undersigned a responsible official of the applicant, do hereby verify the information in the complete permit application as true and correct to the best of my information and belief.

Printed Name LARRY CONWAY ; Title PRESIDENT

Signature Larry Conway ; Date 2-23-97

Sworn before me and subscribed in my presence this 23rd day of February, 19 97.

Barbara Johnson
Notary Public
Expires 7-27-2000

D. FOR REVISION REVIEW ONLY This item is to be completed after revisions, if any, have been made to the permit application.

I, the undersigned, a responsible official of the applicant, do hereby verify and acknowledge the revisions made during the permit review process as true and correct to the best of my information and belief.

Printed Name LARRY CONWAY ; Title PRESIDENT

Signature Larry Conway ; Date 8-19-97

Sworn before me and subscribed in my presence this 19th day of August, 19 97.

Barbara Johnson
Notary Public
expires 7-27-2000

ORIGINAL 1863 - a

D. FOR REVISION REVIEW ONLY This item is to be completed after revisions, if any, have been made to the permit application.

I, the undersigned, a responsible official of the applicant, do hereby verify and acknowledge the revisions made during the permit review process as true and correct to the best of my information and belief.

Printed Name LARRY CONWAY ; Title PRESIDENT

Signature Larry Conway ; Date 11-12-97

Sworn before me and subscribed in my presence this 12th day of November, 19 97.

Ellen M. Roper
Notary Public

ELLEN M. ROPER, Notary Public
State of Ohio
My Commission Expires September 29, 2001

ORIGINAL

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PART 1 LEGAL, FINANCIAL, COMPLIANCE, AND RELATED INFORMATION

A. IDENTIFICATION OF INTERESTS

(1) Applicant's Name BENNOC, INC.

Address 38722 NATIONAL RD., P.O. BOX 208

City MORRISTOWN State OHIO Zip 43759

Telephone (614) - 782 - 1330

Employer Identification No. (EIN) _____ , or

Social Security No. (SSN) _____

(2) Indicate business structure of applicant and additional information:

_____ Single Proprietorship,
_____ Partnership (registration no. and date obtained) _____ ,
X Corporation (charter no. and date incorporated) # 371500 5/7/68 ,
_____ Association, _____ Other, specify _____ ,

(3) If the applicant is a single proprietorship, provide the following:

Owner's Name _____

Address _____

City _____ State _____ Zip _____

Telephone _____ - _____ - _____

EIN _____ , or SSN _____

Beginning date of ownership _____

(4) If the applicant is a business entity other than a single proprietorship, provide the following for the applicant's statutory agent and submit Attachment 1.

Agent's Name LARRY CONWAY

Address 60962 SANDY RIDGE ROAD

City BARNESVILLE State OHIO Zip 43713

Telephone (614) - 782 - 1330

EIN _____ , or SSN (optional) _____

ORIGINAL

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A. (5) Is the operator of the mine to be a person different from the applicant? __X__ Yes, _____ No. If "yes," provide the operator's name and submit Attachment 17. (Note: if more than one operator, indicate operator's name and submit a separate attachment for each.)

Operator's Name VALLEY MINING, INC. (AUGERING ONLY)

(6) Provide the following for the person who will pay the abandoned mine land reclamation fee for the applicant.

Name LARRY CONWAY

Address P.O. BOX 208

City MORRISTOWN State OHIO Zip 43759

Telephone (614) - 782 - 1330

EIN _____, or SSN (optional) _____

(7) Provide the following for all persons having the authority or ability to commit the financial, real property assets, or working resources of the applicant who are not otherwise identified as officers, directors, or owners of the applicant. If none, check box: [X]. If any person listed is a business entity and not an individual, also complete Attachment 1 for that person.

Name _____

Address _____

City _____ State _____ Zip _____

Telephone _____-_____-_____

EIN _____, or SSN _____

O & C relationship to entity _____

Date O & C relationship began/ended (if applicable)

_____/_____

Submit and identify additional pages necessary to complete response.

ORIGINAL

PP: 1963

A. (8) Provide the following for all persons owning or controlling the coal to be mined by another person under a lease, sublease, or other contract and (a) having the right to receive the coal after mining, or (b) having the authority to determine the manner in which another person conducts coal mining operations. If none, check box: [X]. If any person listed is a business entity and not an individual, also complete Attachment 1 for that person.

Name _____

Address _____

City _____ State _____ Zip _____

Telephone _____-_____-_____

EIN _____, or SSN _____

O & C relationship to entity _____

Date O & C relationship began/ended (if applicable)

_____/_____

Submit and identify additional pages necessary to complete response.

(9) List below the person or persons primarily responsible for ensuring that the applicant will comply with Chapter 1513. of the Revised Code and the rules adopted pursuant thereto while mining and reclaiming the area for which this permit is requested.

LARRY CONWAY

(10) Has the applicant, any person listed under Items A(3), (7), and (8), or any person listed on Attachment 1 who "owned or controlled" or "owns or controls" as defined in 1501: 13-4-03(A), held a coal mining permit in the United States within the five years preceding the date of the application? __X__ Yes, _____ No. If "yes," submit Attachment 5.

(11) Does the applicant, any person listed under Items A(3), (7), and (8), or any person listed on Attachment 1 have a pending coal mining application in any state of the United States? _____ Yes, __X__ No. If "yes," submit Attachment 23.

(12) Name of Mine ALLISON

(13) List below the MSHA identification numbers for the mine and for all mine-associated structures requiring MSHA approval on the proposed permit area.

33-02122

(14) Submit Attachment 22, Certificate of Liability Insurance.

ORIGINAL 1863

B. COMPLIANCE INFORMATION

(1) Has the applicant, any subsidiary, affiliate, or persons controlled by or under common control with the applicant:

a) Had a federal or state coal mining permit suspended or revoked in the five years preceding the date of submission of this application? _____ Yes, __X__ No. If "yes," submit Attachment 6.

b) Forfeited a mining bond or similar security deposited in lieu of bond? _____ Yes, __X__ No. If "yes," submit Attachment 6.

(2) Has the applicant been issued a notice of violation (NOV) in connection with any coal mining and reclamation operation during the three years preceding the date of submission of this application for violations of Chapter 1513. of the Revised Code or these rules, or of any federal or state law, rule, or regulation pertaining to air or water environmental protection? _____ Yes, __X__ No. If "yes," submit Attachment 7A.

(3) Have any unabated federal or state cessation orders (COs) and unabated air and water quality notices of violation (NOVs) been received prior to the submission date of this application by any coal mining and reclamation operation owned or controlled by either the applicant or by any person who owns or controls the applicant? _____ Yes, __X__ No. If "yes," submit Attachment 7B.

ORIGINAL

PD - 1363

AEC 19271

C. RIGHT OF ENTRY INFORMATION

(1) Provide the following information for every legal or equitable owner of record, surface and mineral, of the property to be mined or affected by surface operations and facilities, indicating whether the ownership is of surface, coal, or noncoal mineral.

Name WYOMING POCAHONTAS LAND CO.

Address 39 ROBIN PLACE

City BECKLEY State W.VA. Zip 25810

Surface X , Coal X , Noncoal X

Name AMERICAN ENERGY CORP.

Address P.O. BOX 210, 1298 SOM CENTER ROAD

City MAYFIELD HEIGHTS State OHIO Zip 44124

Surface X , Coal X , Noncoal ____

Name ____

Address ____

City ____ State ____ Zip ____

Surface ____ , Coal ____ , Noncoal ____

Name ____

Address ____

City ____ State ____ Zip ____

Surface ____ , Coal ____ , Noncoal ____

Name ____

Address ____

City ____ State ____ Zip ____

Surface ____ , Coal ____ , Noncoal ____

ORIGINAL 1363

C. (2) Provide the following information for the holders of record of any leasehold interest in the property to be mined or affected by surface operations and facilities, indicating whether the held interest is of surface, coal, or noncoal rights:

Name BENNOC, INC.

Address P.O. BOX 208

City MORRISTOWN State OHIO Zip 43759

Surface X , Coal X , Noncoal X

Name AMERICAN ENERGY CORP.

Address P.O. BOX 210, 1298 SOM CENTER ROAD

City MAYFIELD HEIGHTS State OHIO Zip 44124

Surface X , Coal X , Noncoal X

Submit and identify additional pages necessary to complete response.

(3) Are there purchasers of record under a real estate contract of the property to be mined or affected by surface operations and facilities? _____ Yes, X No. If "yes," submit Attachment 2.

(4) Is any owner, holder, or purchaser listed in Items C(1), (2), or (3) respectively, a business entity other than a single proprietorship? X Yes, _____ No. If "yes," submit Attachment 3.

(5) Is any part of the proposed permit area adjacent to any lands which are not owned by those persons identified in item C(1)? X Yes, _____ No. If "yes," submit Attachment 4.

(6) Does the applicant hold lands, interests in lands, options, or pending bids on interests for lands which are contiguous to the proposed permit area? X Yes, _____ No. If "yes," provide a description of the lands.

SEE APPLICATION MAP AND PAGE 8 FOR DESCRIPTION OF LANDS

(7) Is it anticipated that individual mining permits will be sought for any of those lands described in item C(6) above? _____ Yes, X No. If "yes," submit an addendum and identify those lands to include the size, sequence, and timing of future mining permits.

ORIGINAL

C. (8) Provide either of the following to allow for coal mining operations on the permit area:

(a) A copy of the documents, or

(b) An affidavit wherein the documents are described. The affidavit is to be submitted as an addendum to the perm application and is to be in the following format: (Not a separate affidavit is not required for each document.

AFFIDAVIT

State of Ohio, BELMONT County, ss. LARRY CONWAY being first duly sworn, says that the following described documents convey to the applicant the legal right explained below and is a subject of litigation as shown below.

Type of document LEASE

Execution Date FEBRUARY 5, 1994

Expiration Date FEBRUARY 4, 1999, WITH RIGHT TO RENEW

Parties: From AMERICAN ENERGY CORP. to BENNOC, INC.

Description of land: Number of Acres 487.433

County BELMONT, Township WAYNE

Sections 3 & 4, Lots

Explanation of legal rights claimed RIGHT TO ENTER, MINE AND REMOVE THE #11 AND #12 COAL SEAMS BY STRIP AND/OR AUGER METHOD.

Pending litigation ____ Yes, X No.

Kathleen M. Bednarik 8-5-97
Signature of Affiant Date

PRESIDENT
Position

Sworn to before me and subscribed in my presence this 5th day of August, 19 97.

1868

Paula L. Fisher
Notary Public

ORIGINAL

Paula L. Fisher
Notary Public, State of Ohio
My Commission Expires 10-9-2001

C. (8) Provide either of the following to allow for coal mining operations on the permit area:

(a) A copy of the documents, or

(b) An affidavit wherein the documents are described. The affidavit is to be submitted as an addendum to the permit application and is to be in the following format: (Note, a separate affidavit is not required for each document.)

AFFIDAVIT

State of Ohio, BELMONT County, ss. LARRY CONWAY being first duly sworn, says that the following described documents convey to the applicant the legal right explained below and is a subject of litigation as shown below.

Type of document LEASE

Execution Date FEBRUARY 5, 1994

Expiration Date FEBRUARY 4, 1999, WITH RIGHT TO RENEW

Parties: From WYOMING POCAHONTAS LAND COMPANY to BENNOC, INC.

Description of land: Number of Acres 151.125

County BELMONT, Township WAYNE

Sections 3, Lots

Explanation of legal rights claimed RIGHT TO ENTER, MINE AND REMOVE THE #11 AND #12 COAL SEAMS BY STRIP AND/OR AUGER METHOD.

Pending litigation ____ Yes, X No.

Larry Conway — 8-6-97
Signature of Affiant — Date

PRESIDENT
Position

Sworn to before me and subscribed in my presence this 6th day of August, 19 97.

Claude L. Luke
Notary Public

STATE OF OHIO
NOTARY PUBLIC
CLAUDE L. LUKE
My Commission Expires Aug. 21, 2001

ORIGINAL 1363 : -8

C. (9) If a surface mining operation, has the private mineral estate (coal) been severed from the private surface estate?
_____ Yes __X__ No. If "yes," submit:

(a) Attachment 8, or
(b) A copy of the document of conveyance that expressly grants or reserves the right to extract the coal by surface mining methods, or
(c) If the document of conveyance does not expressly grant the right to extract the coal by surface mining methods, documentation that under state law, the applicant has the legal authority to extract coal by those methods.

(10) List below the following information for each surface owner of land within the proposed permit area:

Owner Name	County	Township	Sec./Lot	T-	R-
WYOMING POCAHONTAS LAND COMPANY	BELMONT	WAYNE	3 & 4	6	5
AMERICAN ENERGY CORP.	BELMONT	WAYNE	3 & 4	6	5

ORIGINAL

1863

D. AREAS WHERE MINING IS PROHIBITED OR LIMITED

(1) Does this permit application include any area dedicated as a nature preserve pursuant to Chapter 1517., Ohio Revised Code? _____ Yes, __X__ No. If "yes," submit proof of valid existing right.

(2) Does this permit application include any area within one thousand feet of the waterlines of any wild, scenic, or recreational river dedicated pursuant to Chapter 1501., Ohio Revised Code? _____ Yes, __X__ No. If "yes," submit proof of valid existing right.

(3) Does this permit application include any area within the boundaries of the following systems: national park, national wildlife refuge, national trails, national wilderness preservation, national recreational areas, or wild and scenic rivers or river corridors including those rivers under study? _____ Yes, __X__ No. If "yes," submit proof of valid existing right.

(4) Does this permit application include any lands within the boundaries of any national forest? _____ Yes, __X__ No. If "yes," submit approval of U.S. Secretary of Interior of proof of valid existing right.

(5) Will operations conducted during this permit adversely affect any publicly owned park or places included on the National Register of Historic Places? _____ Yes, __X__ No. If "yes," submit joint approval from the chief and the federal, state, or local agency with jurisdiction over the park or places or proof of valid existing right.

(6) Will operations conducted during this permit affect land within one hundred feet of the outside right-of-way of a public highway or result in mining through a public highway? _____ Yes, __X__ No. If "yes," list the highway(s) in the space below and submit Attachment 9 or proof of valid existing right.

ORIGINAL

1363

AEC 19277

D. (7) Will operations conducted during this permit affect land within three hundred feet of any occupied dwelling? _____ Yes, __X__ No. If "Yes," list the name of the owner(s) in the space below and submit Attachment 10 or proof of valid existing right.

(8) Will operations conducted during this permit affect land within three hundred feet of any public building, school, church, community or institutional building, or public park? _____ Yes, __X__ No. If "yes," submit proof of valid existing right.

(9) Will operations conducted during this permit affect land within one hundred feet of a cemetery? _____ Yes, __X__ No. If "yes," submit proof of valid existing right or appropriate authorization to relocate the cemetery.

(10) Will operations conducted during this permit result in the extension of any part of the pit within fifty feet of horizontal distance to any adjacent land or water in which the applicant does not own either the surface or mineral rights? _____ Yes, __X__ No. If "yes," list below the name(s) of the adjacent owner(s) and submit Attachment 11.

(11) Is the proposed permit area within an area designated unsuitable for coal mining operations under rule 1501:13-3-07 of the Administrative Code or under study for designation in an administrative proceeding under this rule? _____ Yes, __X__ No.

(a) If "yes" to item C(11) above, did the applicant make substantial legal and financial commitments in the proposed permit area prior to January 4, 1977? _____ Yes, _____ No.

(b) If "yes" to item C(11)(a) above, submit as an addendum to the permit application information supporting the assertion that the commitments were made prior to January 4, 1977.

ORIGINAL

PB- 1363

AEC 19278

E. PERMIT TERM AND RELATED INFORMATION

(1) Anticipated/actual date for:

(a) Starting mining operations AUGUST 1997

(b) Terminating mining operations AUGUST 2002

(2) Number of surface acres to be affected:

(a) First year of operation 10

(b) During life of permit 267.0

(3) In the space below, provide the name and address of the public office where a complete copy of this permit application is to be filed.

ODNR, DIVISION OF RECLAMATION
70245 BANNOCK-UNIONTOWN ROAD
ST.CLAIRSVILLE, OHIO 43950

(4) In the space below, list the name and address of the newspaper and provide the text of the advertisement that is to be published in a newspaper of general circulation in the locality of the proposed permit area. Note, the advertisement is to provide the information required by paragraph (A) of rule 1501:13-5-01 of the Administrative Code.

TIMES LEADER
200 SOUTH 4TH STREET
MARTINS FERRY, OHIO 43935

SEE ADDENDUM TO PART 1, ITEM E (4)

ORIGINAL

1363

PROOF OF PUBLICATION

The State of Ohio
County of Belmont, ss:

The undersigned, being sworn, says that he or she is an employee of Eastern Ohio Newspapers, Inc., A Corporation, publisher of the Times Leader a newspaper published in Martins Ferry, Belmont County, Ohio, each day of the week except Saturday and of general circulation in said city and county; that it is a newspaper meeting the requirements of sections 7.12 and 5721.01 Ohio Revised Code as amended effective September 14, 1987; that affiant has custody of the records and files of said newspaper; and that the advertisement of which the annexed is a true copy, was published in said newspaper on each of the days in the month and year stated, as follows:

July 1, 8, 15, 22
19 94

Subscribed by Affiant and sworn to before me, this 1st day of July A.D. 19 94

Notary Public

Printer's Fees $ 98.60
Notary's Fees $

THE TIMES LEADER
Martins Ferry, Ohio
Bellaire, Ohio

PUBLIC NOTICE

Bennoc, Inc., P.O. Box 208, Morristown, Ohio 43759 has submitted a Coal Mining and Reclamation Permit Application numbered 1363 to the Ohio Department of Natural Resources, Division of Reclamation. The proposed coal mining and reclamation operation will be in Sections 3 and 4, Wayne Township, Belmont County, Ohio. The proposed permit area encompasses 367.5 acres and is located on the Hunter 7 ½ minute USGS Quadrangle map approximately 4 ½ miles west of Armstrong Mills, Ohio.

At this time road permits have not been obtained. Bennoc, Inc. is in the process of acquiring road permits to conduct mining operations within 100 feet of the outside right-of-way lines and through Township Roads 74, 81, 87, 88 and 165 at the location described above. Road permits will be obtained prior to permit approval or the permit limits will be revised to maintain a 100 foot buffer zone from the public road right of way line.

The application is on file at the ODNR, Division of Reclamation, 70249 Bethesda Uniontown Road, St. Clairsville, Ohio, 43950 for public inspection. Written comments, objections & requests for an informal conference may be sent to the Ohio Department of Natural Resources, 1855 Fountain Square Court, Columbus, Ohio 43224, within thirty (30) days of the last date of publication of this notice.
T-July, July 1 - 4 Fri.

I hereby certify that this is a true copy of the original.

Ellen M. Roper

2001

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2 6 1994

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AEC 19280

PART 2 ENVIRONMENTAL RESOURCES INFORMATION

A. CULTURAL, HISTORIC, AND ARCHEOLOGICAL INFORMATION

(1) Are there any cultural or historic resources listed or eligible for listing on the National Register of Historic Places within the proposed permit and adjacent areas? _____ Yes, __X__ No. If "yes," submit an addendum which identifies and describes the resources and submit Attachment 27.

(2) Are there any known archeological sites within the proposed permit and adjacent areas? _____ Yes, __X__ No. If "yes," submit an addendum which identifies and describes the site and submit Attachment 27.

B. GEOLOGY DESCRIPTION

(1) Submit an addendum providing a general statement of the geology within the proposed permit area and adjacent areas down to and including the first stratum below the lowest coal seam to be mined or any aquifer below the lowest coal seam to be mined which may be adversely affected by mining. The description shall also include information on the areal and structural geology of the permit and adjacent areas and any other geologic parameters which may influence required reclamation.

SEE ADDENDUM TO PART 2, ITEM B

(2) Submit an addendum providing a description of how the areal and structural geology may affect the occurrence, availability, movement, quantity, and quality of potentially affected surface and ground waters as required by paragraph (C) of rule 1501:13-4-04 of the Administrative Code.

SEE ADDENDUM TO PART 2, ITEM B

(3) Submit Attachment 12(s) as required by paragraph (C) of rule 1501:13-4-04 of the Administrative Code.

SEE ATTACHMENT 12'S AND TEST HOLE VARIANCE REQUEST

C. GROUND WATER INFORMATION

(1) Submit Attachment 14B which describes the ground water hydrology of the proposed permit and adjacent areas. The Attachment 14B should include information on each waterbearing stratum or zone as required by paragraph (D) of rule 1501:13-4-04 of the Administrative Code.

(2) Are there any wells on the proposed permit and adjacent areas? __X__ Yes, _____ No. If "yes," submit Attachment 14A and Attachment 14C.

(3) Are there any springs on the proposed permit and adjacent areas? __X__ Yes, _____ No. If "yes," submit Attachment 14A and Attachment 14C.

ORIGINAL

AEC 19281

C. (4) Are there any public water supply sources on the permit and adjacent areas? _____ Yes, __X__ No. If "yes," submit Attachment 14A, Attachment 14D, and show location(s) on the hydrology map.

D. SURFACE WATER INFORMATION

(1) List the name of the watersheds that will receive water discharges from the proposed permit area as listed in the "Gazetteer of Ohio Streams" published by the Ohio Department of Natural Resources.

CAPTINA CREEK

(2) Are there any perennial or intermittent streams or other surface water bodies on the proposed permit and adjacent areas ? __X__ Yes, _____ No. If "yes," submit Attachment 14A, Attachment 14D, and show location(s) on the hydrology map.

SEE ATTACHMENT 14A, B, C, AND PRECIPITATION DATA

(3) Based on the quality and quantity measurements listed on Attachment 14A and from other information available to the applicant and submitted with this application, identify the seasonal variations in water quality and quantity for the surface and ground water sources on the proposed permit and adjacent areas.

SEE ADDENDUM TO PART 2, ITEM D(3)

E. HYDROLOGIC DETERMINATION

Based on the baseline data and other information submitted in response to items B, C, and D in this part of the permit application, submit an addendum describing the probable hydrologic consequences of this proposed coal mining operation on the hydrologic regime of the proposed permit and adjacent areas. The description shall include findings on each of the following items:

(1) The consequences of the proposed operation on the contents of dissolved and total suspended solids, total iron, total manganese, and pH;

(2) Whether adverse impacts may occur to the hydrologic balance;

(3) The impact the proposed operation will have on:
(a) sediment yield from the disturbed area,
(b) acidity, total suspended and dissolved solids, and other important water quality parameters of local impact,
(c) flooding or streamflow alteration,
(d) ground water and surface water availability.

SEE ADDENDUM TO PART 2, ITEM E

ORIGINAL

F. ALTERNATIVE WATER SUPPLY INFORMATION

(1) Based on the response in Part 2, item E., identify the extent to which the proposed operations may proximately result in contamination, diminution, or interruption of an underground or surface source of water within the proposed permit or adjacent areas which is used for domestic, agricultural, industrial or other legitimate use.

SEE ADDENDUM TO PART 2, ITEM F

(2) If contamination, diminution, or interruption may result, provide a description of alternative sources of water which could be developed to replace existing sources including information on water availability and suitability of alternative water sources for existing pre-mining uses and approved postmining land uses.

SEE ADDENDUM TO PART 2, ITEM F

G. CLIMATOLOGICAL INFORMATION

If requested by the Chief, subsequent to the filing of the permit application, submit as an addendum to the permit application, the climatological information required by paragraph (H) of rule 1501:13-4-04 of the Administrative Code.

H. LAND USE INFORMATION

(1) Describe the uses of the land existing at the time of the filing of this permit application and provide a map which delineates the area of each land use.

THE PROPOSED PERMIT AREA CONTAINS 20.6 ACRES OF CROPLAND (HAY) AND 316.3 ACRES OF UNDEVELOPED LAND. ALL D-0425 PERMITTED AREA BEING REPERMITTED BY PROPOSED APPLICATION #1363 IS 28.6 ACRES FISH AND WILDLIFE THROUGH NATURAL PROGRESSION.
SEE ADDENDUM TO PART 2, ITEM H(1) -PREMINING LAND USE MAP.

(2) Was the land use described in item H (1) above changed within five years before the anticipated date of beginning this proposed mining operation? _____ Yes, __X__ No. If "yes," submit an addendum describing the historic use of the land.

(3) Analyze the capability of the land within the proposed permit area before any mining to support a variety of uses, giving consideration to soil and foundation characteristics, topography, vegetative cover, and hydrology of the proposed permit area.

AFTER GIVING CONSIDERATION TO SOIL AND FOUNDATION CHARACTERISTICS, TOPOGRAPHY, VEGETATIVE COVER AND HYDROLOGY OF THE PROPOSED PERMIT AREA, THE LAND COULD SUPPORT USES SUCH AS UNDEVELOPED RECREATIONAL, AND WILDLIFE HABITAT THROUGH NATURAL PROGRESSION OF VEGETATIVE COVER.

ORIGINAL 1363 -B

H. (4) Analyze the productivity of the land within the proposed permit area before any mining to include average yield data obtained under high level of management.

SEE ADDENDUM TO PART 2, ITEM H(4) - SOIL SURVEY OF BELMONT COUNTY, OHIO.

(5) Is any land within the proposed permit classified as prime farmland? __X__ Yes, _____ No.

(6) Describe the use of the land, including the creation of permanent water impoundments, that is proposed to be made of the land following reclamation, including information regarding the utility and capacity of the reclaimed land to support a variety of alternative uses.

THE USE OF THE LAND FOLLOWING RECLAMATION WILL BE PASTURELAND AND CROPLAND. THE CROPLAND AND PRIME FARMLAND SOIL UNITS, (NOT INCLUDED ON THE ADDENDUM TO ATTACHMENT 16), WILL BE RETURNED TO CROPLAND AND THE UNDEVELOPED LAND WILL BE RETURNED TO PASTURELAND. SEE ADDENDUM TO PART 2, ITEM H(12) FOR LAND USE CHANGE DATA. PONDS 001, 002, 003, 004 AND 011 WILL REMAIN AFTER MINING. SEE ADDENDUM TO PART 2, ITEM H(6) FOR LAND OWNER REQUEST LETTER.

THE POST-MINING LAND USE FOR THIS AREA WILL BE AESTHETICALLY APPROPRIATE AND CORRESPONDS WITH ADJACENT LAND USES. GRASSES AND LEGUMES WILL BE USED AS A COVER CROP. FOLLOWING RECLAMATION, THE CAPABILITY AND PRODUCTIVITY OF THE LAND WILL BE GREATER THAN THAT AT THE PRESENT TIME. THE RECLAIMED LAND COULD SUSTAIN OTHER AGRICULTURAL OR RECREATIONAL USES.

(7) Are there existing land use policies and plans adopted by any governmental agency for the proposed permit and adjacent areas? _____ Yes, __X__ No. If "yes," describe the land use policy or plan. If "no," describe the sources of information on which the determination was made.

FRED BENNETT, BELMONT COUNTY ENGINEER

(8) If "yes" to item H(7) above, submit as an addendum to the permit application, the comments of the governmental agency that administers the land use policy or plan.

N/A

(9) Submit as an addendum a copy of the comments from the legal or equitable owner of record of the surface of the proposed permit area concerning the proposed land use.

SEE ADDENDUM TO PART 2, H(9)

(10) Describe how the proposed land use is to be achieved and the necessary support activities that may be needed to achieve the proposed land use.

THE PROPOSED LAND USE WILL BE ACHIEVED BY FOLLOWING THE PROPOSED RECLAMATION PLAN DESCRIBED IN PART 3, OF THIS APPLICATION.

ORIGINAL 1363

AEC 19284

H. (11) Describe the consideration which has been given to making all of the proposed coal mining activities consistent with surface owner plans and applicable state and local land use plans and programs.

NO STATE OR LOCAL LAND USE PLANS EXIST FOR THIS AREA. ALL THE PROPOSED COAL MINING ACTIVITIES EXPLAINED IN THIS APPLICATION ARE CONSISTENT WITH THE SURFACE OWNERS PLANS.

(12) Is the postmining land use to be different from the pre-mining land use? __X__ Yes, _____ No. If "yes," submit as an addendum to the permit application, the plans and findings required by paragraph (D) of rule 1501:13-9-17 of the Administrative Code.

(13) Has the proposed permit area been previously mined? __X__ Yes, _____ No. If "yes," provide the following information, if available:

(a) type of mining method UNDERGROUND
(b) coal seam mined #8
(c) noncoal mineral mined N/A
(d) extent of mining 195.3 (acres)
(e) approximate dates 1978
(f) land use preceding mining N/A

(a) type of mining method SURFACE FACILITY FOR UNDERGROUND MINE
(b) coal seam mined N/A
(c) noncoal mineral mined N/A
(d) extent of mining 30.2 (acres)
(e) approximate dates 1984
(f) land use preceding mining UNDEVELOPED

(a) type of mining method UNDERGROUND
(b) coal seam mined #11 & #12
(c) noncoal mineral mined N/A
(d) extent of mining UNKNOWN (acres)
(e) approximate dates UNKNOWN
(f) land use preceding mining UNDEVELOPED

I. PRIME FARMLAND INVESTIGATION

(1) Does the proposed permit area include any land that is prime farmland, taking into consideration the negative determinations listed in paragraph (L) (2) of rule 1501:13-4-04 of the Administrative Code? __X__ Yes, _____ No.

(2) If the response to item I.(1) is "yes," submit Attachment 15.

(3) If the response to item I.(1) is "no," submit Attachment 16.

ORIGINAL 1363 -B

AEC 19285

NOTIFICATION OF LAND USE CHANGE

TO: U.S. Fish and Wildlife
Division of Ecological Services
6950-H Americana Parkway
Reynoldsburg, Ohio 43068

Division of Wildlife
Building C-4
Fountain Square
Columbus, Ohio 43224

Note: This form is to be completed only if a land use change is to occur.

1. Is a copy of the coal mine permit application currently on file with the Division of Reclamation? X Yes, ____ No.

2. Coal mine permit application no. 1363

3. Application to revise permit no. ____

4. Other: permit no. ____ address the status of this permit:

5. Applicant BENNOC INC.

   Address 38722 NATIONAL RD., P.O. BOX 208

   City MORRISTOWN State OHIO Zip 43795

6. Application Location

   County BELMONT Township WAYNE

   Section 3 & 4 Lot ____ Acres 365.5

   Township 6 Range 5 Quadrangle HUNTER

7. Pre-mining Land Use

   UNDEVELOPED LAND

8. Post-mining Land Use

   PASTURELAND

9. Revegetation Plan (SPECIES AND AMOUNTS)

   12 LBS/AC. ALFALFA
   4 LBS/AC. ORCHARD GRASS
   6 LBS/AC. BIRDSFOOT TREFOIL
   2 LBS/AC. TIMOTHY

10. Stream Variance Request X Yes, ____ No. If yes, enclose

    A) Copy of Stream Variance Request
    B) Percentage of tree cover within 100' buffer zone

Enclose a location map and a copy of the quadrangle map with the mine site highlighted in yellow.

ORIGINAL

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C. (8) Will blasting be conducted within one-half mile of any public or private institution such as a school or church in session or a residential mental or physical health care facility? _____ Yes, __X__ No. If "yes," identify the institution(s) below and either describe the methods of notification to be used or submit a statement signed by the administrator of each institution waiving the right to be notified.

(9) Which of the following ground vibration limits will be applied at any dwelling, public or commercial building, school, church, or community or institutional building outside the permit area? (Check one or both).

(a) __X__ the maximum peak-particle velocity limits of paragraph (F)(7) of rule 1501:13-9-06 of the Administrative Code. A seismographic record shall be provided for each blast unless the scaled-distance equation of paragraph (F)(9) of rule 1501:13-9-06 is used.

(b) _____ The ground vibration limits in the blasting-level chart of paragraph (F)(8) of rule 1501:13-9-06 of the Administrative Code. A seismographic record including both particle velocities and an electronic analysis of vibration frequencies shall be provided for each blast. (Submit as an addendum an example of the frequency analysis method to be used along with a written explanation of its applicability to the chart under paragraph (F)(8) of rule 1501:13-9-06.)

(10) Which of the following ground vibration limits will be applied at all other structures in the vicinity of the blasting area not listed in item C(9) above, such as water towers, pipelines and other utilities, communication and transmission towers, public roads, tunnels, dams, impoundments, and underground mines? (Check the first choice or both.)

(a) __X__ a peak-particle velocity limit of 2.0 inches per second, with a scaled-distance factor of 40 to be applied in the absence of seismographic monitoring, for all structures except those which may be specified under item C(10)(b) below.

(b) _____ a peak-particle velocity limit higher than 2.0 inches per second, as indicated on an Attachment 26 submitted with this application, for the specific structures identified below:

ORIGINAL

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AEC 19287

C. (2) Blasting will be conducted within (check appropriate spaces):

(a) __X__ one thousand feet of a dwelling, public or commercial building, school, church, or community or institutional building.
(b) __X__ five hundred feet of an active or abandoned underground mine.
(c) _____ none of the above.

If (a) or (b) above is checked, submit as an addendum an ANTICIPATED BLAST DESIGN prepared in accordance with paragraph (B) of rule 1501:13-9-06 of the Administrative Code.

(3) Submit as an addendum a listing of the names and addresses of the residents or owners of each dwelling or other structure within one-half mile of the PERMIT area who must receive the preblast survey notification at least 30 days before the first blast, as required by paragraph (C)(1) of rule 1501:13-9-06 of the Administrative Code.
SEE ADDENDUM TO PART 3, C(3) & (4)

(4) Submit as an addendum a listing of the names and addresses of the local governments, public utilities, and each residence and occupied building within one-half mile of the proposed blasting area that must receive a copy of the blasting schedule required by paragraph (D)(3) of rule 1501:13-9-06 of the Administrative Code. This list may be combined with the list required by item C (3) above, provided that it is clearly indicated which persons will receive the preblast survey notification and which persons will receive the blasting schedule (or both).
SEE ADDENDUM TO PART 3, C(3) & (4)

(5) Which of the following methods will be used to distribute the preblast survey notifications and blasting schedules? (Check one or both.)

(a) _____ certified U.S. mail. Return receipt cards will be kept on file to show addressees and mailing/delivery dates.
(b) __X__ regular U.S. mail or hand-delivery. A written log will be maintained to show date and method of distribution to each person, business, or agency.

(6) Submit as an addendum a copy of both:
(a) the preblast survey notification that contains the information required by paragraph (C)(1) and (C)(2) of rule 1501:13-9-06 of the Administrative Code; and
(b) the blasting schedule that contains the information required by paragraph (D)(5) of rule 1501:13-9-06 of the Administrative Code.
SEE ADDENDUM TO PART 3, C (6)(a & b)

(7) Provide the name and address of the newspaper(s) in which the blasting schedule will be published. (After publication, a notarized proof of publication must be sent to the Division of Reclamation district office having jurisdiction over the permit.)

THE TIMES LEADER, 200 S. 4TH ST., MARTINS FERRY, OHIO 43935

ORIGINAL 1363 -13

A.(5) (d) spoil removal, handling, storage, transportation, and disposal areas and structures.

SEE ADDENDUM TO PART 3, ITEM A(5)(d)

(e) mine facilities.

THERE ARE NO MINE FACILITIES PROPOSED FOR THIS PERMIT.

(f) water and air pollution control facilities.

DIRECT CHEMICAL APPLICATIONS, PORTABLE CHEMICAL DISPENSING UNITS OR PHYSICAL CONTROL FACILITIES WILL BE PROVIDED AND WATER QUALITY MAINTAINED AS REQUIRED BY RESPECTIVE GOVERNING AGENCIES IN COMPLIANCE WITH ALL HEALTH, SAFETY AND ENVIRONMENTAL LAWS, RULES, AND REGULATIONS. MAINTENANCE WILL CONSIST OF ADDING CHEMICALS AS NEEDED.

(6) Provide an estimate of the cost per acre to reclaim the mined area. $2500

(7) Will the proposed operation include any of the following:

(a) disposal of coal mine waste from a wash plant, tipple, or other source? _____ Yes, X No. If "yes," submit Attachment 28 and if applicable, the information required by paragraph (H) of 1501:13-4-05 of the Administrative Code.

(b) disposal of fly ash or other noncoal waste? _____ Yes, X No. If "yes," submit an addendum which addresses the disposal material and a detailed disposal plan.

B. EXISTING STRUCTURES

(1) Are any existing structures proposed to be used in connection with or to facilitate the surface operation? _____ Yes, X No. If "yes," submit as an addendum to the permit application a description of each such structure. The description shall include the information required by paragraph (B)(1) of rule 1501:13-4-05 of the Administrative Code.

(2) Are any existing structures proposed to be modified or reconstructed? X Yes, _____ No. If "yes," submit as an addendum to the permit application a compliance plan for each structure. The plan shall include the information required by paragraph (B)(2) of rule 1501:13-4-05 of the Administrative Code.
SEE ADDENDUM TO PART 3, ITEM B(2)

C. BLASTING

(1) Will blasting operations be conducted during this surface mining operation? X Yes, _____ No. If "yes," respond to items C (2) through C (15). If "no," items C(2) through C(15) require no response.

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RECLAMATION
AEC 19289

PART 3 RECLAMATION AND OPERATIONS PLANS

A. GENERAL REQUIREMENTS

(1) Describe the type and method of coal mining procedures.

SURFACE MINING UTILIZING THE CONTOUR AND AUGER MINING METHODS.

(2) Describe the proposed engineering techniques to be used in this mining operation.

SEE ADDENDUM TO THIS ITEM.

(3) Anticipated annual production of coal: 133,472 tons
Anticipated total production of coal: 667,361 tons

(4) List the major pieces of equipment to be used for all aspects of the operation.

DOZERS, SHOVEL, FRONT END LOADER, GRADER, DRILL, AUGER AND FARM EQUIPMENT.

(5) Describe the construction, modification, maintenance, and removal (unless to be retained for postmining land use) of the following facilities:

(a) dams, embankments, and other impoundments. Do any of the plans for water, sediment, or slurry impoundments meet the requirements of 30 CFR 77.216? _____ Yes, __X__ No. If "Yes," submit as an addendum a plan that addresses each of the requirements in 30 CFR 77.216-2.

SEE ADDENDUM TO PART 3, ITEM A (5)(a-c)

(b) overburden and topsoil handling and storage areas and structures.

SEE ADDENDUM TO PART 3, ITEM A (5)(a-c)

(c) coal removal, handling, storage, cleaning and transportation areas and structures.

SEE ADDENDUM TO PART 3, ITEM A (5)(a-c)

ORIGINAL

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AEC 19290

C.(11) Describe the type, capability, and sensitivity of the typical seismograph/airblast monitoring equipment to be used, whenever required, by completing the following:

(a) monitoring functions (check one or both):

__X__ three mutually perpendicular components of ground motion.
__X__ airblast component.

(b) record type (check one):

__X__ full wave-trace (complete time history).
_____ peak value only

(c) permanent recording medium (check one):

__X__ magnetic cassette tape, direct print, photo-sensitive paper, or computer disk or chip.

_____ paper chart roll (continuous chart recorder).

(d) seismic recording range (check one):

__X__ up to 4.0 inches per second with a complete record.
_____ other (describe): _____.

(e) airblast recording range, flat response (check one):

__X__ up to at least 134 decibels.
_____ other (describe): _____.

(f) flat-frequency response (+/-3 dB), (check all that apply):

__X__ seismic and airblast, upper-end: at least 200 Hz.
__X__ seismic, lower-end: 5 Hz or less.
__X__ airblast, lower-end: 6 Hz or less.
_____ other (describe): _____.

(12) Describe the proposed procedures and locations of monitoring by completing the following:

(a) seismic monitoring will be conducted at (check the first choice or both):

__X__ the nearest dwelling, public or commercial building, school, church, or community or institutional building outside the permit area, whenever required to comply with the ground vibration options of paragraph (F)(6) of rule 1501:13-9-06 of the Administrative Code.

__X__ additional locations different from those above (describe) UPON COMPLAINT AT RESIDENCE

ORIGINAL 1368 -3

AEC 19291

C.(12) (b) airblast monitoring required by paragraph (F)(5)(b) of rule 1501:13-9-06 of the Administrative Code will be conducted at (check the first choice or both):

__X__ generally, the nearest dwelling, public or commercial building, school, church, or community or institutional building outside the permit area.

__X__ additional locations different from those above (describe): UPON COMPLAINT AT RESIDENCE.

(c) periodicity of required airblast monitoring (check the one best suited to the proposed permit area and operation):

__X__ at least five percent of all blasts on a semiannual basis, beginning on the date the permit is issued.

_____ at least one blast per calendar month when blasting is conducted during that month.

(13) Submit as an addendum a copy of the blast record to be used which will meet the requirements of paragraph (G)(3) of rule 1501:13-9-06 of the Administrative Code. Will the blast records be retained at the permit site? __X__ Yes, _____ No. If "no," describe the exact location of the office of the permittee (applicant) where the records will be placed and kept on file within five business days. Do not give a mailing address if it is a post office box or rural route number.

(14) Indicate below each type of structure where blasting is proposed within three hundred feet and submit an Attachment 24 for each (check all that apply):

_____ public water tower
_____ public reservoir dam
_____ communication tower
_____ high-voltage transmission tower
_____ railroad or highway tunnel
_____ public water or sewage main
_____ major oil or gas distribution pipeline (field collection lines and small diameter lines from wellhead to a residence, barn, or shop are excluded)
__X__ none

(15) Will blasting be conducted within five hundred feet (measured horizontally) of an active underground mine (or inactive portion of an active underground mine)? _____ Yes, __X__ No. If "yes," submit an Attachment 25 with all lines completed down to and including item 3. Also submit the MSHA form, "INFORMATION NEEDED FOR THE EVALUATION OF SURFACE MINING ACTIVITIES WITHIN 500 FEET OF AN ACTIVE UNDERGROUND MINE," with all lines completed down to and including item 5.

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D. RECLAMATION PLAN - GENERAL REQUIREMENTS

(1) Indicate the timetable for backfilling and grading.

X Backfilling and rough grading will be completed within 60 days or 1500 linear feet, whichever occurs first, following coal removal. (Contour mining)

_____ Backfilling and rough grading will be completed within 180 days following coal removal, and not more than four spoil ridges behind the pit being worked, the spoil from the active pit constituting the first spoil ridge. (Area mining)

_____ Backfilling and rough grading will be completed as described in the attached addendum, but not to exceed 180 days or the minimum distance, as specified in the addendum, required to continue the mining operation following coal removal. (Other mining methods)

_____ Backfilling and rough grading will be completed within the time period and distances specified in the attached addendum that provides the detailed analysis required by OAC 1501:13-9-13.

(2) Indicate the timetable for resoiling.

X Resoiling will commence and be completed on graded areas during the first appropriate planting/growing season following completion of grading unless precluded by climatic conditions. Resoiling should normally occur between April 1 and October 1.

_____ Other. (Submit as an addendum, a detailed timetable.)

(3) Indicate the timetable(s) for planting.

X Permanent seeding will follow resoiling operations within 30 days and in accordance with the approved planting plan unless precluded by climatic conditions.

_____ Other planting schedule, including planting of trees, shrubs, or temporary vegetation. Submit, as an addendum, a detailed timetable.)

ORIGINAL 1368 -B

AEC 19293

D. (9) Describe the measures to be employed to ensure that all debris, acid forming and toxic forming materials, and materials constituting a fire hazard are disposed of in accordance with paragraph (J) of rule 1501:13-9-04, paragraph (E) of rule 1501:13-9-09 and paragraph (J) of rule 1501:13-9-14 of the Administrative Code.

ANY ACID OR TOXIC FORMING MATERIALS WILL BE PLACED ABOVE THE PIT FLOOR, KEPT AWAY FROM THE FINAL HIGHWALL, COVERED WITH AT LEAST FOUR FEET OF NON-TOXIC, NON-COMBUSTIBLE MATERIAL, AND TREATED IF NECESSARY. ANY DEBRIS OR FIRE HAZARD MATERIALS, SUCH AS TREES, LARGE ROCKS, ETC., WILL BE BURIED. ALL SUCH MATERIALS WILL BE KEPT OUTSIDE NATURAL DRAINAGEWAYS, AND ISOLATED, WHERE POSSIBLE, SO AS TO MINIMIZE CONTACT WITH WATER.

(10) Describe the contingency plans which have been developed to preclude sustained combustion of the materials mentioned in item D(9) above.

BURYING ALL COMBUSTIBLES WILL MAKE CHANCES OF A FIRE IMPOSSIBLE. FIRE EXTINGUISHERS WILL BE KEPT AT THE SITE AND THE LOCAL FIRE DEPARTMENT WILL BE NOTIFIED IMMEDIATELY IF NECESSARY.

(11) Describe the measures, including appropriate cross sections and maps, to be used to seal or manage underground mine openings within the proposed permit area.

SEE ADDENDUM TO PART 3, ITEM D(11)

(12) Describe the measures, including appropriate cross sections and maps, to be used to plug, case, or manage exploration holes, other bore holes, wells, and other openings within the proposed permit area.

ALL EXPLORATION HOLES, BORE HOLES, WELLS, TEST HOLES AND ANY OTHER OPENINGS WITHIN THIS PERMIT THAT WILL NOT BE MINED OUT, WILL BE PLUGGED WITH "NEAT CEMENT".

(13) Describe the steps to be taken to comply with the Clean Air Act (42 U.S.C. 7401 et seq.).

WATER WILL BE SPRAYED ON HAUL ROADS DURING MINING OPERATIONS TO PREVENT DUST AND MINIMIZE AIR POLLUTION.

(14) Describe the steps to be taken to comply with the Clean Water Act (33 U.S.C. 1251 et seq.).

AN NPDES PERMIT HAS BEEN APPLIED FOR AND ALL STEPS OUTLINED IN THIS APPLICATION WILL ENSURE DISCHARGE OF CLEAN WATER FROM THE PERMIT. NO DUMPING OF OIL OR OTHER CONTAMINANTS WILL OCCUR.

(15) Identify any other applicable air and water quality laws and regulations and health and safety standards and describe the steps to be taken to comply with each.

APPROPRIATE STEPS ARE TAKEN TO COMPLY WITH THE MINE SAFETY AND HEALTH ACT, CHAPTER 1521 O.R.C, AND STATE AND FEDERAL E.P.A. REGULATIONS. SEE ADDENDUM TO THIS ITEM.

D. (4) Submit an addendum describing the plan for backfilling, soil stabilization, and grading.

SEE ADDENDUM TO PART 3, ITEM D(4)

(5) Submit an addendum describing the plan for removal, storage, and redistribution of topsoil, subsoil, or approved alternative resoiling material to meet the requirements of rule 1501:13-9-03 of the Administrative Code. This description must include the average topsoil and subsoil depths on any portions of the application area which have not previously been affected by mining. It must also include a description of the sampling plan which was used to determine that depth. If an alternative resoiling material is proposed, submit Attachment 19.

SEE ADDENDUM TO PART 3, ITEM D(5)

(6) Submit an addendum providing the following information for the revegetation plan:

(a) a list of the species and amounts of seeds to be planted per acre for temporary vegetation.

TEMPORARY COVER WILL CONSIST OF A COMBINATION MIXTURE OF RYE/OATS AND/OR WHEAT AT 2 BUSHELS/AC.

(b) a list of the species and amounts of seeds and tree/shrub seedlings to be used per acre for permanent vegetation.

SEE ADDENDUM TO PART 3, ITEM D(6)(b)

(c) a description of the methods to be used in planting and seeding.

AFTER RESOILING IS COMPLETED, THE AREA WILL BE DISCED, SWEPT, ROCKS REMOVED, REDISCED AND GRAIN DRILLED.

(d) does the revegetation plan include any introduced species? _____ Yes, __X__ No. If "yes", submit an addendum listing the species and demonstrating compliance with paragraph (C) of 1501: 13-9-15 of the Administrative Code.

(e) a description of the mulching techniques.
SEE ADDENDUM TO PART 3, ITEM D(6)(e)

(f) if appropriate, a description of the methods or techniques to be used for irrigation, and, if any is proposed, disease, pest, and vermin control.
N/A

(7) Submit an addendum describing the soil testing plan for evaluation of the results of topsoil handling and reclamation procedures related to revegetation.
SEE ADDENDUM TO PART 3, ITEM D(7)

(8) Describe the measures to be used to maximize the use and conservation of the coal resources.
SEE ADDENDUM TO PART 3, ITEM D(8)

ORIGINAL 1363 -a

AEC 19295

PRIME FARMLAND DESCRIPTION

(Original undisturbed soil profile)

WmB-- Westmoreland silt loam, 3 to 8 percent slopes.

This soil has a brown, friable silt loam surface layer (A Horizon) about 8 inches thick. The subsoil (B Horizon) is about 27 inches thick. The upper 20 inches is brown and dark yellowish brown, friable silt loam and firm clay loam. The lower 7 inches is yellowish brown, firm channery clay loam.

PRIME FARMLAND DESCRIPTION

(Original undisturbed soil profile)

WhB -- Wellston silt loam, 3 to 8 percent slopes.

This soil has a brown friable silt loam surface layer (A Horizon) about 7 inches thick. The subsoil (B Horizon) is about 40 inches thick. The upper 20 inches is brown, friable silt loam. The lower 20 inches is yellowish brown and strong brown firm loam. Weathered siltstone bedrock is about 59 inches.

PRIME FARMLAND DESCRIPTION

(Original undisturbed soil profile)

WkB -- Westmore silt loam, 3 to 8 percent slopes.

This soil has brown, friable silt loam surface layer (A Horizon) about 8 inches thick. The subsoil (B Horizon) is about 33 inches thick. The upper 17 inches is yellowish brown, friable silt loam and silty clay loam. The lower 16 inches is olive brown, mottled, firm clay. Weathered shale bedrock is at about 50 inches.

ORIGINAL

PRIME FARMLAND DESCRIPTION
{Original undisturbed soil profile}

Cg -- Chagrin silt loam, occasionally flooded.

This soil has a dark grayish brown, friable silt loam surface layer, {A Horizon} about 9 inches thick. The subsoil, {B Horizon} about 34 inches thick, is brown, friable silt loam and loam. The substratum { C Horizon } to a depth of 4 feet or more, is stratified brown and dark yellowish brown, friable loam and sandy loam. This soil is not prime if flooded more often than once in 2 years during the growing season.

PRIME FARMLAND DESCRIPTION
{Original undisturbed soil profile}

LeB -- Lowell silt loam, 3 to 8 percent slopes.

This soil has a brown, friable silt loam surface layer {A Horizon} about 7 inches thick. The subsoil {B Horizon} is about 35 inches thick. The upper 11 inches is yellowish brown, friable silty clay loam and the lower 24 inches is yellowish brown and strong brown, firm silty clay mottled with grayish brown colors beneath 25 inches. The substratum {C Horizon} to a depth of 4 feet or more, is light olive brown, firm gravelly silty clay loam. Depth to bedrock ranges from 40 to 72 inches.

ORIGINAL

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D. (16) Describe the degree to which the reclamation plan is consistent with local physical, environmental, and climatological conditions.

THE RECLAMATION PLAN PROVIDES FOR THE RETURN TO APPROXIMATE ORIGINAL CONTOURS. DRAINAGE CONTROLS, RESOILING AND REVEGETATION ARE DESIGNED TO INSURE MAXIMUM CONSISTENCE WITH PHYSICAL, ENVIRONMENTAL AND CLIMATOLOGICAL CONDITIONS.

(17) Describe the measures to be used to stabilize and protect all surfaces areas, including spoil piles, affected by the mining activities.

SUBJECT TO SAFE OPERATING PRACTICES, GRADING OF DISTURBED SURFACE AREAS WILL BE ALONG THE CONTOUR TO MINIMIZE EROSION AND INSURE STABILITY. DRAINAGE CONTROLS ARE ESTABLISHED AND AREAS REVEGETATED AS ADDITIONAL MEASURES TO STABILIZE DISTURBED SURFACE AREAS. RECLAMATION WILL BE KEPT CURRENT WITH MINING.

(18) Submit an addendum describing the plan for minimizing to the extent possible and using the best technology currently available disturbances and adverse impacts of the operation on fish and wildlife and related environmental values and achieving enhancement of such resources where practical.

SEE ADDENDUM TO PART 3, D(18)

(19) Describe the plan for leaving an undisturbed natural barrier at the elevation of the lowest coal seam to be mined or, if no barrier is to be left, describe the methods to be used to prevent slides and erosion.

IN AREAS WHERE A LOW WALL IS NOT LEFT, THE SPOIL WILL BE PLACED ON AREAS TO MINIMIZE SLIDE POTENTIAL AND LOW PROFILE STORAGE OF SPOIL WILL HELP REDUCE POTENTIAL SLIDES. DIVERSION DITCHES WILL BE USED TO DIRECT DRAINAGE TO SEDIMENT PONDS UNTIL VEGETATION HAS BEEN WELL ESTABLISHED.

E. <u>RECLAMATION PLAN - PROTECTION OF HYDROLOGIC BALANCE</u>

(1) Submit an addendum describing the measures to be taken during and after the proposed surface mining operations to:

(a) minimize disturbance to the hydrologic balance, including quality and quantity, within the permit and adjacent areas and to prevent material damage outside the permit area;

(b) protect the rights of present users of surface and ground water;

(c) avoid acid or toxic drainage.

SEE ADDENDUM TO PART 3, ITEM E(1)

ORIGINAL

AEC 19298

E. (2) Describe the plan for the control of surface water drainage into, through, and out of the proposed permit area. If applicable, submit as an addendum any request for variances pursuant to paragraphs (B) and (E) of rule 1501:13-9-04 of the Administrative Code.

SEE ADDENDUM TO PART 3, ITEM E (2)

(3) Describe the plan for the treatment of surface and ground water drainage from the area to be disturbed by the proposed coal mining activities.

ALL SURFACE AND GROUNDWATER ENCOUNTERED WILL BE DIVERTED OR PUMPED TO A SEDIMENT CONTROL FACILITY WHERE IT WILL BE TREATED, IF NECESSARY, WITH LIME OR SODA-ASH BRIQUETTES TO A pH OF BETWEEN 6.5 AND 9.0 BEFORE BEING RELEASED. ALL WATER DISCHARGED FROM THE PERMIT AREA WILL MEET ACCEPTED EFFLUENT LIMITATIONS. SEE ADDENDUM TO PART 3, ITEM E(3) FOR OTHER WATER EFFLUENT LIMITATION PARAMETERS.

(4) Describe the plan for the restoration of the approximate recharge capacity of the proposed permit area in accordance with paragraph (L) of rule 1501:13-9-04 of the Administrative Code.

THE RESTORATION OF THE RECHARGE CAPACITY ON THE MINE SITE WILL BE ACCOMPLISHED IN SEVERAL WAYS. THE SCARIFICATION OF THE SURFACE WILL SLOW RUNOFF AND ENHANCE INFILTRATION. THE ESTABLISHMENT OF A VEGETATIVE COVER ON THE SITE WILL RETARD RUNOFF AND CREATE A ROOT SYSTEM WHICH WOULD LOOSEN THE SUBSURFACE HORIZONS AND INCREASE DOWNWARD PERCOLATION OF INFILTRATED WATER. RECHARGE WILL ALSO BE ENHANCED WITH THE DEVELOPMENT, BY INFILTRATED WATER, OF PERCOLATION CHANNELS THROUGH THE SPOIL AFTER BACKFILLING, GRADING, AND REVEGETATION HAVE TAKEN PLACE.

FOLLOWING BACKFILLING, THE SPOIL WILL BE GRADED TO APPROXIMATE ORIGINAL CONTOUR. THIS WILL ASSURE THAT THE NATURAL DRAINAGE WAYS WILL BE RE-ESTABLISHED. COMPACTION IN EXCESS OF THAT REQUIRED TO ATTAIN STABILITY WILL BE AVOIDED BY MINIMIZING TRIPS OVER THE SPOIL AND UTILIZING TRACK EQUIPMENT FOR BACKFILLING WHERE PRACTICAL.

F. <u>GROUND WATER AND SURFACE WATER MONITORING PLAN</u>

Based upon the probable hydrologic consequences determination and analysis of all baseline hydrologic, geologic, and other information submitted in this application, address the following items in accordance with paragraph (F) of rule 1501:13-4-05 and paragraph (N) of rule 1501:13-9-04 of the Administrative Code.

(1) In addition to the quality and quantity parameters required for quarterly monitoring and NPDES monitoring, will any other parameters be monitored? _____ Yes, __X__ No. If "yes," indicate the parameter(s) and the site(s) where such monitoring will occur.

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AEC 19299

F. (2) Do you propose or anticipate the need for a variation in the required quarterly monitoring frequency for ground and surface water sites and monthly monitoring for NPDES?
_____ Yes, __X__ No. If "yes," describe the variation in frequency and the monitoring sites to be affected.

(3) Describe the plan for collection, recording, and reporting of all surface and ground water quality and quantity monitoring data, including data collected for the NPDES program.

GROUND AND SURFACE WATER WILL BE MONITORED PRIOR TO MINING AND, WHERE NECESSARY, AFTER MINING COMMENCES. QUALITY AND/OR QUANTITY INFORMATION WILL BE OBTAINED FROM APPROVED MONITORING STATIONS W-2, W-3, W-7, U-3, D-10, & U-10 AND REPORTED QUARTERLY TO THE DIVISION OF RECLAMATION. SURFACE WATER DISCHARGE WILL BE MONITORIN ACCORDANCE WITH NPDES REQUIREMENTS. PONDS WILL BE MONITORED WEEKLY FOR pH AND ALL OTHER FACTORS MONTHLY. THE ANALYTICAL RESULTS AND FLOW DATA WILL BE REPORTED MONTHLY TO THE OHIO EPA. THE OHIO EPA WILL RECEIVE THE WHITE COPY AND ALL OTHER COPIES WILL BE SENT TO ODNR, DIVISION OF RECLAMATION, APPROPRIATE DISTRICT OFFICE.

QUARTERLY MONITORING REPORT SHEET WILL BE SUBMITTED (COPY ATTACHED) TO THE DIVISION OF RECLAMATION, APPROPRIATE DISTRICT OFFICE.

OHIO EPA REPORTS WILL BE SUBMITTED FOR MONTHLY POND MONITORING (COPY ATTACHED) TO THE D.O.R., APPROPRIATE DISTRICT OFFICE.

G. <u>COAL MINING NEAR UNDERGROUND MINES</u>

(1) Will surface mining operations within the proposed permit area be conducted within five hundred feet of an underground mine whether active or abandoned? __X__ Yes, _____ No.

(2) If "yes" to item G(1), will the surface mining operations result in improved resource recovery, abatement of water pollution, or elimination of hazards to the health and safety of the public?
__X__ Yes, _____ No. If "yes," check appropriate blank.

__X__ resource recovery
__X__ abatement of water pollution
__X__ elimination of hazards

(3) If "yes" to item G(1) and the underground mine is active, submit as addenda to the permit application letters from the chief, MSHA, and the chief, Division of Mines, jointly approving of the nature, timing, and sequencing of the approximate coincidence of specific surface mine activities with specific underground mine activities.
N/A, MINE IS INACTIVE

H. <u>DRAINAGE CONTROLS</u>

(1) Will the proposed surface mining operations result in diversions of overland flow away from the disturbed area?
_____ Yes, __X__ No. If "yes," submit an addendum to describe, including maps and cross sections, the diversions to be constructed to achieve compliance with paragraph (J) of rule 1501:13-4-05 of the Administrative Code.

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AEC 19300

MONTHLY REPORT FORM

OHIO DEPARTMENT OF NATURAL RESOURCES

Ohio Environmental Protection Agency

COMPANY NAME			DATE (Mo. Yr.)	Page of Pages
MINE LOCATION	COUNTY	TOWNSHIP	OEPA PERMIT NO.	IP
SECTION	PIT IDENTIFICATION (IF ANY)		ODNR PERMIT NO.	

REPORTING LAB | ANALYST

OUTFALL	DAY	FLOW RATE GALLONS PER DAY REPORTING CODE 00056	pH STANDARD UNITS REPORTING CODE 00400	TOTAL SUSPENDED SOLIDS MG/L REPORTING CODE 00530	IRON TOTAL MG/L REPORTING CODE 74010	MANGANESE TOTAL MG/L REPORTING CODE 74013	SPECIFIC CONDUCTANCE MICROMHOS REPORTING CODE 00095	RAINFALL 24 HR. TOTAL INCHES REPORTING CODE 00045	REPORTING CODE	REPORTING CODE
001										

NOTE: NUMBER OUTFALL AS NEEDED
ADDITIONAL REMARKS:

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ALL REPORTING CODES MUST BE EXPLAINED
THIS FORM MUST BE TYPED

Discharge of pollutants to waters of the state without an effective permit is prohibited pursuant to [illegible] and [illegible] of the Revised Code

DATE REPORT COMPLETED | SIGNATURE OF REPORTER | TITLE OF REPORTER

AD[illegible]DUM TO PART 3, ITEM F(3), BENNO[illegible] INC.
O[illegible] DEPARTMENT OF NATURAL R[illegible]URCES
DIVISION OF RECLAMATIO[illegible]

Quarterly Monitoring Report Sheet
(Submit in Quadruplicate)

Permittee _____, Permit Number _____

_____ 1st Qtr., _____ 2nd Qtr., _____ 3rd Qtr., _____ 4th Qtr., (✓ appropriate blank

_____ Pre-mining, ____ Mining, ____ Postmining, (✓ appropriate blank for mine status

Monitoring Site ID No. (e.g. S-1, W-3)					
State Plane X-Y Coordinates	X _____ Y _____	X _____ Y _____	X _____ Y _____	X _____ Y _____	X _____ Y _____
Surface Elevation of Monitoring Site					
Indicate Whether Site was Monitored for Quality, Quantity, or Both					
Depth of Well Below Land Surface (feet)					
Static Water Level of Well Below Land Surface (feet)					
Stream or Spring Discharge (cfs or gpm)					
Date Measured					
pH (Standard Units)					
Total Acidity (mg/l $CaCO_3$)					
Total Alkalinity (mg/l $CaCO_3$)					
Total Iron (mg/l)					
Total Manganese (mg/l)					
Total Suspended Solids (mg/l)					
Total Hardness (mg/l $CaCO_3$)					
Total Sulfates (mg/l)					
Specific Conductance (at 25° C in μmhos/cm)					

Permittee's Signature	Date

Laboratory Name

Analyst's Signature	Date

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H. (2) Will the proposed surface mining operations result in the diversion of intermittent or perennial streams within the proposed permit area? __X__ Yes, _____ No. If "yes," submit an addendum to describe, including maps and cross sections, the diversions to be constructed to achieve compliance with paragraph (J) of rule 1501:13-4-05 of the Administrative Code.

SEE ADDENDA TO PART 3, ITEM H(2), STREAM RELOCATION PLANS

(3) Will the proposed surface mining operations result in construction of diversions to direct runoff through a sediment pond or a series of sediment ponds? __X__ Yes, _____ No. If "yes," submit an addendum to describe, including maps and cross sections, the diversions to be constructed to achieve compliance with paragraph (J) of rule 1501:13-4-05 of the Administrative Code.

SEE ADDENDUM TO PART 3, ITEM H(3)

(4) Indicate which of the following are proposed to be constructed within the proposed permit area and submit as an addendum the detailed design plans for each structure in accordance with paragraph (H) of rule 1501:13-4-05 and 1501:13-9-04 of the Administrative Code.

__X__ sedimentation pond(s) (submit Attachment 20)

_____ water impoundment(s) (submit Attachment 20)

_____ other (specify) _____

I. PROTECTION OF PUBLIC PARKS AND HISTORIC PLACES

May the proposed surface mining operations adversely affect any publicly owned parks or any places listed on the National Register of Historic Places? _____ Yes, __X__ No. If "yes," describe the measures to be used to prevent or minimize these impacts in accordance with paragraph (K) of rule 1501:13-4-05 of the Administrative Code.

J. MINING NEAR OR THROUGH A PUBLIC ROAD

If the response to Part 1, item D (6) of the permit application is "yes", describe the measures to be used to ensure that the interests of the public and landowners are protected.

1. POSTING OF THE BOND WILL ENSURE THAT THE INTEREST OF THE PUBLIC AND LANDOWNERS ARE PROTECTED.

2. CONSTRUCTION OF EARTH BARRICADES, WHERE NECESSARY, TO PROHIBIT ENTRY OR ACT AS A SAFETY BARRIER.

3. ERECTION OF SIGNS NEAR THE MINE TO PROVIDE INFORMATION TO THE PUBLIC.

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K. TRANSPORTATION FACILITIES

(1) Are any roads to be constructed, used, or maintained within the proposed permit area? __X__ Yes, _____ No. If "yes," submit an addendum to the permit application providing the detailed description required by paragraph (M) of rule 1501:13-4-05 and 1501:13-10-01 of the Administrative Code.

THE PRIMARY ROADS WILL BE GRADED FOR SAFE TRAVEL. THE ROADS WILL BE SURFACED WITH A DURABLE, NON-TOXIC MATERIAL TO REDUCE THE IMPACTS OF EROSION. SEE ADDENDUM TO PART 3, ITEM K(1).

(2) Are there any conveyor or rail systems to be constructed, used, or maintained within the proposed permit area? _____ Yes, __X__ No. If "yes," submit the addendum required by item K(1) above.

L. DISCHARGES INTO UNDERGROUND MINES

Will the proposed surface mining operations result in discharges into abandoned underground workings? _____ Yes, __X__ No. If "yes," submit an addendum providing the information required by paragraph (Q) of rule 1501:13-9-04 of the Administrative Code.

M. DISPOSAL OF EXCESS SPOIL

Will the proposed surface mining operations result in the placing of spoil in excess spoil disposal sites? _____ Yes, __X__ No. If "yes," submit an addendum to the permit application providing the information required by paragraph (N) of rule 1501:13-4-05 of the Administrative Code.

N. AIR POLLUTION CONTROL PLAN

Will the proposed surface mining operations cause fugitive dust resulting from erosion? _____ Yes, __X__ No. If "yes," submit as an addendum the plan for fugitive dust control practices as required by paragraph (O)(2) of rule 1501:13-4-05 of the Administrative Code and, if required by the chief, an air quality monitoring program as required by paragraph (O)(1) of the Administrative Code.

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AEC 19304

PART 4 SPECIAL CATEGORIES OF MINING

A. Are experimental mining practices to be employed in the proposed surface mining operations? _____ Yes, __X__ No. If "yes," submit as an addendum to the permit application, the descriptions, maps, and plans required by paragraph (B) of rule 1501:13-4-12 of the Administrative Code.

B. Are mountaintop removal mining practices to be employed in the proposed surface mining operations? _____ Yes, __X__ No. If "yes," submit as an addendum to the permit application the information required by paragraph (C) of rule 1501:13-4-12 of the Administrative Code.

C. Are steep slope mining and reclamation practices to be employed in the proposed surface mining operations? __X__ Yes, _____ No. If "yes," submit as an addendum to the permit application the information required by paragraph (D) of rule 1501:13-4-12 of the Administrative Code.

SEE ADDENDA TO PART 4, ITEM C

D. Are variances from approximate original contour to be employed in the proposed surface mining operations? _____ Yes, __X__ No. If "yes," submit an addendum to the permit application meeting the requirements of paragraph (E) and/or (K) of rule 1501:13-4-12 of the Administrative Code.

E. Are combined surface mining and underground coal mining activities planned? _____ Yes, __X__ No. If "yes," is a delay in contemporaneous reclamation requested? _____ Yes, _____ No. If a delay is requested, submit as an addendum to the permit application the narratives, maps, and plans required by paragraph (G) of rule 1501:13-4-12 of the Administrative Code.

F. Are augering mining operations to be conducted on this proposed surface mining operation? __X__ Yes, _____ No. If "yes," submit Attachment 18.

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PART 5 FORMAT AND CONTENT

A. FILING OF ADDENDA

If an addendum is needed to present the information required by the items in the permit application, the addendum is to be submitted with the permit application and each page, map, plan or other document in the addendum should include the applicant's name and indicate to what item the addendum applies. For example, "Addendum to Part 3, item K(2) Zebco Coal Company."

B. Provide the information requested below for all technical data submitted in the application.

Identification of Technical Data (1)	Person/Organization that Collected Data and Date	Methodology for Collecting Data	Person/Organization that Analyzed Data and Date	Methodology Used to Analyze data
PART 2, B(3) ATTACHMENT 12	RICK BRADLEY BENNOC, INC. 2/94	CORE DRILL	JOHN ORLANDO/ REAM & HAAGER LABORATORIES 2/94	ANALYZE AS NECESSARY FOR PARAMETERS
PART 2, C ATTACHMENT 14A	FRED BLACKMAN, QUALITY ENVIRONMENTAL SERVICES, 12/93	GRAB SAMPLES & INTERVIEWS	ILA B. MANIAR/ INDUSTRIAL LAB ANALYSIS, 12/93, 3/94	ANALYZE AS NECESSARY FOR PARAMETERS
	M. SHOOK, K. WARNER, JACK A. HAMILTON & ASSOC., INC. 2/94, 7/97		JOHN ORLANDO / REAM & HAAGER LABORATORIES 7/97	ANALYZE AS NECESSARY FOR PARAMETERS

(1) The technical data is to be identified by referencing the particular item in the application for which the data was used in preparing the response (e.g. Part 2, B(1); Attachment 14; Part 4, A)

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C. Provide the name, address and position of officials of each private or academic research organization or governmental agency contacted in the preparation of the application for information on land uses, soils, geology, vegetation, fish and wildlife, water quantity and quality, air quality, and archeological, cultural, and historic features.

Name and Address of Official	Position of Official	Name of Agency/ Organization	Type of information (e.g.Geology)
ILA B. MANIAR 2240 WILLIAMSBURG DR. GLEN DALE, W.V. 20183	ANALYST	INDUSTRIAL LAB ANALYSIS	HYDROLOGY
CHRISTINE A. STRAUB 1855 FOUNTAIN SQUARE COURT, COLUMBUS, OH 43224	HYDROGEOLOGIST INTERN	DIVISION OF WATER	HYDROLOGY
JOHN ORLANDO 1226 KADERLY ST. N.W. NEW PHILADELPHIA, OH 44663	CHEMIST	REAM & HAAGER LABORATORIES	OVERBURDEN ANALYSIS, HYDROLOGY
JAMES W. FORSHEY 68587 BANNOCK ROAD ST.CLAIRSVILLE, OH 43950	DISTRICT CONSERVATIONIST	SOIL CONSERVATION SERVICE	SOILS/P.P.L.
KEN DUERKSEN, 781 NEEB ROAD CINCINNATI, OH 45233	ARCHEOLOGIST	3D INTERNATIONAL ENVIRONMENTAL GROUP	ARCHEOLOGY

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D. APPLICATION FOR ABANDONED MINED LAND DIRECT NEGOTIATED CONTRACT (IF APPLICABLE)

N/A

In accordance with Section 1513.27 of the Ohio Revised Code, the chief of the Division of Reclamation has been granted the authority to enter into contracts with licensed operators for reclamation of abandoned mined lands affected by coal mining prior to April 10, 1972 and located adjacent to a permit area. To be eligible for reclamation funding, the abandoned mined land must be causing offsite environmental problems, will not be affected by the operator during the normal course of mining, and is not likely to be mined in the foreseeable future. If such lands exist adjacent to your permit area and you are interested in contracting for reclamation of the lands, complete this application, detach and send directly to:

Robert S. Baker
Mined Land Reclamation
Division of Reclamation
Fountain Square, H-2
Columbus, Ohio 43224

Upon receipt, a representative from the Mined Land Reclamation section will contact you.

Applicant: _____

Address: _____

City: _____ State _____ Zip: _____

Business Telephone: _____

Contact Person: _____

Description of Abandoned Mined Land:

County: _____
Township: _____
Section/Lot: _____
Approximate Acreage: _____

Environmental Problems Associated with Site:

_____

_____

_____

_____

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ADDENDUM TO PART 2, ITEM B(1)&(2)
BENNOC, INC.

B. GEOLOGY DESCRIPTION

(1) THE WASHINGTON #12 AND WAYNESBURG #11 COAL SEAMS WILL BE MINED AT ELEVATIONS OF ABOUT 1075 AND 975 FEET M.S.L. RESPECTIVELY. THE #12 COAL IS ABOUT 2.8 FEET THICK WITH TOTAL SULFUR CONTENT RANGING FROM 2.65% TO 2.72%. A GRAY CLAYSTONE 5 TO 30 FEET THICK UNDERLIES THE #12 COAL WITH CARBONATE EXCESSES UP TO 38.96 TONS. OVERBURDEN ON THE #12 COAL CONSIST OF VARIABLE SHALES, LIMESTONE, AND CLAY, GENERALLY WITH CARBONATE EXCESSES UP TO 94.19 TONS, WITH THE EXCEPTION OF A DARK GRAY SHALE DIRECTLY ABOVE THE #12 COAL WHICH HAS A CARBONATE DEFICIENCY OF 47.86 TONS. DIP OF THE #12 COAL IS SOUTHWEST AT 0.7%. THE WAYNESBURG #11 COAL IS ABOUT 3 FEET THICK WITH A TOTAL SULFUR CONTENT RANGING FROM 3.79% TO 4.05%. A GRAY CLAYSTONE ABOUT 4 FEET THICK UNDERLIES THE #11 COAL WITH CARBONATE EXCESSES UP TO 34.16 TONS. OVERBURDEN ON THE #11 COAL SEAM CONSIST OF VARIABLE SHALES AND CLAY; ALL HAVE CARBONATE EXCESSES UP TO 64.24 TONS, WITH THE EXCEPTION OF A GRAY, AND GRAY & BLACK SHALE IN TEST HOLES #3 AND #4 WHICH HAVE CARBONATE DEFICIENCIES UP TO 61.44 TONS. OVERBURDEN ON THE #11 COAL IS RELATIVELY CONSISTENT WITH THE EXCEPTION OF A GRAY SHALE DIRECTLY ABOVE THE #11 COAL IN TEST HOLE #3. THIS SHALE HAS EVIDENTLY 'PINCHED OUT' IN THE VALLEY AND IS NOT PRESENT IN TEST HOLE #4. DIP OF THE #11 COAL IS SOUTHEAST AT 0.7%.

(2) STRATA HAS VARYING PERMEABILITIES. STRESS-RELIEF FRACTURES ARE A COMMON SOURCE OF PERMEABILITY. SPRINGS SHOW PEAK FLOWS OF 19 GPM. DIP OF THE GROUND WATER TABLE IS USUALLY FROM THE HILLTOP RECHARGE ZONES TO THE DISCHARGE AREAS ALONG STREAM VALLEYS. THE GENTLY DIPPING #11 COAL SEAM MAY INDUCE A SOUTHEASTERLY MOVEMENT OF ANY GROUNDWATER, WHILE THE #12 COAL WILL INDUCE A SOUTHWESTERLY MOVEMENT OF GROUNDWATER ASSOCIATED WITH THIS SEAM. THE RECLAIMED REFUSE DISPOSAL AREA WILL NOT BE DISTURBED, WITH THE EXCEPTION OF A PROPOSED ACCESS ROADWAY. WATER FROM THIS AREA DISCHARGES THROUGH UNDERDRAINS TO EXISTING IMPOUNDMENT WI-1B. THE FINAL DISCHARGE OF THIS IMPOUNDMENT IS MONITORED MONTHLY UNDER PERMIT D-0425 AND REFLECTS GOOD WATER QUALITY, WELL WITHIN EFFLUENT LIMITATIONS.

THERE IS AT LEAST 225 FEET IN VERTICAL DISTANCE BETWEEN THE #11 COAL SEAM AND THE EXISTING, INACTIVE #8 DEEP MINE (D-0425 - ALLISON MINE). THE PROPOSED MINING SHOULD HAVE NO EFFECT ON THE #8 DEEP MINE.

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OHIO Department of Natural Resources

George V. Voinovich • Governor
Frances S. Buchholzer • Director

March 14, 1994

Jack A. Hamilton & Associates, Inc.
Box 471
342 High Street
Flushing, Ohio 43977
Attn: Ellen Loper

Dear Ellen:

Please find enclosed the approved copy of the test hole variance request for Bennoc's proposed Allison mine. Submit this copy with the mining application at the time of the pre-initial review.

If I can be of further assistance, please contact me at your convenience.

Sincerely,

Bill

Bill Sterling, Geologist
Division of Reclamation

cc: File

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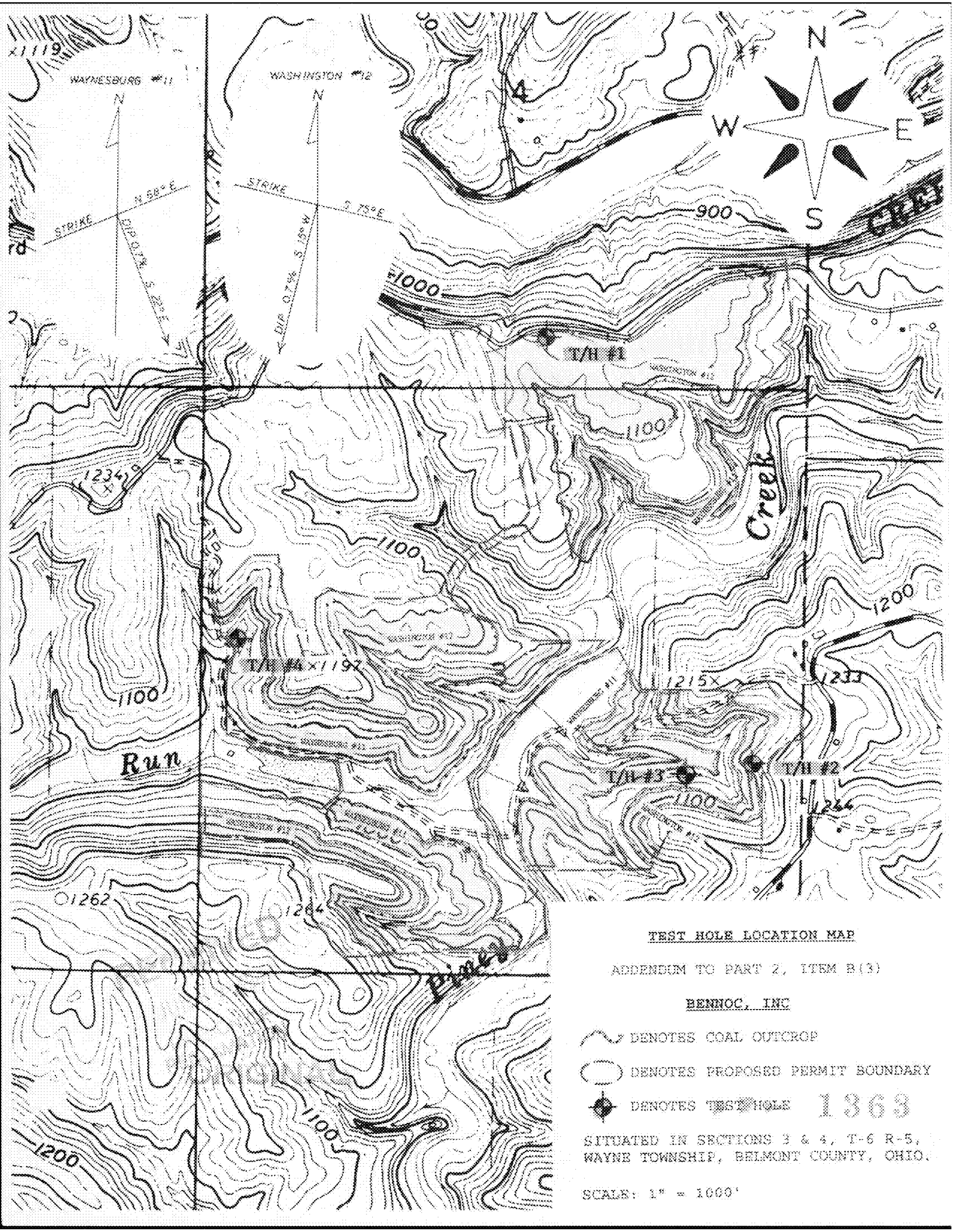
Fountain Square • Columbus, Ohio 43224-1387



TEST HOLE LOCATION MAP

ADDENDUM TO PART 2, ITEM B(3)

BENNOC, INC

DENOTES COAL OUTCROP

DENOTES PROPOSED PERMIT BOUNDARY

DENOTES TEST HOLE 1363

SITUATED IN SECTIONS 3 & 4, T-6 R-5, WAYNE TOWNSHIP, BELMONT COUNTY, OHIO.

SCALE: 1" = 1000'

OHIO Department of Natural Resources

ADDENDUM TO PART 2, ITEM C(1)

BENNOC, INC.

George V. Voinovich • Governor
Frances S. Buchholzer • Director

Date: February 10, 1994

ANALYSIS OF EXISTING GROUND WATER FILE DATA

Prepared by: Christine A. Straub, Hydrogeologist\Intern CS

Operator: Bennoc, Inc. **Permit No.**

County: Belmont

Township: Wayne ~ Washington

Section(s): 3&4 33&34

Number of water well logs within 1,000 foot radius of site (copies attached): 2 **Field located:** 0

General description of local hydrology:
(Use additional sheet if necessary)

Very limited supplies of Ground Water is obtained from thin beds of sandstone, shale and limestone. This general area is an area in which yields seldom exceed 3 gallons per minute and wells depths are, on the average, around the average, around 95 feet deep.

Areas of Particular concern:
(Use additional sheet if necessary)

Mining of the #11 Waynesburg and the #12 Washington coal seam at approximate elevations of + or - 975 feet and + or - 1073.5 feet, respectively could dewater some wells located within the proposed 1000' limit. The wells that could be affected are located on S.R. 145 and Township Roads 74, 81, 87, & 88. We don't have records for those wells but they should be located and monitored throughout the mining procedure.

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OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF WATER

PRECIPITATION REPORT

Station OHIO VALLEY COAL, ST. RT. 148 Month MARCH 19 94

Time of Observation 7:00 a.m. Observer OHIO VALLEY COAL CO. STAFF

24 Hour Amounts			At Obsn.	Weather Condition						Remarks
Day	Rain, Melted Snow, etc. (in. & hund'ths)	Snow, Sleet, Hail, etc. (in. & tenths)	Snow on ground (inches)	Fog, Heavy	Ice Pellets	Glaze, Freezing Rain	Thunder	Hail	Damaging Winds	
1	0.04									
2	0.90									
3	T									
4	0.00									
5	0.00									
6	0.00	Ohio Valley Coal Co. raingauge located 2 miles northeast of the proposed mine site.								
7	0.19									
8	0.00									
9	1.20	3.64 total inches precipitation 30 days prior to sampling date.								
10	T	4.84 total inches precipitation 30 days prior to sampling date.								
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										
31										
Total										

ORIGINAL

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF WATER

PRECIPITATION REPORT

Station OHIO VALLEY COAL, ST. RT. 148 Month NOVEMBER 19 93

Time of Observation 7:00 a.m. Observer OHIO VALLEY COAL CO. STAFF

24 Hour Amounts			At Obsn.	Weather Condition						Remarks
Day	Rain, Melted Snow, etc. (in. & hund'ths)	Snow, Sleet, Hail, etc. (in. & tenths)	Snow on ground (inches)	Fog, Heavy	Ice Pellets	Glaze, Freezing Rain	Thunder	Hail	Damaging Winds	
1	0.00									
2	T									
3	0.10									
4	0.05									
5	0.00									
6	T	Ohio Valley Coal Co. raingauge located 2 miles northeast of the proposed mine site.								
7	T									
8	0.00									
9	0.00									
10	0.00									
11	0.00									
12	0.00									
13	0.90									
14	0.40									
15	T									
16	T									
17	0.80									
18	0.00									
19	0.00									
20	0.00									
21	0.00									
22	0.00									
23	0.00									
24	0.00									
25	0.00									
26	0.16	ORIGINAL								
27	0.62									
28	T									
29	0.00									
30	0.00									
31										
Total	3.03									

PP 1363

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF WATER

PRECIPITATION REPORT

Station OHIO VALLEY COAL, ST. RT 148 Month DECEMBER 19 93

Time of Observation 7:00 a.m. Observer OHIO VALLEY COAL CO. STAFF

	24 Hour Amounts		At Obsn.	Weather Condition						Remarks
Day	Rain, Melted Snow, etc. (in. & hund'ths)	Snow, Sleet, Hail, etc. (in. & tenths)	Snow on ground (inches)	Fog, Heavy	Ice Pellets	Glaze, Freezing Rain	Thunder	Hail	Damaging Winds	
1	0.00									
2	0.13									
3	0.00									
4	0.79									
5	0.00									
6	0.01	Ohio Valley Coal Co. raingauge located 2 miles northeast of the proposed mine site.								
7	0.00									
8	0.00									
9	0.10									
10	0.15									
11	T									
12	0.00									
13	0.00									
14	0.00									
15	0.01									
16	0.00									
17	0.00									
18	0.16									
19	0.00									
20	0.41									
21	0.03									
22	0.10									
23	0.00									
24	0.10									
25	0.10									
26	0.00									
27	0.00									
28	0.00									
29	0.00	2.09 Total inches precipitation 30 days prior to sampling date.								
30	0.04									
31	0.06									
Total	2.19									

ORIGINAL

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OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF WATER

PRECIPITATION REPORT

Station OHIO VALLEY COAL, ST. RT. 148 Month FEBRUARY 19 94

Time of Observation 7:00 a.m. Observer OHIO VALLEY COAL CO. STAFF

24 Hour Amounts			At Obsn.	Weather Condition						Remarks
Day	Rain, Melted Snow, etc. (in. & hund'ths)	Snow, Sleet, Hail, etc. (in. & tenths)	Snow on ground (inches)	Fog, Heavy	Ice Pellets	Glaze, Freezing Rain	Thunder	Hail	Damaging Winds	
1	0.00									
2	0.00									
3	T									
4	0.00									
5	0.00									
6	0.00	Ohio Valley Coal Co. raingauge located 2 miles northeast of the proposed mine site.								
7	0.00									
8	0.81									
9	T									
10	0.00									
11	T									
12	0.00									
13	0.01									
14	0.00									
15	0.00									
16	0.00									
17	0.00									
18	0.00									
19	0.00									
20	0.00									
21	0.39									
22	0.63									
23	0.65									
24	0.02									
25	0.00									
26	0.00									
27	0.00									
28	T									
29										
30										
31										
Total	2.51									

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ADDENDUM TO PART 2, ITEM E (1,2,3)
BENNOC, INC.

E. HYDROLOGIC DETERMINATION

1) There will be some temporary increases in dissolved and suspended solids, sulfates, iron, and manganese, and decreases in pH, for surface and ground water within the permit during mining. Iron values as great as 5.70 at DW-7A are explained by the fact that this well has very minimal agricultural usage. Two (2) small punch mines (limits unknown) exhibit iron readings as high as 3.80 with total suspended solids as high as 130.0. Aquifer Zones B & C will both be intercepted and disrupted by mining at this site. Zone D is not in use within the hydrologic area. However, DS-8, DW-3A, W-5, W-6, and DW-7A all have well bottom elevations at least 26 feet above any mining or overburden removal, or are located at elevations where no disturbance is proposed. Sites W-2 and W-3 have well bottom elevations just slightly (3 to 5') into proposed surface disturbance. Should there be any connection between the well bottom stratas and the elevation of the proposed final highwall, these wells could experience some diminution, however, please note that they do receive recharge from a large undisturbed recharge area. Sites W-2, W-3 and W-7 are the only legitimately used supplies that may experience diminution from mining at this site. S-5, S-6, and S-9 will be eliminated by mining, but they are not in use. Following reclamation, baseline flows to surface waters will be re-developed on the undisturbed claystone underlying the #11 and #12 coal seams. Ground water recharge will be somewhat improved during reclamation. Wells numbered W-5Y, W-8Y, W-12Y, W-13Y were shown on the D-0425 annual map, however, they are not in use and their status is unknown. W-1 was monitored for permit D-0425 at one time and is representative of discharge quantity for Zone D. Access to W-11Y was accomplished, ans S.W.L., depth, and a quality sample was obtained. W-11Y is representative of the quality of Zone D. It is assumed, per each well's surface elevation and close proximity that all are developed in Zone D. All have surface elevations below the #11 coal outcrop and should they still exist, will not be affected by the proposed surface mining operations.

2) Adverse impact to the hydrologic balance will be restricted to the area near the mine. Zones B and C will be locally diminished. Quantity changes for Zones B & C will be slightly greater up-dip of the operation while changes down-dip of the operation should be minor. Following reclamation, ground water levels of Zones B and C will be re-established on the claystone underlying each of the coal seams, and direct baseflow will continue. There will be some local temporary decrease in porosity, permeability, transmissivity, and storage co-efficient for the strata above the coal due to removal of stress-relief fractures. However, voids creating by breaking up and re-compacting strata during reclamation

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will increase these parameters in the long-term. Resulting re-establishment of the water tables on the undisturbed strata below the coals will contribute to the return of the natural pre-mining hydrologic balance in the area. The unmapped punch mine (DM-2) will be mined through when encountered. Mining through this mine will eliminate the acidic (low pH) and high iron concentrations/pollution which currently exists. There will be some reduction of baseline flow for Unnamed Streams in the area during mining, however, S-2, S-3, and S-7 should not be disturbed, thus maintaining flow. Surface flow downstream will also be maintained by discharge from the sediment ponds.

3a) U.S. Bureau of Mines Analyses indicate that sediment yield will increase substantially near the mine site during mining. However, a limited amount of surface water exist within the proposed permit area. Sediment yield will be minimized by retention of surface water within the sediment ponds. Following reclamation, and complete revegetation, there should be a return of pre-mining sediment yields.

b) Dissolved and suspended solids will increase for surface and ground water within the permit. These effects will be minimized by prompt and careful reclamation and treatment within the sediments ponds. Acidity may temporarily increase slightly during mining, but should return to pre-mining levels following reclamation due to the presence of buffering materials in the overburden. U.S. Bureau of Mines Analyses indicate that suspended solids contents averaging 160 mg/l and dissolved solids contents averaging 1000 mg/l are common following reclamation. (From Research of the Hydrology and Water Quality of Watersheds Subjected to Surface Mining) This would be a temporary condition with actual concentrations beginning to return to pre-mining levels following re-establishment of vegetation.

c) There will be an increased possibility of flooding and stream flow alteration for Unnamed Streams and Piney Creek during mining due to the increased amount of less permeable surface. These effects will also be minimized by careful control of effluent and retention of peak flow within the sediment ponds.

d) Changes in ground water availability may possibly be noted at W-2, W-3 and W-7. Changes in surface water availability will be minor. Groundwater changes will be restricted to the strata above the coal near the site. There may be some temporary diminution or dewatering for the above referenced wells during mining. However, Zones B and C should recover following reclamation. Possibilities of acid mine drainage are unlikely due to the presence of buffering materials in the overburden. Careful control of effluent will maintain the quality of stream sediments downstream from the site.

ADDENDUM TO PART 2, ITEM F(1) & (2)
BENNOC, INC.

F. ALTERNATIVE WATER SUPPLY INFORMATION

(1) Legitimately-used supplies W-2, W-3, and W-7 may be affected by the proposed mining operation in terms of quantity only. Quality should not be affected due to the dip of the strata in this area. It is impossible to predict the magnitude of diminution without additional knowledge as to the recharge capacity of the undisturbed areas contributing supplies to these wells. Duration of any disturbance to these wells is also very difficult to predict, however, the greatest potential for diminution will occur when the highwall is open in close proximity to these supplies, prior to backfilling. All other legitimately used ground water supplies are at elevations above any proposed mining disturbance. Surface water within the proposed mining and adjacent area is not in use.

(2) An alternate supply, if needed could be within Zone D. Although one of the water quality analysis for this zone (W-1) shows high specific conductance, these readings could have been the result of site conditions considering the location and nature of this particular well. **However, as shown on the current analysis of W-11Y, also developed in Zone D, water quality of this zone is acceptable as an alternate source.** Zone D will be protected from seepage by the 100 feet of strata between the #11 coal seam and Zone D.

The operator will provide a temporary supply within 48 hours following the operators investigation or upon notification by the Division of Mines and Reclamation, when such investigations indicate that mine related damage has occurred. In cases where exceptional circumstances prevail which prevent the operator from meeting this time frame, the operator will immediately contact the Chief of the Division of Mines and Reclamation for a determination as to whether an extension of time is warranted.

Temporary supplies will continue through any appeals process and/or until a permanent supply is provided. Temporary supplies will be in the form of trucked water and/or bottled water. The water will be stored in a 1,000 gallon plastic container, and the bottles water is self-contained.

ADDENDUM TO PART 2, ITEM H(1)
BENNOC, INC.

PRE-MINING LAND USE MAP

DENOTES PROPOSED PERMIT LIMITS

DENOTES UNDEVELOPED LAND

DENOTES CROPLAND

DENOTES FISH AND WILDLIFE THROUGH NATURAL PROGRESSION.

NOT TO SCALE

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AEC 19320

TABLE 5.--YIELDS PER ACRE OF CROPS AND PASTURE

[Yields are those that can be expected under a high level of management. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil]

Soil name and map symbol	Corn	Winter wheat	Oats	Grass-legume hay	Alfalfa hay	Pasture
	Bu	Bu	Bu	Ton	Ton	AUM*
AeC---------- Allegheny Variant	105	40	65	3.5	---	5.5
As---------- Ashton	125	50	70	4.5	5.0	7.0
BaB, BaD, BaF---------- Barkcamp	---	---	---	---	---	---
BcB---------- Barkcamp	---	---	---	---	---	3.0
BcD---------- Barkcamp	---	---	---	---	---	2.0
BeB---------- Bethesda	---	20	40	2.0	---	3.3
BeD---------- Bethesda	---	15	35	1.5	---	2.0
BhB, BhD---------- Bethesda	---	---	---	---	---	2.0
BhE, BhF---------- Bethesda	---	---	---	---	---	---
BsC---------- Brookside	100	40	60	4.5	---	7.0
BsD---------- Brookside	90	35	55	4.0	---	7.0
BsE---------- Brookside	---	---	---	---	---	---
BuB---------- Brookside-Urban land	---	---	---	---	---	---
BuD---------- Brookside-Urban land	---	---	---	---	---	---
Cg---------- Chagrin	125	45	65	4.5	5.0	7.0
ChB---------- Chili	85	34	70	4.2	---	6.6
CmB---------- Chili-Urban land	---	---	---	---	---	---
CuB---------- Culleoka	100	32	65	4.0	---	6.0
CuC---------- Culleoka	90	28	60	3.5	---	5.5
DkB---------- Dekalb	80	30	55	3.5	---	5.5
DkC---------- Dekalb	70	25	50	3.3	---	5.0
DkD---------- Dekalb	70	25	50	3.0	---	4.5

See footnote at end of table.

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AEC 19321

TABLE 5.--YIELDS PER ACRE OF CROPS AND PASTURE--Continued

Soil name and map symbol	Corn	Winter wheat	Oats	Grass-legume hay	Alfalfa hay	Pasture
	Bu	Bu	Bu	Ton	Ton	AUM*
DxE---------- Dekalb	---	---	---	---	---	4.0
DmF---------- Dekalb	---	---	---	---	---	---
Dp, Ds. Dumps						
DuB---------- Duneannon-Urban land	---	---	---	---	---	---
EbB---------- Elba	100	45	60	4.5	4.7	7.0
EbC---------- Elba	95	40	55	4.0	4.5	6.0
EbD---------- Elba	85	35	50	3.8	4.2	5.8
EbE---------- Elba	---	---	---	---	---	4.0
ElB---------- Elkinsville	120	40	70	4.0	4.5	6.0
ElC---------- Elkinsville	110	40	65	3.6	4.3	5.8
ElD---------- Elkinsville	90	36	60	3.0	4.0	4.5
FbB, FbD---------- Fairpoint	---	---	---	---	---	3.0
FcB---------- Fairpoint	---	25	45	2.5	---	4.0
FcD---------- Fairpoint	---	20	40	2.0	---	3.0
FtA---------- Fitchville	110	38	60	4.3	---	6.5
He---------- Hartshorn	100	40	60	4.0	---	6.0
LeB---------- Lowell	110	40	65	4.0	5.0	6.0
LeC---------- Lowell	100	35	60	3.7	4.8	5.8
LeD---------- Lowell	90	30	55	3.5	4.5	5.5
LeE---------- Lowell	---	---	---	---	---	4.0
LeF---------- Lowell	---	---	---	---	---	---
LoB---------- Lowell-Westmoreland	110	38	70	3.8	4.8	5.0
LoC---------- Lowell-Westmoreland	100	35	63	3.4	4.4	5.5
LoD---------- Lowell-Westmoreland	90	30	58	3.3	4.3	5.0

See footnote at end of table.

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AEC 19322

TABLE 5.--YIELDS PER ACRE OF CROPS AND PASTURE--Continued

Soil name and map symbol	Corn	Winter wheat	Oats	Grass-legume hay	Alfalfa hay	Pasture
	Bu	Bu	Bu	Ton	Ton	AUM*
LoE---------- Lowell-Westmoreland	---	---	---	---	---	4.0
LoF, LpF---------- Lowell-Westmoreland	---	---	---	---	---	---
MnB---------- Morristown	---	30	50	3.0	---	4.5
MnD---------- Morristown	---	25	45	2.5	---	4.0
MnE---------- Morristown	---	---	---	---	---	2.0
MoB, MoD---------- Morristown	---	---	---	---	---	3.0
MoE, MoF---------- Morristown	---	---	---	---	---	---
Nm---------- Newark	100	---	---	4.5	---	7.0
Nn---------- Newark	---	---	---	---	---	---
Nm---------- Newark Variant	90	---	---	4.0	---	6.0
No---------- Nolin Variant	135	45	65	4.5	4.5	7.0
Np---------- Nolin Variant-Urban land	---	---	---	---	---	---
OtB---------- Otwell	105	47	65	3.5	---	5.5
OtC---------- Otwell	75	38	60	3.0	---	5.0
RcC---------- Richland	120	40	70	3.5	---	5.5
RcD---------- Richland	110	35	60	3.0	---	4.5
RcE---------- Richland	---	---	---	---	---	4.0
RhB---------- Richland	125	45	75	4.0	---	6.0
Ud---------- Udorthents-Pits	---	---	---	---	---	---
Ud---------- Udorthents-Urban land	---	---	---	---	---	---
WhB---------- Wellston	105	40	70	4.0	4.5	6.0
WhC---------- Wellston	100	35	65	4.0	4.5	6.0
WmB---------- Westmore	110	40	70	4.5	5.0	7.0

See footnote at end of table.

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TABLE 5.--YIELDS PER ACRE OF CROPS AND PASTURE--Continued

Soil name and map symbol	Corn	Winter wheat	Oats	Grass-legume hay	Alfalfa hay	Pasture
	Bu	Bu	Bu	Ton	Ton	AUM*
WaC---------- Westmore	105	35	70	4.3	5.8	8.6
WkB---------- Westmore	100	30	65	4.0	4.5	6.0
WmB---------- Westmoreland	110	35	70	3.5	4.5	5.8
WmC---------- Westmoreland	100	35	65	3.0	4.0	4.5
WmD---------- Westmoreland	70	30	60	3.0	4.0	4.5
WmE---------- Westmoreland	---	---	---	---	---	4.0
WmF---------- Westmoreland	---	---	---	---	---	---
WoC---------- Westmoreland-Upshur	96	30	65	3.0	4.0	4.5
WoD---------- Westmoreland-Upshur	85	30	60	2.8	3.5	4.2
ZnB---------- Zanesville	95	35	60	3.5	---	5.8
ZnC---------- Zanesville	85	35	55	3.5	---	5.8

* Animal-unit-month: The amount of forage or feed required to feed one animal unit (one cow, one horse, one mule, five sheep, or five goats) for 30 days.

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ADDENDUM TO PART 2, ITEM H(6), BENNOC, INC.

TO: CHIEF, DIVISION OF RECLAMATION:

WE, AMERICAN ENERGY CORP., PROPERTY OWNER, HEREBY REQUEST THAT PROPOSED PONDS 001, 002, 003, AND 011 ON BENNOC, INC.'S PROPOSED PERMIT REMAIN AFTER MINING. WE WILL BE RESPONSIBLE FOR MAINTENANCE OF THE PONDS AFTER FINAL BOND RELEASE.

Kathleen M. Bedmark
SIGNATURE

President
TITLE

7-29-97
DATE

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ADDENDUM TO PART 2, ITEM H(6) BENNOC, INC.

WE, AMERICAN ENERGY CORP., PROPERTY OWNER, HEREBY REQUEST THAT PRIMARY ROAD 001 AND IT'S ASSOCIATED STREAM CROSSINGS AND STREAM CROSSING 001 ON BENNOC, INC.'S PROPOSED PERMIT REMAIN AFTER MINING.

Kathleen M. Bedmark
SIGNATURE

President
TITLE

12-02-97
DATE

ORIGINAL 1363

ADDENDUM TO PART 2, PAGE 15, ITEM H(9), BENNOC, INC.

To: AMERICAN ENERGY CORP.

From: BENNOC, INC.

Location of Proposed Permit Area:

County BELMONT, Township WAYNE

Lot N/A Section 3 & 4, T- 6, R- 5

Pursuant to Ohio Department of Natural Resources, Division of Reclamation, Ohio Coal Mining and Reclamation Rule 1501:13-4-05(G) (2) of the Administrative Code, surface owner comments concerning the proposed postmining land use(s) for the proposed permit are required.

The proposed postmining land use(s) for your property is (are):

PASTURELAND, CROPLAND & UNDEVELOPED

✓ I concur with the proposed postmining land use(s).

_____ I don't concur with the proposed postmining land use(s).

Comments:

Kathleen M Bodmale, President — 7-29-97
Signature of Surface Owner — Date

Signature of Surface Owner — Date

Waiver Statement (OPTIONAL FOR SURFACE OWNER)

I, the above name surface owner, waive my right to comment on any revision to the permit application during the application review process that results in a change in the postmining land use(s) from that shown above. (Note, I do not waive my right to comment on any proposed postmining land use change after issuance.)

Kathleen M Bodmale, President — 7-29-97
Signature of Surface Owner — Date

Signature of Surface Owner — Date

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ADDENDUM TO PART 2, PAGE 15, ITEM H(9), BENNOC, INC.

To: WYOMING POCAHONTAS LAND CO.

From: BENNOC, INC.

Location of Proposed Permit Area:

County BELMONT, Township WAYNE

Lot N/A Section 3, T- 6, R- 5

Pursuant to Ohio Department of Natural Resources, Division of Reclamation, Ohio Coal Mining and Reclamation Rule 1501:13-4-05(G) (2) of the Administrative Code, surface owner comments concerning the proposed postmining land use(s) for the proposed permit are required.

The proposed postmining land use(s) for your property is (are):

PASTURELAND & UNDEVELOPED

X I concur with the proposed postmining land use(s).

_____ I don't concur with the proposed postmining land use(s).

Comments:

Signature of Surface Owner — Date 3/1/97

Signature of Surface Owner — Date

Waiver Statement (OPTIONAL FOR SURFACE OWNER)

I, the above name surface owner, waive my right to comment on any revision to the permit application during the application review process that results in a change in the postmining land use(s) from that shown above. (Note, I do not waive my right to comment on any proposed postmining land use change after issuance.)

Signature of Surface Owner — Date

Signature of Surface Owner — Date

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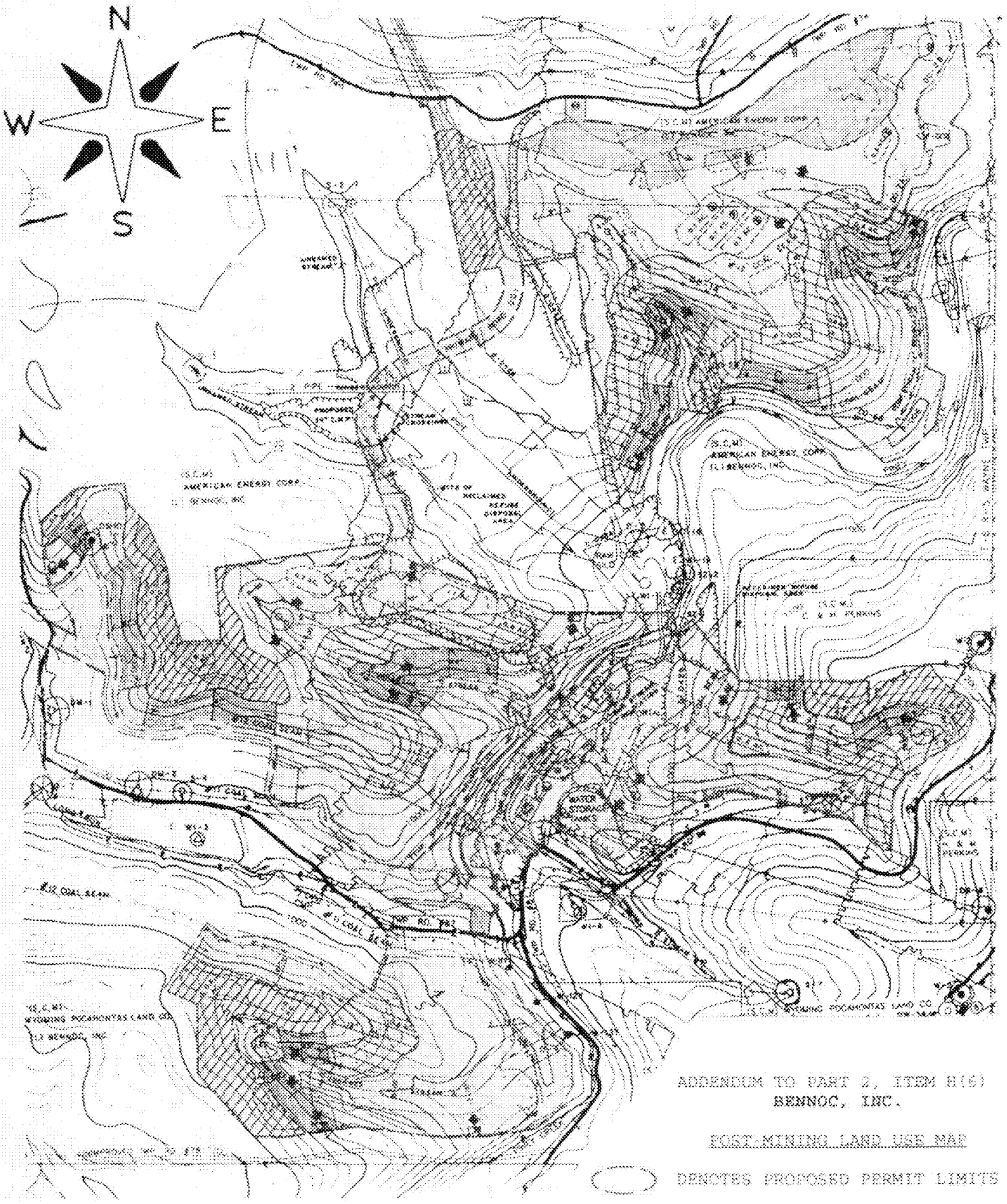

ADDENDUM TO PART 2, ITEM 8(6)
BENNOC, INC.

POST-MINING LAND USE MAP

DENOTES PROPOSED PERMIT LIMITS

DENOTES UNDEVELOPED LAND

DENOTES PASTURELAND

DENOTES CROPLAND

NOT TO SCALE

NOTE: THE PRE-MINING LAND USE WILL REMAIN ON ALL AREAS WHERE THE SURFACE IS NOT DISTURBED.

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Addendum To Part 2, Item H(12), Bennec, Inc.

Pre-Mining Land Use: Undeveloped Land

Post Mining Land Use: Pastureland & Cropland

RULE 1501:13-9-17(D)(1-6)

1. This proposed land uses are compatible with the adjacent land uses which primarily consist of pastureland cropland, and undeveloped land. There are no existing local, state or federal land use policies or plans for the area. A notification of the land use change has been mailed to U.S. Fish & Wildlife and to the Division of Wildlife. No zoning or other changes will be required for this land use change.

2. Based on soil types in the area, the plan is feasible. For a schedule showing how the proposed use will be developed and achieved within a reasonable time see the planting schedule in Part 3 of this permit application.

3. There are no public facilities required for the proposed land uses.

4. This proposed land uses will neither present actual or probable hazard to public health or safety, nor will they pose any actual or probable threat of water flow diminution or pollution.

5. This proposed land uses will not change the reclamation schedule for this permit application.

6. This proposed land uses should not have any adverse effects on fish and wildlife. An opportunity to comment has been provided to the appropriate State and Federal Fish and Wildlife Management Agencies. The notification of land use change was mailed to the U.S. Fish and Wildlife and The Division of Wildlife.

NOTE: The pre-mining land use will remain on all areas in which the surface has not been disturbed.

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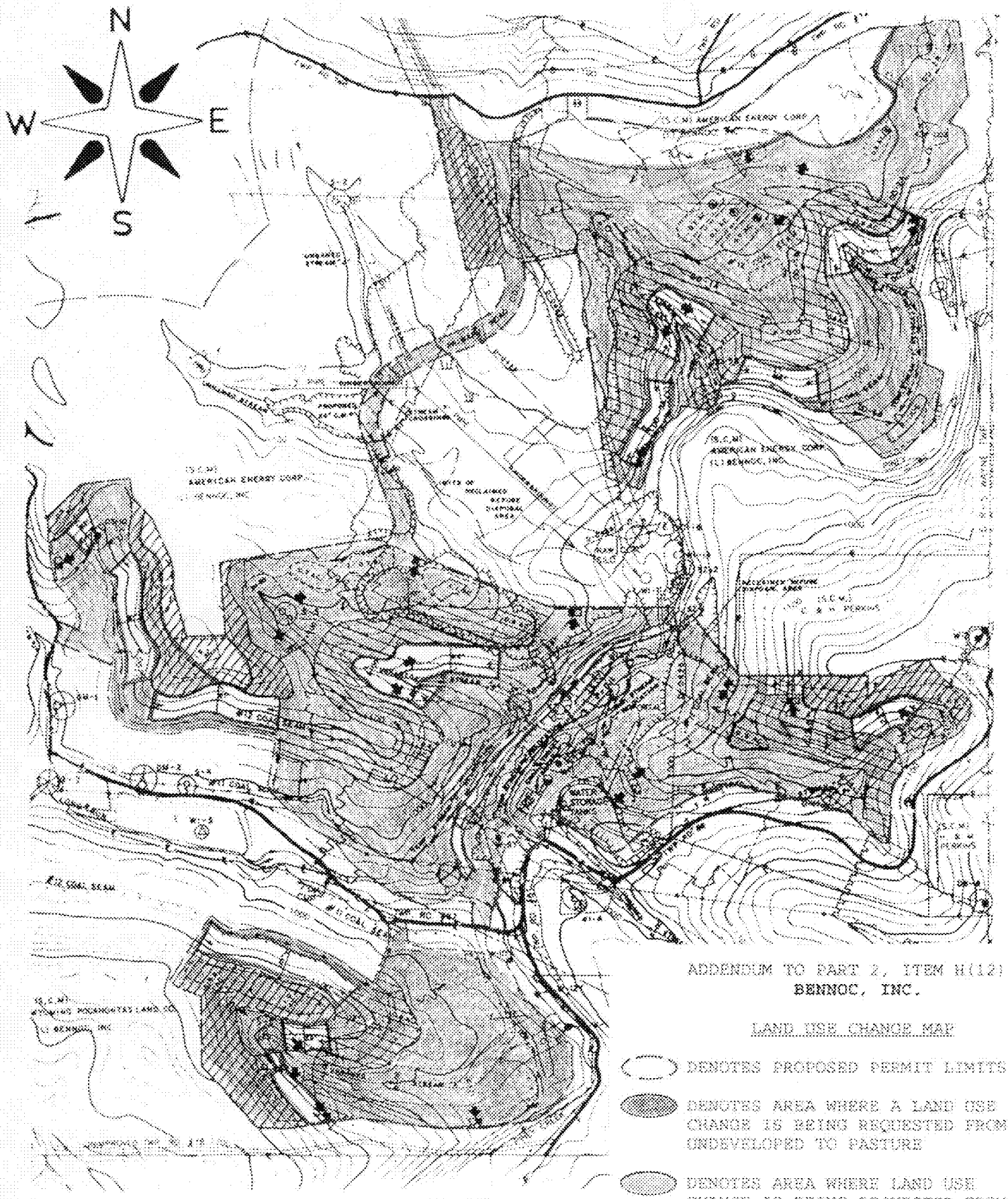

ADDENDUM TO PART 2, ITEM H(12)
BENNOC, INC.

LAND USE CHANGE MAP

DENOTES PROPOSED PERMIT LIMITS

DENOTES AREA WHERE A LAND USE CHANGE IS BEING REQUESTED FROM UNDEVELOPED TO PASTURE

DENOTES AREA WHERE LAND USE CHANGE IS BEING REQUESTED FROM UNDEVELOPED TO CROPLAND

NOTE: THE PRE-MINING LAND USE WILL REMAIN ON ALL AREAS WHERE THE SURFACE IS NOT DISTURBED.

SITUATED IN SECTIONS 3 & 4, T-6 R-5, WAYNE TOWNSHIP, BELMONT COUNTY, OHIO.

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MINING AND RECLAMATION WILL CONSIST OF ALL STEPS, PROCEDURES AND ENGINEERING TECHNIQUES AS LISTED IN THIS PERMIT APPLICATION . AS SHOWN ON THE APPLICATION MAP, THE #11 COAL SEAM WILL BE MINED UP TO A MAXIMUM COVER OF 60' AND THE #12 COAL SEAM WILL BE MINED UP TO THE 80' COVER LINE. THE CONTOUR METHOD OF MINING WILL BE UTILIZED AT THIS PERMIT, ALONG WITH AUGER MINING. WE WILL BE MINING ALONG THE CONTOUR STARTING AT THE COAL OUTCROP AND MAKING TWO TO THREE PARALLEL CUTS TO REACH THE PROJECTED HIGHWALL HEIGHT. ONCE THE MAXIMUM HIGHWALL HEIGHT IS REACHED, THE COAL WILL THEN BE AUGERED. MINING WILL BEGIN ON THE AREA PERMITTED BETWEEN PINEY CREEK AND TOWNSHIP ROAD 88. NO. 11 COAL REMOVAL ON THE AREA SOUTH OF STREAM "C" WILL BEGIN AT THE BEGIN MINING ARROW LOCATED ON THE NORTH SIDE OF THE COAL REMOVAL AREA AND PROCEED IN A SOUTHEASTERLY DIRECTION TOWARD TOWNSHIP ROAD 88. NO. 11 COAL REMOVAL ON THE AREA NORTH OF STREAM "C" WILL BEGIN AT THE BEGIN MINING ARROW LOCATED ON THE SOUTHWEST SIDE OF THE COAL REMOVAL AREA AND PROCEED ALONG THE CONTOUR IN AN EASTERLY AND NORTHEASTERLY DIRECTION TO THE END MINING ARROWS. SPOIL FROM THE FIRST CUTS OF THE COAL REMOVAL AREAS WILL BE PLACED BELOW THE COAL OUTCROP. SPOIL FROM THE SECOND CUT WILL BE PLACED IN THE FIRST CUT. THIS SEQUENCE WILL BE REPEATED UNTIL ALL COAL HAS BEEN REMOVED. THE SPOIL FROM THE FIRST CUT WILL THEN BE PLACED IN THE LAST CUT. NO. 12 COAL REMOVAL ON THIS AREA WILL BEGIN IN THE NORTHEAST CORNER OF THE COAL REMOVAL AREA AND PROCEED IN A WESTERLY DIRECTION. SPOIL FROM THE FIRST CUT WILL BE HAULED AND PLACED ON THE KNOB ABOVE THE FINAL HIGHWALL. SPOIL FROM THE SECOND CUT WILL BE PLACED IN THE FIRST CUT. THIS SEQUENCE WILL BE REPEATED UNTIL ALL COAL HAS BEEN REMOVED. THE SPOIL FROM THE FIRST CUT WILL THEN BE HAULED TO THE LAST CUT. THIS SEQUENCE ON MINING AND SPOIL PLACEMENT WILL BE CONDUCTED ON ALL AREAS OF COAL REMOVAL AT THIS SITE EXCEPT FOR THE

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AREA WHICH WILL BE MINED FIRST AND IS DESCRIBED ABOVE. THE NEXT AREA TO BE MINED IS LOCATED SOUTH OF TOWNSHIP ROAD 87 AND WEST OF PINEY CREEK. NO. 11 COAL REMOVAL WILL BEGIN AT THE BEGIN MINING ARROW LOCATED AT THE NORTHEAST CORNER OF THE COAL REMOVAL AREA AND WILL PROCEED IN A SOUTHERLY DIRECTION TO THE SOUTH LINE OF THE PERMIT. NO. 12 COAL REMOVAL IN THIS AREA WILL BEGIN AT THE CROP IN THE HOLLOW OF STREAM "A" AND WILL PROCEED BOTH EASTERLY AND SOUTHEASTERLY AS SHOWN BY THE BEGIN MINING ARROWS. NO.11 COAL REMOVAL ON THE PERMITTED AREA LOCATED NORTH OF TOWNSHIP ROAD 87 AND NORTHWEST OF PINEY CREEK WILL BEGIN IN THE HOLLOW OF STREAM "D" AND PROCEED IN AN EASTERLY AND SOUTHERLY DIRECTION AS SHOWN BY THE BEGIN MINING ARROWS AND WILL END AT THE END MINING ARROWS. NO. 12 COAL REMOVAL IN THIS AREA WILL ALSO BEGIN IN THE HOLLOW OF STREAM "D" AND PROCEED IN AN EASTERLY AND SOUTHERLY DIRECTION AS SHOWN BY THE ARROWS AND WILL END AT THE END MINING ARROWS. NO. 11 COAL REMOVAL ON THE PERMITTED AREA LOCATED IMMEDIATELY SOUTH OF TOWNSHIP ROAD 74 WILL BEGIN IN THE HOLLOW OF STREAM "E" AND PROCEED IN A SOUTHWESTERLY AND SOUTHEASTERLY DIRECTION AS SHOWN BY THE BEGIN MINING ARROWS AND MINING WILL END AT THE END MINING ARROWS AS SHOWN. NO. 12 COAL REMOVAL WILL BEGIN IN THE HOLLOW OF STREAM "F" AND PROCEED IN A NORTHEASTERLY AND SOUTHWESTERLY DIRECTION AS SHOWN AND WILL END AT THE END MINING ARROWS.

DEPENDING ON MARKET CONDITIONS, TWO TO THREE PITS MAY BE OPENED AT THE SAME TIME. THE SEQUENCE OF MINING MAY VARY AS CONDITIONS IN THE PIT OR IN THE COAL MARKET CHANGE. ALL UTILITY COMPANIES WILL BE NOTIFIED PRIOR TO MINING IN ORDER TO MINIMIZE DAMAGE, DESTRUCTION, OR DISRUPTION OF THE PROVIDED SERVICE.

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ADDENDUM TO PART 3, ITEM A (5)(a-c), BENNOC, INC.

a) SEDIMENT PONDS WILL BE CONSTRUCTED IN ACCORDANCE WITH THE ATTACHMENT 20'S AND CROSS-SECTIONS CONTAINED IN THIS APPLICATION USING CURRENT, PRUDENT ENGINEERING PRACTICES AND SHALL BE CERTIFIED AS SUCH. IF THE NEED FOR FIELD ADJUSTMENTS SHOULD ARISE DURING CONSTRUCTION AN "AS BUILT" ATTACHMENT 20 AND CROSS-SECTIONS WILL BE SUBMITTED WITH THE CERTIFICATION. FOUNDATION AREAS WILL BE CLEARED OF ALL VEGETATIVE AND ORGANIC MATERIALS AND CORE TRENCHES INSTALLED TO ENSURE STABILITY OF THE EMBANKMENT. IMMEDIATELY AFTER CONSTRUCTION HAS BEEN COMPLETED THE EMBANKMENTS WILL BE SEEDED AND MULCHED. THE SEDIMENT PONDS WILL BE INSPECTED AT LEAST QUARTERLY AND MAINTENANCE PROVIDED WHEN NEEDED. PONDS WILL BE CLEANED OUT AT 60% OF DESIGN SEDIMENT CAPACITY. EXISTING POND 011 FROM PERMIT D-0425 WILL BE MODIFIED AND UTILIZED AS A SEDIMENT POND. SEE ADDENDUM PART 3, ITEM B(2).

b) OVERBURDEN WILL BE PLACED IN PIT AREAS FROM WHICH THE COAL HAS BEEN REMOVED OR TEMPORARILY STORED NEAR THE PIT AREA IF AN OPEN PIT IS NOT AVAILABLE. IF REGRADED AREAS ARE NOT IMMEDIATELY AVAILABLE FOR REDISTRIBUTION OF TOPSOIL, THAN THE TOPSOIL WILL BE REMOVED AND STOCKPILED ON DESIGNATED AREAS. AN EFFECTIVE COVER OF NON-NOXIOUS, QUICK GROWING ANNUAL & PERENNIAL PLANTS SEEDED OR PLANTED DURING THE FIRST NORMAL PERIOD AFTER REMOVAL FOR FAVORABLE PLANTING CONDITIONS WILL BE USED TO PROTECT STOCKPILED TOPSOIL FROM WIND AND WATER EROSION, UNNECESSARY COMPACTION AND CONTAMINATES. STOCKPILED TOPSOIL WILL NOT BE REMOVED UNTIL REQUIRED FOR REDISTRIBUTION ON A DISTURBED AREA.

c) COAL WILL EITHER BE STORED ON SITE OR LOADED IN TRUCKS AND TRANSPORTED OVER PIT ROADS AND PUBLIC ROADS TO A TIPPLE OR PREPARATION PLANT. THE COAL WILL BE STOCKPILED ON CONCRETE PADS AT THE LOCATIONS SHOWN ON THE APPLICATION MAP. THE COAL STOCKPILE AREAS WILL BE VISUALLY INSPECTED AND MAINTAINED AS NECESSARY TO CORRECT ANY PROBLEMS THAT MAY OCCUR. ALL RUNOFF FROM THE COAL STOCKPILE AREAS WILL BE DIRECTED TO POND 011.

ORIGINAL

1363

ADDENDUM TO PART 3, ITEM B(2), BENNOC, INC.

EXISTING POND 011 TO BE MODIFIED

a) The modification of existing Pond 011 will meet the design standards of Rules 1501:13-8-01 to 1501:13-13-07. Modifications will include making the pond larger to provide adequate sediment storage volume for the affected area and constructing a new exit channel designed to safely pass the 25 year 24 hour storm event. The pond will be monitored weekly for PH and all other factors monthly.

b) Modifications to existing Pond 011 will begin soon after permit issuance and shall be completed within one month.

c) Pond 011 will be monitored weekly by visual inspection as required to ensure that the performance standards of Rules 1501:13-8-01 to 1501:13-13-07 of the Administrative Code are met.

d) The risk of harm to the environment and to public health and safety will not be significant due to the type of modification, minimal amount of time needed for modification, and by complying with design and performance standards.

ORIGINAL 1363 -B

ADDENDUM TO PART 3, ITEM A(5)d), BENNOC, INC.

ALL SPOIL AND TOXIC MATERIALS WILL BE KEPT IN THE PIT AND BURIED. A FOUR FOOT LAYER OF NON-TOXIC MATERIAL WILL BE PLACED ON THE PIT BOTTOM. ACID FORMING AND TOXIC MATERIAL WILL THEN BE PLACED ON TOP OF THE NON-TOXIC MATERIAL AND COVERED WITH A MINIMUM OF FOUR FEET OF NON-TOXIC MATERIAL. THE NON-TOXIC MATERIAL WILL BE NONCOMBUSTIBLE. THERE ARE NO OFF SITE DISPOSAL AREAS PLANNED. SPOIL WILL BE PLACED BEHIND THE ACTIVE PIT AS MINING PROGRESSES.

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AND RECLAMATION
NEW PHILADELPHIA

Addendum to part 3, Item C (2)

Anticipated Blast Design

Prepared for: BENNOC, INC.

Location: ALLISON MINE SITE.

Application # 1363.

Prepared and Approved By:

Scott P. Schorich	16598
Name	Certification No.
Signature	08-25-97
	Date

ORIGINAL

1363 -03

R

To ensure compliance with ground vibration, flyrock and airblast standards, the following methods and techniques will be adhered to during standard blasting practice.

1.) the scaled distance formula will be adhered to in the absence of a seismograph.

2.) proper borehole confinement methodologies may include:
(a) removing excessive buffers on free face boreholes.
(b) use of appropriate stemming (i.e. .7 x burden).
(c) reduction or elimination of subdrilling.
(d) reduction of borehole depths.
(e) delay pattern to incorporate adequate borehole relief to free faces.
(f) using burden dimensions that are always less than the borehole depth.

3.) Whenever applicable, the progression of detonating holes or rows of holes shall progress away from structures. This will be accomplished with appropriate millisecond delay timing. (electric or non-electric delay systems)

4.) Limiting the explosive material to bedrock if the overburden can be safely removed by other means.

5.) Use of an approved detonation system incorporating either electronic sequential or non-electric millisecond delay blasting accessories or equipment.

6.) When applicable, charge weight reduction will be accomplished by:
(a) reducing bench height
(b) reduction of hole diameter
(c) decking

7.) Use of bottom hole initiation for single column loaded boreholes.

8.) Use of top hole (deck) initiation when loading configuration requires decking.

9.) When blasting in close proximity to abandoned underground mines, special precautions will be taken. Appropriate hole plugs will be used in the event of borehole encounters with deep mine voids. All voids will be properly plugged and backfilled with suitable inert stemming material to the appropriate levels to provide for explosive loading safety.

ORIGINAL 1363

Addendum to part 3, Item C (2)

Explosives Engineering

Explosives type : Bulk or packaged ANFO (ammonium nitrate fuel oil) Emulsion, Slurries, Cast Pentolite or equivalent booster/primers, surface and In-hole delay detonators, detonating cord.

Hole Diameter: 7 to 8 inch drill bit size.

Hole depths: Holes should average 15 to 90 ft. in depth due to our anticipated mining methods and depth of cover.

Burden and Spacing: will be determined based on generally accepted safe blasting engineering principles as outlined in blasting certification education literature. Burdens will be based upon hole diameter, explosives type, and geology.
Spacings will be based upon burden and bench height. Anticipated burdens at this site will range from 6 to 18 ft. Spacings will range from 6 to 20 ft.
Note: Burden will not exceed hole depth.

Stemming Depth: will be determined based on generally accepted safe blasting engineering principles as outlined in blasting certification education literature. Stemming depth will be a minimum of [0.7xburden], and will generally be greater on face holes to account for any overbreak or undercuts.

Initiation Systems: Electric sequential or equivalent Non-electric Shock Tube.

Charge Weight per delay: Will be determined in compliance with Ohio Administrative Code 1501:13-9-06 (F).
This will govern ground vibration issues.

(note: These values are dependent upon local geological factors and other site specific conditions which may be encountered in normal mining operations.)

ORIGINAL 1363

R

ADDENDUM TO PART 3, ITEM C(2)

Operator BENNOC, INC. Permit/Appl. # 1363 Date 8/5/97

GENERAL DESCRIPTION OF STRUCTURES AND BLAST DESIGN CONSIDERATION

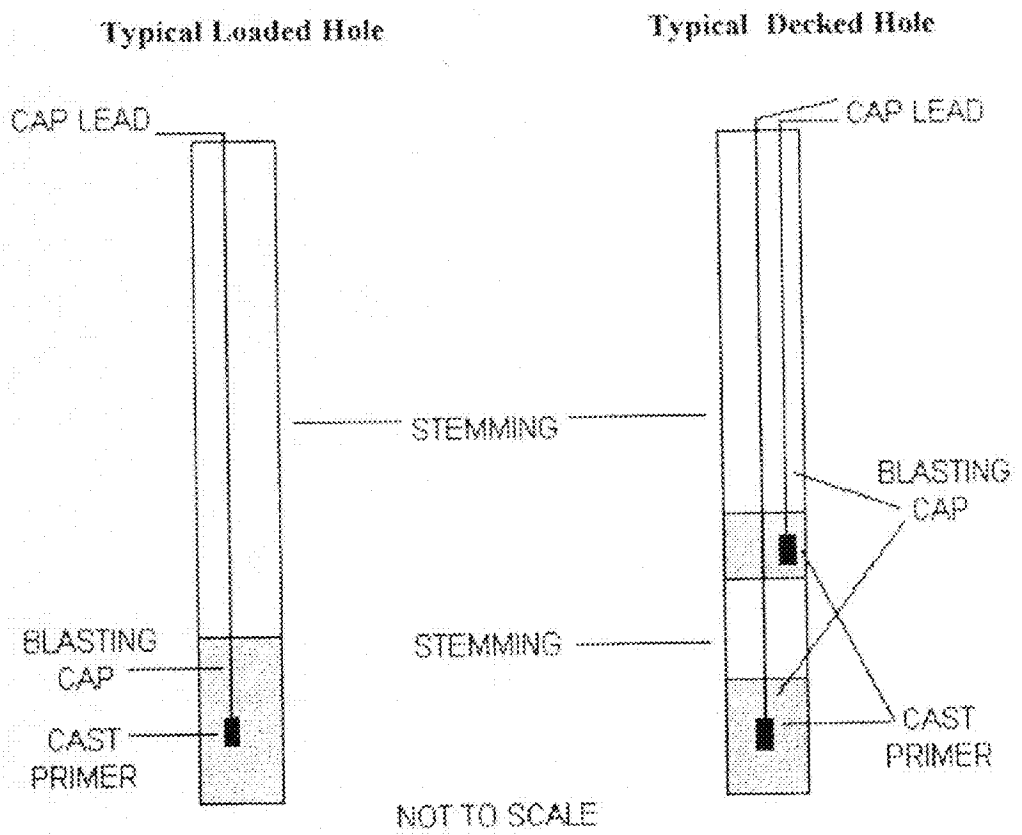
MAP #	TYPE STRUCTURE	GENERAL CONSTRUCTION TYPE	APPROX. AGE	GEN. LOC. RELATIVE TO PERMIT	CLOSEST BLASTING DISTANCE
1	DWELLING	1 STORY-BLOCK FOUNDATION	28 YRS.	EAST	450'
2	DWELLING	1 STORY BRICK	2 YRS.	EAST	900'
3	DWELLING	1 STORY-WOOD SIDING	63 YRS.	EAST	850'
4	DWELLING	TRAILER	14 YRS.	SE	850'
5	DWELLING	1 STORY-BLOCK FOUNDATION	33 YRS.	SE	915'
D-0425 Y&O COAL CO.	DEEP MINE	MINE #8 COAL SEAM	TEMPOR-ARILY ABAND.	CENTER	0'

BLAST DESIGN: Will monitor with a seismograph or based on the above listed closest blasting distance. The following DS factors will be utilized in the formula $W = (D/DS)^2$

Distance	DS
0' - 300'	50
301' - 5000'	55

ORIGINAL 1363 -3

Borehole Cross Section

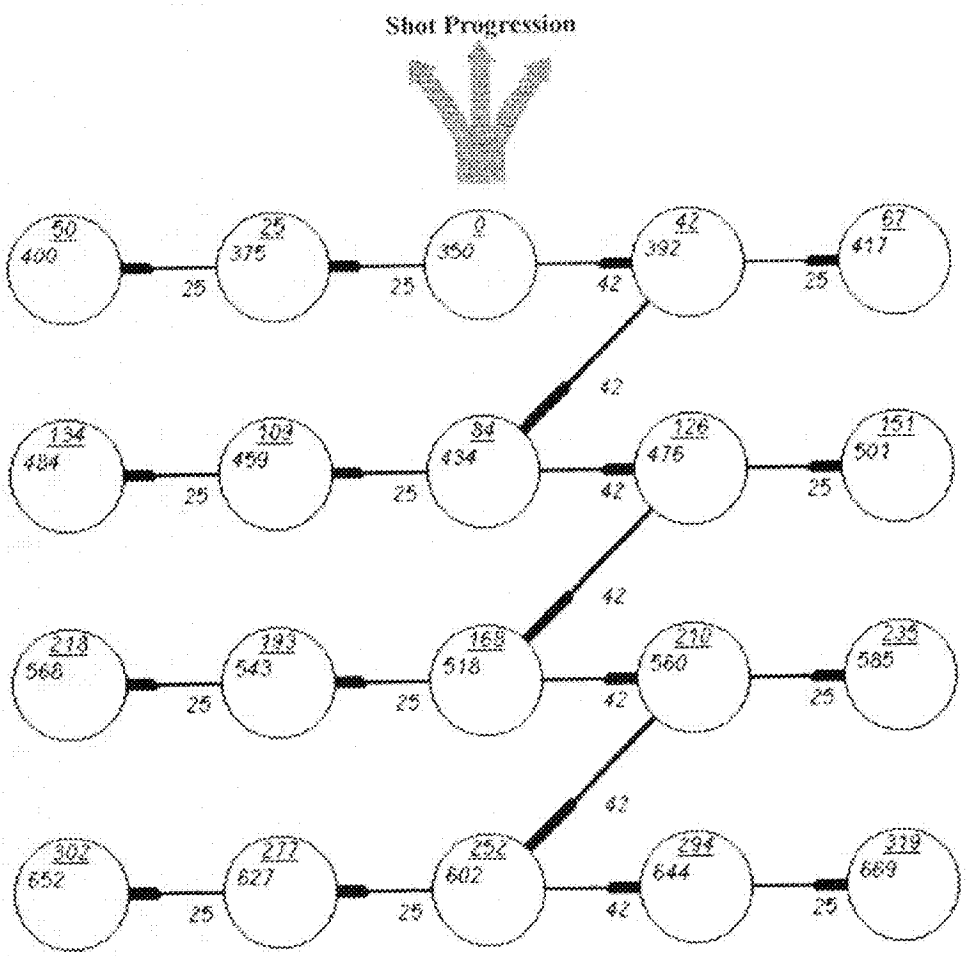


Compliance with the (8 ms) millisecond timing requirement will be performed with the use of an electronic sequential blasting machine ,or equivalent Non-electric initiation system.

ORIGINAL 1363 -3

R

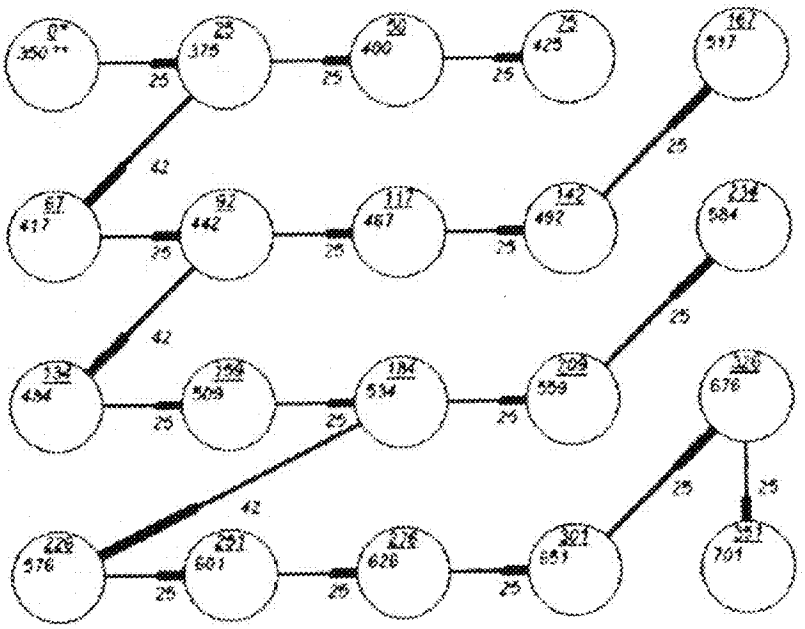
Typical "Center Pull" Opening Cut



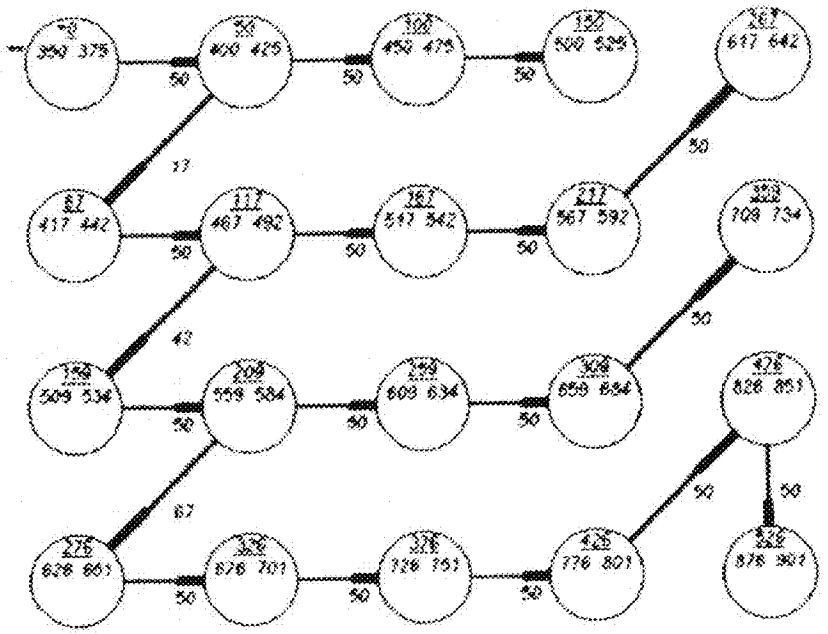
ORIGINAL 1363 -13

AEC 19342

Typical Echelon 1 Deck



2 Deck Echelon

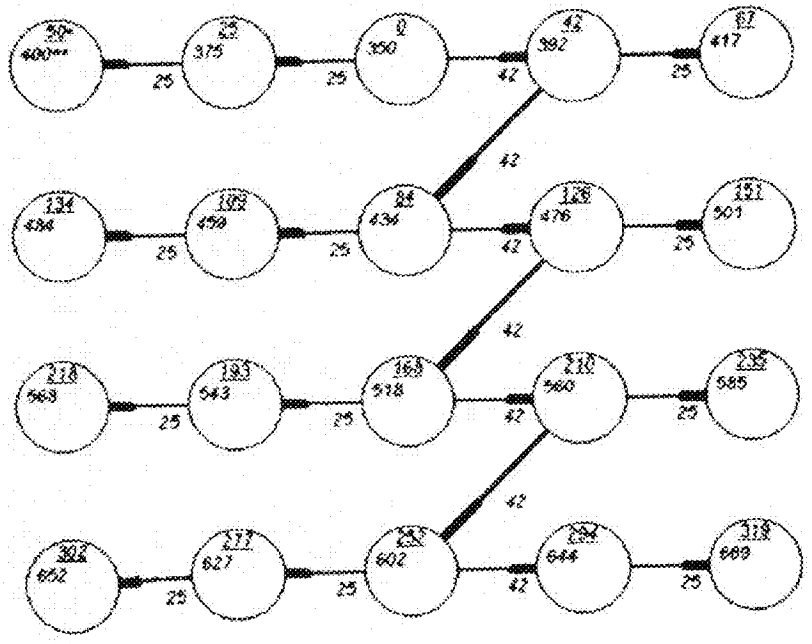


* = cumulative surface delay time in milliseconds

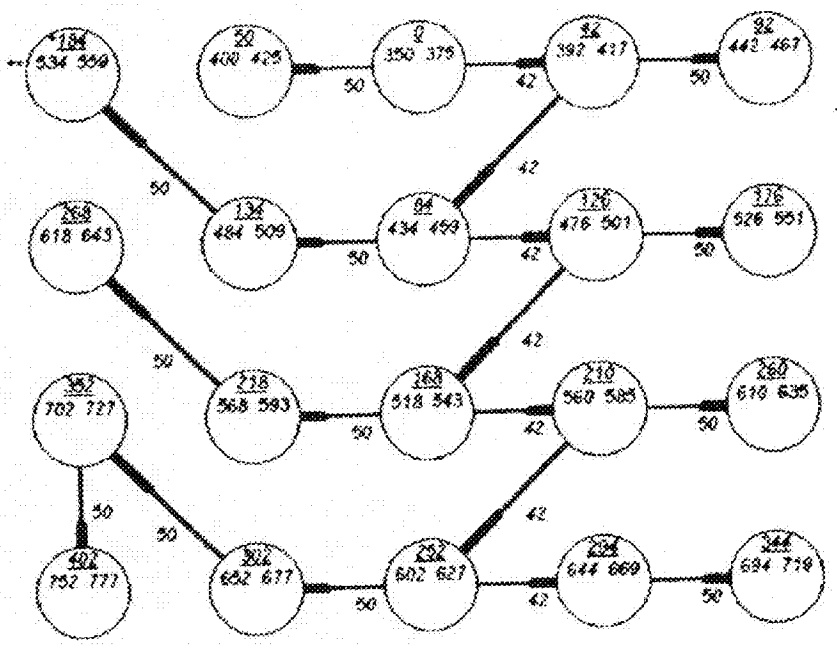
** = actual firing time of down hole delay in milliseconds

ORIGINAL 1368

1 Deck Center Pull



2 Deck Center Pull



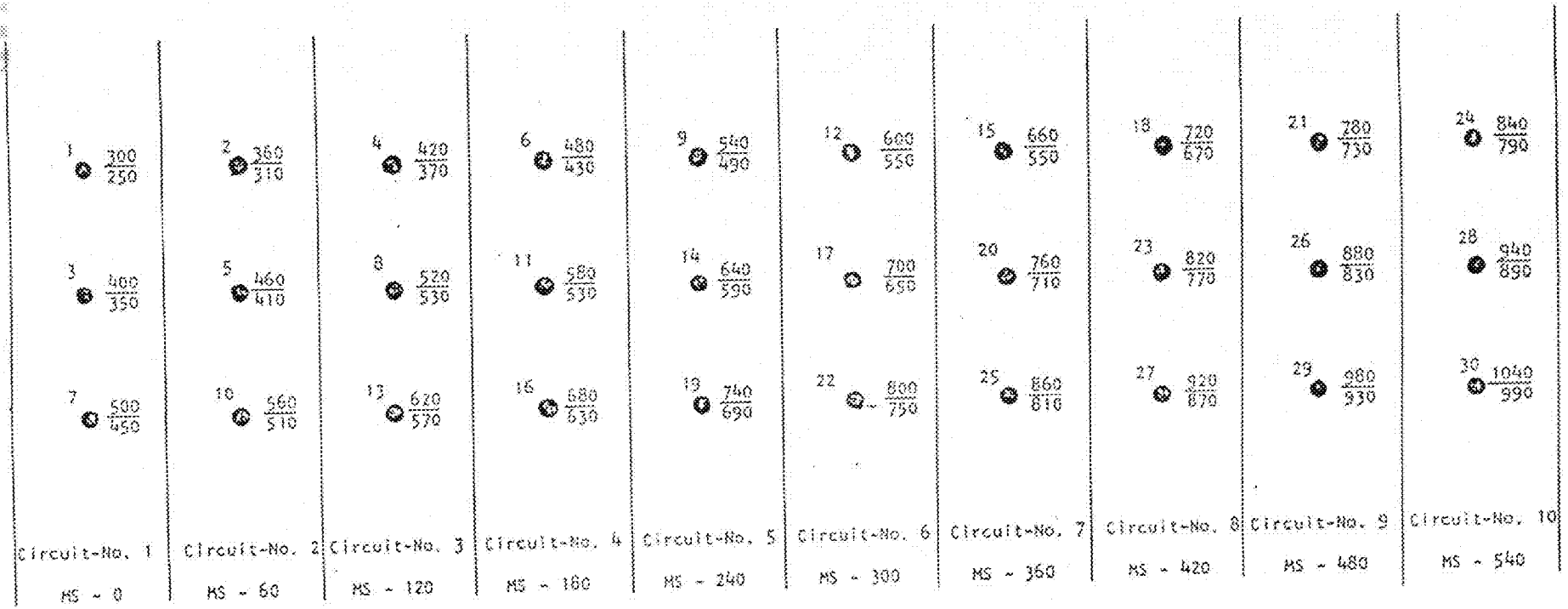
* = cumulative surface delay times in milliseconds

** = actual firing time of down-hole delay in milliseconds

ORIGINAL

1363

Three Rows - 30 Holes - 60 Delays
Minimum Time Between Delays 10 Milliseconds



Set Blasting Machine on 60 Milliseconds

Five circuits energized before the first cap shoots

1 - Order the Bottom Deck Holes Shoot

300 Top deck cap shooting time in milliseconds
250 Bottom deck cap shooting time in milliseconds

Du Pont MS Delay Caps Used

Cap No.	Milliseconds
9	250
10	300
11	350
12	400
13	450
14	500

ORIGINAL

19608

TYPICAL DELAY PATTERN

										SERIES NO.
230 / 6	300 / 8	340 / 9	380 / 10	420 / 11	460 / 12	510 / 13	560 / 14	610 / 15	660 / 16	(3)
130 / 4	200 / 6	270 / 8	310 / 9	350 / 10	390 / 11	430 / 12	480 / 13	530 / 14		(2)
50 / 2	100 / 4	170 / 6	240 / 8	280 / 9	320 / 10	360 / 11	400 / 12	450 / 13		(1)

OPEN FACE

50 FIRING TIME - MS
2 MS DELAY PERIOD
30 MS TIMER SETTING

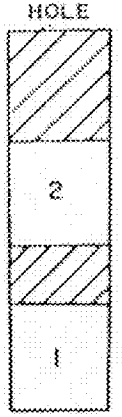
DIRECTION OF BLAST

TYPICAL DELAY PATTERN - DECK LOADED

						SERIES NO.
2 / 1 100 / 50	4 / 3 200 / 150	6 / 5 300 / 250	8 / 7 400 / 350	10 / 9 500 / 450	12 / 11 700 / 600	(1)
2 / 1 130 / 80	4 / 3 230 / 180	6 / 5 330 / 280	8 / 7 430 / 380	10 / 9 530 / 480	12 / 11 730 / 630	(2)
2 / 1 160 / 110	4 / 3 260 / 210	6 / 5 360 / 310	8 / 7 460 / 410	10 / 9 560 / 510	12 / 11 760 / 660	(3)

OPEN FACE

TYPICAL HOLE



MS DELAY PERIOD 2 / 1 160 / 110 FIRING TIME - MS

Fig. 6

ORIGINAL

TYPICAL DELAY PATTERNS

THREE ROWS-60 HOLES-60 DELAYS
MINIMUM TIME BETWEEN DELAYS 10 MILLISECONDS

Circuit No. 1 MS-0	Circuit No. 2 MS-60	Circuit No. 3 MS-120	Circuit No. 4 MS-180	Circuit No. 5 MS-240	Circuit No. 6 MS-300	Circuit No. 7 MS-360	Circuit No. 8 MS-420	Circuit No. 9 MS-480	Circuit No. 10 MS-540
1 2	3 5	6 9	10 14	15 20	21 26	27 32	33 38	39 44	45 50
250 300	310 360	370 420	430 480	490 540	550 600	610 660	670 720	730 780	790 840
4 7	8 12	13 18	19 24	25 30	31 36	37 42	43 48	49 53	54 57
350 400	410 460	470 520	530 580	590 640	650 700	710 760	770 820	830 880	890 940
11 16	17 22	23 28	29 34	35 40	41 46	47 51	56 55	56 58	59 60
450 500	510 560	570 620	630 660	690 740	750 800	810 860	870 920	930 980	990 1040

SET BLASTING MACHINE ON 60 MILLISECONDS
1 FIVE CIRCUITS ENERGIZED BEFORE THE FIRST CAP SHOOTS
250 TOP NUMBER IS ORDER IN WHICH HOLES SHOOT ; BOTTOM NUMBER IS SHOOTING TIME OF EACH HOLE IN MILLISECONDS

THREE ROWS-45 HOLES-45 DELAYS
MINIMUM TIME BETWEEN DELAYS 17 MILLISECONDS

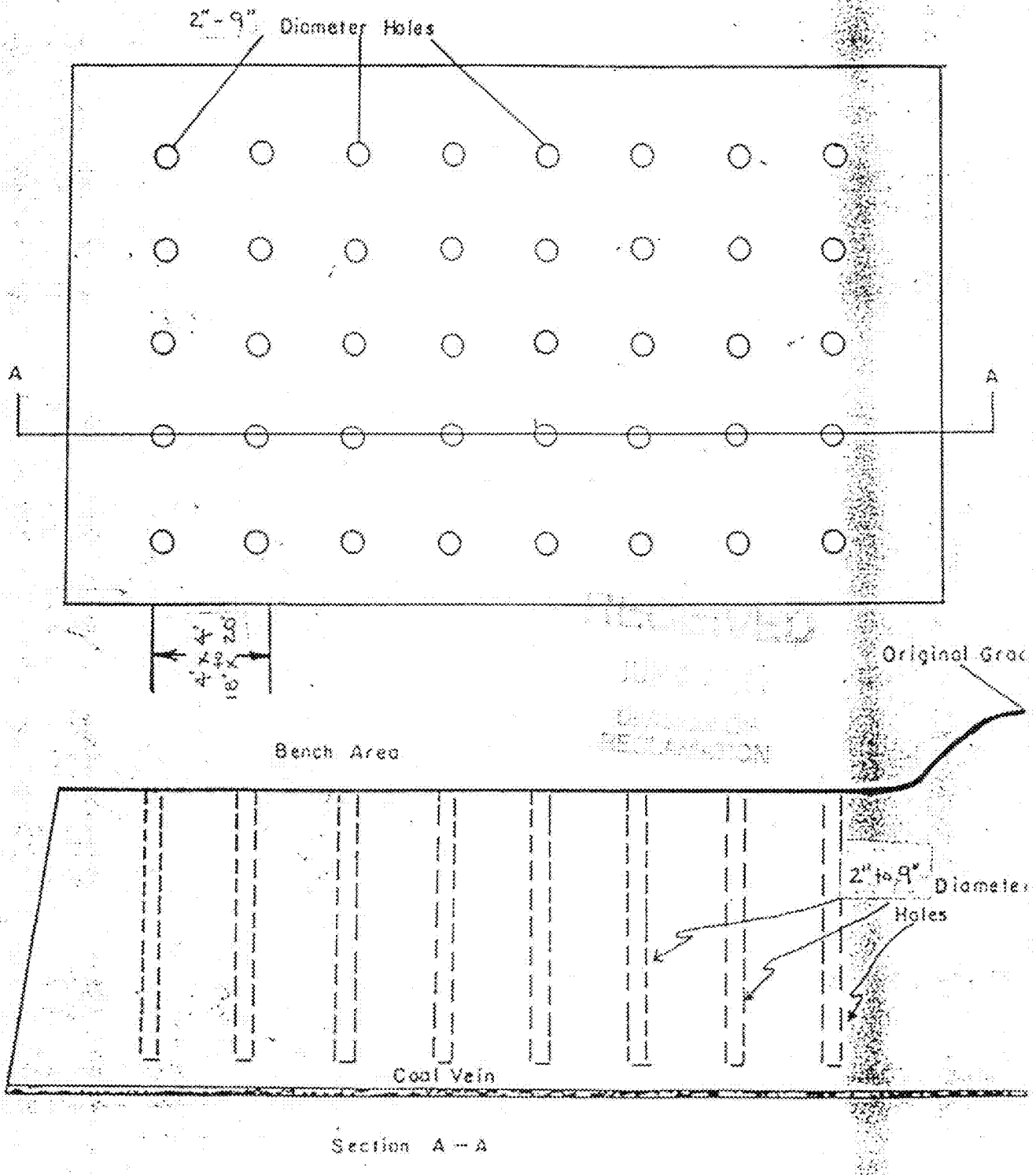
Circuit No. 1 - MS-0														
1	4	7	10	13	16	19	22	25	28	31	34	37	40	43
50	100	150	200	250	300	350	400	450	500	600	700	800	900	1000
Circuit No. 2 - MS-17														
2	5	8	11	14	17	20	23	26	29	32	35	38	41	44
67	117	167	217	267	317	367	417	467	517	617	717	817	917	1017
Circuit No. 3 - MS-34														
3	6	9	12	15	18	21	24	27	30	33	36	39	42	45
84	134	184	234	284	334	384	434	484	534	634	734	834	934	1034

SET BLASTING MACHINE ON 17 MILLISECONDS
ALL CIRCUITS ENERGIZED BEFORE FIRST HOLE SHOOTS
1 ORDER HOLES SHOOT

ORIGINAL
1809
AEC 19347

BENNOC, INC.

ANTICIPATED DRILL PATTERN



ORIGINAL

1363

Pg. 5

TYPICAL DELAY PATTERN

										SERIES NO.
230 / 6	300 / 8	340 / 9	380 / 10	420 / 11	460 / 12	510 / 13	560 / 14	610 / 15	660 / 16	(3)
130 / 4	200 / 6	270 / 8	310 / 9	350 / 10	390 / 11	430 / 12	480 / 13	530 / 14		(2)
50 / 2	100 / 4	170 / 6	240 / 8	280 / 9	320 / 10	360 / 11	400 / 12	450 / 13		(1)

OPEN FACE

50 FIRING TIME - MS
2 MS DELAY PERIOD
30 MS TIMER SETTING

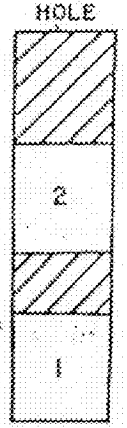
DIRECTION OF BLAST

TYPICAL DELAY PATTERN - DECK LOADED

						SERIES NO.
2 / 1 — 100 / 50	4 / 3 — 200 / 150	6 / 5 — 300 / 250	8 / 7 — 400 / 350	10 / 9 — 500 / 450	12 / 11 — 700 / 600	(1)
2 / 1 — 130 / 80	4 / 3 — 230 / 180	6 / 5 — 330 / 280	8 / 7 — 430 / 380	10 / 9 — 530 / 480	12 / 11 — 730 / 630	(2)
2 / 1 — 160 / 110	4 / 3 — 260 / 210	6 / 5 — 360 / 310	8 / 7 — 460 / 410	10 / 9 — 560 / 510	12 / 11 — 760 / 660	(3)

OPEN FACE

TYPICAL HOLE



MS DELAY PERIOD — 2 / 1 — 180 / 110 FIRING TIME - MS

ORIGINAL

AEC 19349

TYPICAL DELAY PATTERNS

THREE ROWS-60 HOLES-60 DELAYS
MINIMUM TIME BETWEEN DELAYS 10 MILLISECONDS

1 2	3 5	6 9	10 14	15 20	21 26	27 32	33 38	39 44	45 50
250 300	310 360	370 420	430 480	490 540	550 600	610 660	670 720	730 780	790 840
4 7	8 12	13 18	19 24	25 30	31 36	37 42	43 48	49 53	54 57
350 400	410 460	470 520	530 580	590 640	650 700	710 760	770 820	830 880	890 940
11 16	17 22	23 28	29 34	35 40	41 46	47 51	56 55	56 58	59 60
450 500	510 560	570 620	630 660	690 740	750 800	810 860	870 920	930 980	990 1040
Circuit No. 1 MS-0	Circuit No. 2 MS-60	Circuit No. 3 MS-120	Circuit No. 4 MS-180	Circuit No. 5 MS-240	Circuit No. 6 MS-300	Circuit No. 7 MS-360	Circuit No. 8 MS-420	Circuit No. 9 MS-480	Circuit No. 10 MS-540

SET BLASTING MACHINE ON 60 MILLISECONDS
1 FIVE CIRCUITS ENERGIZED BEFORE THE FIRST CAP SHOOTS
250 TOP NUMBER IS ORDER IN WHICH HOLES SHOOT; BOTTOM NUMBER IS SHOOTING TIME OF EACH HOLE IN MILLISECONDS

THREE ROWS-45 HOLES-45 DELAYS
MINIMUM TIME BETWEEN DELAYS 17 MILLISECONDS

Circuit No. 1-MS-0														
1	4	7	10	13	16	19	22	25	28	31	34	37	40	43
50	100	150	200	250	300	350	400	450	500	600	700	800	900	1000
Circuit No. 2-MS-17														
2	5	8	11	14	17	20	23	26	29	32	35	38	41	44
67	117	167	217	267	317	367	417	467	517	617	717	817	917	1017
Circuit No. 3-MS-34														
3	6	9	12	15	18	21	24	27	30	33	36	39	42	45
84	134	184	234	284	334	384	434	484	534	634	734	834	934	1034

SET BLASTING MACHINE ON 17 MILLISECONDS
ALL CIRCUITS ENERGIZED BEFORE FIRST HOLE SHOOTS
1 ORDER HOLES SHOOT
50 SHOOTING TIME

ORIGINAL
AEC 19350

Three Rows - 60 Holes - 60 Delays
Minimum Time Between Delays 10 Milliseconds

Circuit-No. 1	Circuit-No. 2	Circuit-No. 3	Circuit-No. 4	Circuit-No. 5	Circuit-No. 6	Circuit-No. 7	Circuit-No. 8	Circuit-No. 9	Circuit-No. 10
MS - 0	MS - 60	MS - 120	MS - 180	MS - 240	MS - 300	MS - 360	MS - 420	MS - 480	MS - 540
1 / 250	3 / 310	6 / 370	10 / 430	15 / 490	21 / 550	27 / 610	33 / 670	39 / 730	45 / 790
2 / 300	5 / 360	9 / 420	14 / 480	20 / 540	26 / 600	32 / 660	38 / 720	44 / 780	50 / 840
4 / 350	8 / 410	13 / 470	19 / 530	25 / 590	31 / 650	37 / 710	43 / 770	49 / 830	54 / 890
7 / 400	12 / 460	18 / 520	24 / 580	30 / 640	36 / 700	42 / 760	48 / 820	53 / 880	57 / 940
11 / 450	17 / 510	23 / 570	29 / 630	35 / 690	41 / 750	47 / 810	56 / 870	56 / 930	59 / 990
16 / 500	22 / 560	28 / 620	34 / 680	40 / 740	46 / 800	51 / 860	55 / 920	58 / 980	60 / 1040

Set Blasting Machine on 60 Milliseconds

Five circuits energized before the first cap shoots

1 Top number is ordered in which holes shoot

250 Bottom number is shooting time of each hole in milliseconds

Du Pont MS Delay Caps Used

Cap No.	Milliseconds
9	250
10	300
11	350
12	400
13	450
14	500

ORIGINAL

18098

AEC 19351

ORIGINAL

Five Rows - 70 Holes - 70 Delays
Minimum Time Between Delays 10 Milliseconds

1	2	4	7	11	16	21	26	31	40	47	52	57	62	MS - 0
100	150	200	250	300	350	400	450	500	600	700	800	900	1000	Circuit - No. 1
3	5	8	12	17	22	27	32	36	44	50	55	60	65	MS - 60
160	210	260	310	360	410	460	510	560	660	760	860	960	1060	Circuit - No. 2
6	9	13	18	23	28	33	37	41	48	53	58	63	67	MS - 120
220	270	320	370	420	470	520	570	620	720	820	920	1020	1120	Circuit - No. 3
10	14	19	24	29	34	38	42	45	51	56	61	66	69	MS - 180
280	330	380	430	480	530	580	630	680	780	880	980	1080	1180	Circuit - No. 4
15	20	25	30	35	39	43	46	49	54	59	64	68	70	MS - 240
340	390	440	490	540	590	640	690	740	840	940	1040	1140	1240	Circuit - No. 5

Set Blasting Machine on 60 Milliseconds

Two circuits energized before the first cap shoots

1 Order holes shoot

100 Shooting time in milliseconds

Du Pont MS Delay Caps Used

Cap No.	Milliseconds
4	100
6	150
8	200
9	250
10	300
11	350
12	400

Du Pont MS Delay Caps Used

Cap No.	Milliseconds
13	500
14	600
15	700
16	800
18	900
19	1000

AEC 19352

ORIGINAL

Three Rows - 57 Holes - 57 Delays
Minimum Time Between Delays 8 Milliseconds

Circuit No. 1 - MS-0

1	3	6	9	12	15	18	21	25	28	31	34	37	40	43	46	49	52	55
25	50	75	100	125	150	175	200	250	300	350	400	450	500	600	700	800	900	1000

Circuit No. 2 - MS-17

2	5	8	11	14	17	20	23	26	29	32	35	38	41	44	47	50	53	56
42	67	92	117	142	167	192	217	267	317	367	417	467	517	617	717	817	917	1017

Circuit No. 3 - MS-34

4	7	10	13	16	19	22	24	27	30	33	36	39	42	45	48	51	54	57
59	84	109	134	159	184	209	234	284	334	384	434	484	534	634	734	834	934	1034

Set Blasting Machine on 17 Milliseconds

Two Rows energized before first hole shoots.

1 Order holes shoot
25 Shooting time

Du Pont MS Delay Caps Used

Cap. No.	Milliseconds
1	25
2	50
3	75
4	100
5	125
6	150
7	175
8	200
9	250
10	300
11	350
12	400

Du Pont MS Delay Caps Used

Cap. No.	Milliseconds
13	450
14	500
15	600
16	700
17	800
18	900
19	1000

AEC 19353

Ten Rows - 100 Holes - 100 Delays
Minimum Time Between Delays 10 Milliseconds

1	5	12	22	32	42	52	62	72	82	MS - 0 Circuit No. 1
100	200	300	400	500	600	700	800	900	1000	
2	7	15	25	35	45	55	65	75	85	MS - 30 Circuit No. 2
130	230	330	430	530	630	730	830	930	1030	
3	9	18	28	38	48	58	68	78	88	MS - 60 Circuit No. 3
160	260	360	460	560	660	760	860	960	1060	
4	11	21	31	41	51	61	71	81	91	MS - 90 Circuit No. 4
190	290	390	490	590	690	790	890	990	1090	
6	14	24	34	44	54	64	74	84	93	MS - 120 Circuit No. 5
220	320	420	520	620	720	820	920	1020	1120	
8	17	27	37	47	57	67	77	87	95	MS - 150 Circuit No. 6
250	350	450	550	650	750	850	950	1050	1150	
10	20	30	40	50	60	70	80	90	97	MS - 180 Circuit No. 7
280	380	480	580	680	780	880	980	1080	1180	
13	23	33	43	53	63	73	83	92	98	MS - 210 Circuit No. 8
310	410	510	610	710	810	910	1010	1110	1210	
16	26	36	46	56	66	76	86	94	99	MS - 240 Circuit No. 9
340	440	540	640	740	840	940	1040	1140	1240	
19	29	39	49	59	69	79	89	96	100	MS - 270 Circuit No. 10
370	470	570	670	770	870	970	1070	1170	1270	

Set Blasting Machine on 30 Milliseconds

Four circuits energized before firs cap shoots

1 Order holes shoot

100 Shooting time in milliseconds

Du Pont MS Delay Caps Used

Cap No.	Milliseconds
4	100
8	200
10	300
12	400
14	500
15	600
16	700
17	800
18	900
19	1000

ORIGINAL

AEC 19354

ADDENDUM TO PART 3, ITEM C(2)

Operator BENNOC, INC. Permit/Appl. # 1363 Date 8/5/97

GENERAL DESCRIPTION OF STRUCTURES AND BLAST DESIGN CONSIDERATION

MAP #	TYPE STRUCTURE	GENERAL CONSTRUCTION TYPE	APPROX. AGE	GEN. LOC. RELATIVE TO PERMIT	CLOSEST BLASTING DISTANCE
1	DWELLING	1 STORY-BLOCK FOUNDATION	28 YRS.	EAST	450'
2	DWELLING	1 STORY BRICK	2 YRS.	EAST	625'
3	DWELLING	1 STORY-WOOD SIDING	63 YRS.	EAST	730'
4	DWELLING	TRAILER	14 YRS.	SE	520'
5	DWELLING	1 STORY-BLOCK FOUNDATION	33 YRS.	SE	575'
6	DWELLING	TRAILER	18 YRS.	SE	960'
D-0425 Y&O COAL CO.	DEEP MINE	MINE #8 COAL SEAM	TEMPOR-ARILY ABAND.	CENTER	0'

BLAST DESIGN: Will monitor with a seismograph or based on the above listed closest blasting distance. The following DS factors will be utilized in the formula $W = (D/DS)^2$

Distance	DS
0' - 300'	50
301' - 5000'	55

ORIGINAL

1363 -2

R

AEC 19355

ADDENDUM TO PART 3, ITEM D(18) BENNOC, INC.

ADVERSE IMPACTS FROM THIS MINING OPERATION ON FISH, WILDLIFE AND RELATED ENVIRONMENTAL VALUES SHOULD BE MINIMIZED BY DISTURBING THE SMALLEST AREA PRACTICAL IN ADVANCE OF THE COAL REMOVAL OPERATION TO MINIMIZE THE TIME BETWEEN REMOVAL OF THE VEGETATIVE COVER AND REPLANTING OF THE RECLAIMED AREA. PLANTING OF THE RECOMMENDED GRASSES AND APPLYING RECOMMENDED SOIL NUTRIENTS TO ENSURE PROMPT, SUCCESSFUL GROWTH OVER THE RECLAIMED AREAS WILL PROVIDE FOOD AND FORAGE AREAS. TREE LINES ALONG THE UNDISTURBED PORTIONS OF THE PROPOSED PERMIT WILL PROVIDE TRAVEL LANES AND COVER FOR WILDLIFE. THE CONSTRUCTION OF THE WATER IMPOUNDMENTS AND THE CREATION OF TEMPORARY BRUSH PILES DURING THE INITIAL MINING PROCESS WILL PROVIDE TEMPORARY HABITAT FOR FISH AND WILDLIFE. THE EXISTING STREAM CHANNELS AND UNDISTURBED AREAS SURROUNDING THE SITE WILL PROVIDE A NATURAL HABITAT FOR WILDLIFE WHILE THE MINING PROCESS IS ONGOING. ONCE FINAL RECLAMATION HAS BEEN COMPLETED, THE SEEDED AREAS WILL PROVIDE A SUITABLE MIXTURE OF OPEN AREAS FOR FOOD AND THE NATURAL UNDISTURBED WOODS AND BRUSHLANDS FOR COVER TO ENSURE THE SUCCESSFUL RETURN OF WILDLIFE TO THE AREA. PONDS WILL REMAIN PERMANENT, THUS CREATING AQUATIC HABITATS. ALL OUTFALLS WILL MEET EPA NPDES EFFLUENT LIMITATION REQUIREMENTS SO THE AREAS BELOW THE PROPOSED OPERATION WILL NOT BE AFFECTED.

ORIGINAL

ADDENDUM TO PART 3, ITEM E(1)a)b)c)
BENNOC, INC

E. PROTECTION OF HYDROLOGIC BALANCE

1)a) Disturbance to the hydrologic balance will be minimized by use of accepted mining and reclamation techniques. All remaining coal seam, any other toxic material encountered will be promptly buried under at least four feet of non-toxic material to prevent oxidation. Surface water will be controlled within the permit. The gray claystone below the #12 and #11 coal seams will be protected to prevent seepage to lower aquifers. Material damage outside of the permit area will be prevented by control of effluent within the sediment ponds and by prompt reclamation. Backfilling of spoil along the highwall will be done in a timely manner to prevent the lowering of the ground water gradient. Mining will affect the smallest area of recharge possible. All blasting will be within prescribed regulations. These precautions will prevent material damage outside of the permit area.

1)b) Rights of present ground water users will be respected and protected by measures described in a) and c). Should any contamination, diminution, or interruption occur, an alternate source will be provided.

1(c) Acid drainage will be avoided by prompt and careful reclamation, which will minimize oxidation. Toxic material will be placed at least four feet above the pit floor, away from the highwall, away from any ground water, kept above the re-established water table, and away from natural or constructed drainageways. Acid-bearing materials will be promptly buried by at least four feet of non-toxic material to avoid oxidation. Acid drainage should not be a problem at this site due to the presence of buffering materials in the overburden.

ORIGINAL

ADDENDUM TO PART 3, ITEM E(2), BENNOC, INC.

SURFACE WATER FROM THE AREA WILL EITHER FLOW NATURALLY, BE DIRECTED BY DIVERSION DITCHES, OR BE PUMPED TO A SEDIMENT CONTROL FACILITY PRIOR TO LEAVING THE PERMIT AREA. SEE ATTACHED ADDENDA FOR THE FOLLOWING:

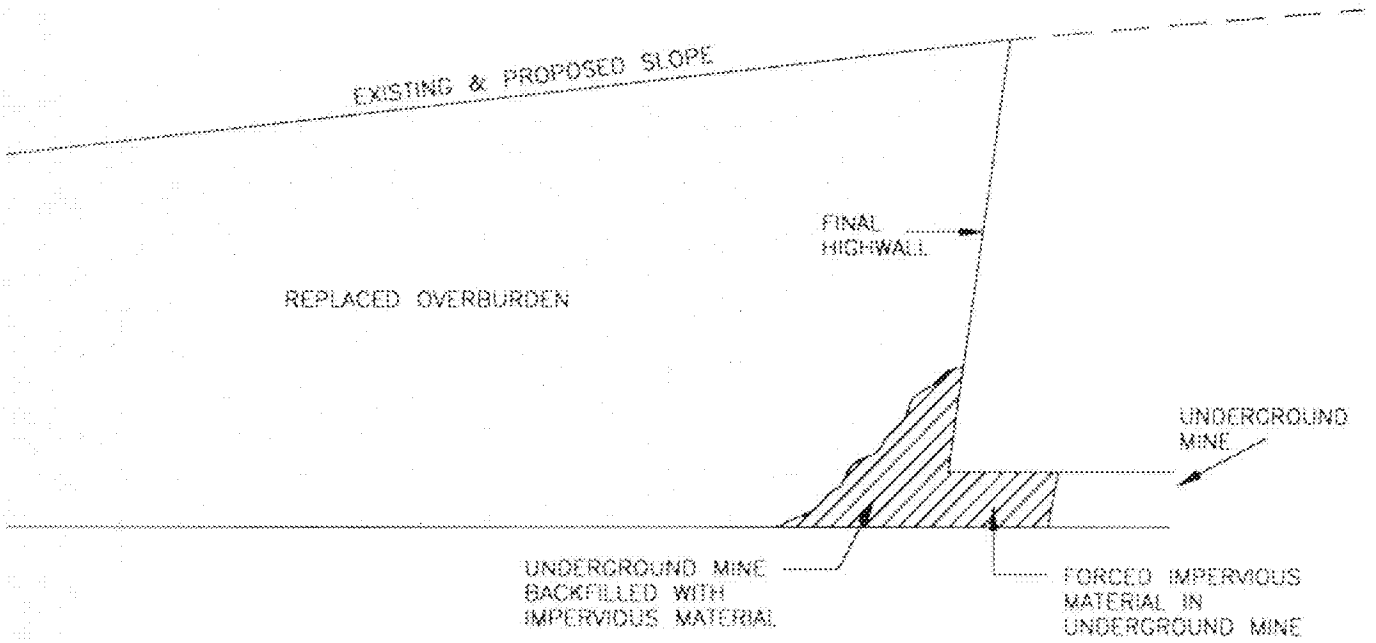
S.A.D.E.
BUFFER ZONE VARIANCE REQUEST
STREAM RECONSTRUCTIONS
STREAM CROSSING 001

ORIGINAL

1368

TYPICAL SECTION

(SEALING UNDERGROUND MINE OPENING)



BENNOC, INC.

ADDENDUM TO PART 3, ITEM D (11)

TYPICAL CROSS SECTION SHOWING PLACEMENT OF IMPERVIOUS MATERIAL TO SEAL UNDERGROUND MINE OPENING.

NOT TO SCALE

STATE OF OHIO
DONALD R. BEAFORD
E-48149
REGISTERED PROFESSIONAL ENGINEER

1363

Donald M Beaford, P.E.

2-24-94

ORIGINAL

ADDENDUM TO PART 3, ITEM C(3)&(4) BENNOC, INC.

THE FOLLOWING WILL RECEIVE A PRE-BLAST SURVEY NOTIFICATION AND BLASTING SCHEDULE:

1.	C.W. Perkins	55430 Belmont Ridge Rd.	Beallsville, Ohio 43716
2.	Wilma Saffield	55233 Belmont Ridge Rd.	Beallsville, Ohio 43716
3.	Mrs. Beckett	55247 Belmont Ridge Rd.	Beallsville, Ohio 43716
4.	Mortan Hetrick	55185 Belmont Ridge Rd.	Beallsville, Ohio 43716
5.	Jim Pyles	55155 Belmont Ridge Rd.	Beallsville, Ohio 43716
6.	William Saffle	54980 Belmont Ridge Rd.	Beallsville, Ohio 43716
7.	Roy Bickleberry	54830 Belmont Ridge Rd.	Beallsville, Ohio 43716
8.	John Shriver	54709 Belmont Ridge Rd.	Beallsville, Ohio 43716
9.	Larry Wyers	3924 Homestead Road	Ravanna, Ohio 44266
10.	Grace Christman	42561 Williamson Road	Beallsville, Ohio 43716
11.	David E. Derhammer II	190 Cottage Grove P.O. Box 278	Chippewa, Ohio 44215
12.	Jess & Melba Ward	53500 Belmont Ridge Rd.	Beallsville, Ohio 43716
13.	Francis Mellon	P.O. Box 151	Macksburg, Ohio 45746
14.	Theresa Thompson	44039 John Jarette Rd.	Beallsville, Ohio 43716
15.	Roger Bunting	44030 John Jarette Rd.	Beallsville, Ohio 43716
16.	Roger Perkins	43855 John Jarette Rd.	Beallsville, Ohio 43716
17.	Clarence Perkins	56381 Perkins Ridge Rd.	Beallsville, Ohio 43716
18.	Judson W. Moore	43079 W. Captina Highway	Beallsville, Ohio 43716
19.	Jack Groves	55701 Belmont Ridge Rd.	Beallsville, Ohio 43716
20.	Howard Perkins	55490 Belmont Ridge Rd.	Beallsville, Ohio 43716

Utilities

Ohio Power Co.	P.O. Box 391	New Philadelphia, Ohio 44663
Ohio Bell Telephone	P.O. Box 2133	Columbus, Ohio 43272

Local Government

Wayne Township Trustees Betty Lucas, Clerk	55709 County Highway 92	Beallsville, Ohio 43716
Washington Township Trustees Loretta Goddard, Clerk	46540 E. Captina Highway	Beallsville, Ohio 43716
Belmont County Commissioners	Courthouse	St.Clairsville, Ohio 43950
Ohio Department of Transportation, Division 11	P.O. Box 351 W. High Ave. Ext.	New Philadelphia, Ohio 44663

ORIGINAL 1363

(R)

ADDENDUM TO PART 3, ITEM C(6)(a)&(b), BENNOC, INC.

BENNOC, INC.
P.O. BOX 208
MORRISTOWN, OHIO 43759

PRE-BLAST SURVEY INFORMATION

FROM: BENNOC, INC.

TO: RESIDENT OR OWNER OF DWELLING OR STRUCTURE WITHIN 1/2 MILE OF PERMIT APPLICATION #1363.

A RESIDENT OR OWNER OF A DWELLING OR STRUCTURE WITHIN 1/2 MILE OF THE PERMIT AREA MAY REQUEST A PRE-BLAST SURVEY. THIS REQUEST SHALL BE MADE IN WRITING AND SENT BY CERTIFIED MAIL TO BENNOC, INC. AT THE ABOVE ADDRESS OR BY REGULAR MAIL TO THE CHIEF, DIVISION OF RECLAMATION, 1900 EAST HIGH AVENUE, NEW PHILADELPHIA, OHIO 44663. THE SURVEY WILL BE CONDUCTED AT NO COST TO THE RESIDENT OR OWNER. PLEASE SUPPLY YOUR TELEPHONE NUMBER WHEN REQUESTING A PRE-BLAST SURVEY TO ENABLE THE OPERATOR TO CONTACT YOU FOR SURVEY SCHEDULING.

ANY PREBLAST SURVEY REQUESTED MORE THAN TEN DAYS BEFORE THE PLANNED INITIATION OF BLASTING SHALL BE COMPLETED BEFORE THE INITIATION OF BLASTING.

BLASTING SCHEDULE

PURSUANT TO OHIO COAL MINING AND RECLAMATION RULE 1501:13-9-06(D), NOTICE IS HEREBY GIVEN BY BENNOC, INC., P.O. BOX 208, MORRISTOWN, OHIO 43759, (614) 782-1330, THAT OVERBURDEN BLASTING OPERATIONS WILL BE CONDUCTED ON STRIP MINING PERMIT NUMBER _____ BEGINNING ON _____ AND CONTINUING UNTIL _____ AS DESCRIBED BELOW, SUBJECT TO ANNUAL REPUBLICATION AND REDISTRIBUTION.

SITUATED IN THE STATE OF OHIO, COUNTY OF BELMONT AND THE TOWNSHIP OF WAYNE. BEING IN SECTIONS 3 & 4, TOWNSHIP 6 RANGE 5 ON THE LAND NOW OWNED BY WYOMING POCAHONTAS LAND COMPANY AND AMERICAN ENERGY CORP.

DETONATION OF EXPLOSIVES WILL OCCUR MONDAY THROUGH SATURDAY, APRIL 1 THROUGH SEPTEMBER 30, 8:00 A.M. TO 6:30 P.M. AND OCTOBER 1 THROUGH MARCH 31, 8:00 A.M. TO 5:00 P.M.

METHOD USED TO CONTROL ACCESS

ACCESS TO BLASTING AREA WILL BE CONTROLLED BY SIGNS AND BARRICADES AND MINING PERSONNEL.

AUDIBLE WARNINGS

NOT LESS THAN ONE MINUTE NOR MORE THAN TWO MINUTES PRIOR TO DETONATION
- THREE LONG AIRHORN BLASTS.
WHEN ALL CLEAR AFTER BLASTER CERTIFIES SAFE CONDITIONS EXIST
- ONE LONG AIRHORN BLAST.

UNSCHEDULED BLASTS MAY BE CONDUCTED ONLY IN EMERGENCY SITUATIONS WHERE RAIN, LIGHTNING, OTHER ATMOSPHERIC CONDITIONS OR OPERATOR OR PUBLIC SAFETY REQUIRES.

ORIGINAL 1363 -2 (R)

ADDENDUM PART 3, ITEM C(13), BENNOC, I

AUSTIN POWDER COMPANY BLAST REPORT

DATE: ____/____/____ (MO DA YR)

SHOT NO. _____ TIME OF BLAST _____ ☐ AM ☐ PM

COMPANY (PERMITTEE) _____ LOCATION _____

PERMIT NO. _____ LOCATION AT PLANT/PIT _____

WEATHER: ☐ CLOUDY ☐ CLEAR *TYPE OF TERRAIN:* ☐ HILLY ☐ FLAT *WIND DIRECTION:* (Circle One) (N) (NE) (E) (SE) (S) (SW) (W) (NW)

VELOCITY _____ /MPH TEMPERATURE _____ /DEGREES F

NEAREST PROTECTED STRUCTURE:

NAME OF STRUCTURE AND/OR TYPE _____ DISTANCE _____ /FT.

DIRECTION/BEARING _____ (IN OHIO, DIRECTION MUST BE STATED IN DEGREES)

OR COMPASS POINT *(Circle)* (N) (NE) (E) (SE) (S) (SW) (W) (NW)

METHOD USED: ☐ MEASURED ☐ GRID MAP ☐ TOPO MAP ☐ OTHER: _____

TYPE OF MATERIAL BLASTED _____ HOLE DIAMETER _____ AVE. DEPTH OF WATER _____

NO. OF HOLES _____ NO. OF ROWS _____ BURDEN _____

SPACING _____ DEPTH _____ FACE HEIGHT _____ BACK FILL DEPTH _____

SUB-DRILLING _____ LENGTH OF STEMMING _____ TYPE OF STEMMING _____

WERE BLASTING MATS USED: ☐ YES ☐ NO IF YES, TYPE USED: _____

EXPLOSIVES	TOTAL QUANTITY	
		MANUFACTURER
		MANUFACTURER
		MANUFACTURER
		MANUFACTURER
		MANUFACTURER
		MANUFACTURER
TYPE OF PRIMER		MANUFACTURER

TOTAL WEIGHT OF EXPLOSIVES (INCLUDE PRIMERS) _____

TYPE OF INITIATION SYSTEM: ☐ ELECTRIC MANUFACTURER _____

☐ NON ELECTRIC MANUFACTURER _____

DELAY DETONATORS USED (TYPE) _____

INITIATION METHOD: ☐ SEQUENTIAL MACHINE/TIMER SETTING _____

☐ CD-450

☐ CD-600

☐ OTHER (NAME) _____

OHMS resistance each series or circuit, and total circuit resistance:

CIRCLE SCALE DISTANCE USED: $W = (D/50)^2$ $W = (D/65)^2$

$W = (D/55)^2$ $W = (D/\ \ )^2$

LEGAL WEIGHT OF EXPLOSIVES PER DELAY _____

CHECK YOUR STATE & LOCAL REGULATIONS FOR PROPER SCALE DISTANCE.

WEIGHT OF EXPLOSIVES PER HOLE _____ (SIGNIFICANT VARIATIONS SHOULD BE EXPLAINED ON BACK AND IDENTIFIED IN SKETCH.)

MAX. NO. OF HOLES WITHIN 8MS PERIOD _____

MAX. WT. OF EXPLOSIVES WITHIN 8MS PERIOD _____ ACTUAL S/D _____

TOTAL NO. OF TONS PRODUCED _____ OR TOTAL CUBIC YARDS PRODUCED _____

TOTAL POWDER FACTOR: ☐ LBS/CUBIC YARD _____

☐ TONS/LB _____ TONS/CUBIC YARD _____

☐ CHECK HERE, IF BLAST OCCURRED AT A TIME OTHER THAN THE SCHEDULED TIME. EXPLAIN WHY IN THE COMMENT SECTION.

☐ CHECK HERE, IF A MISFIRE OCCURRED. IF MISFIRE OCCURRED, EXPLAIN PROCEDURE USED TO ELIMINATE THE HAZARD. PLEASE USE COMMENT SECTION.

SEISMOGRAPH DATA: DATE OF SEISMOGRAPH _____ TIME OF SEISMOGRAPH READING _____ ☐ AM ☐ PM

TYPE OF INSTRUMENT _____ SENSITIVITY _____

CALIBRATION SIGNAL OR DATE OF CALIBRATION _____

LOCATION: DISTANCE FROM BLAST & LOCATION _____

DIRECTION FROM BLAST (N) (NE) (E) (SE) (SW) (W) (NW)

SEISMIC DATA: T _____ V _____ L _____ DB _____

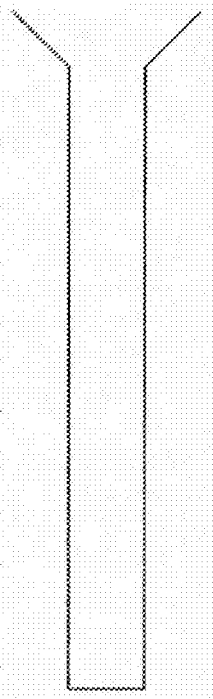
DIGITAL READOUT: ☐ YES ☐ NO

ORIGINAL 1363

NAME OF PERSON TAKING SEISMIC READING _____ FIRM _____

NAME OF PERSON OR FIRM ANALYZING RECORD _____

ATTACH SEISMIC RECORD IF AVAILABLE



TYPICAL BOREHOLE
GIVE LOCATION OF
DECKS - PRIMERS
AND DELAY
DETONATORS

SHOW NORTH ARROW (IN WEST VIRGINIA INCLUDE DISTANCE AND DIRECTION TO NEAREST STRUCTURE)

NOTE: SHOW ALL HOLES, DELAY PATTERN, FREE FACES AND PREVIOUSLY BLASTED MATERIAL.

COMMENTS: _____

_____

_____

TYPE OF PROTECTIVE COVER USED ☐ STEEL SHELTER ☐ OFF HIGHWAY TRUCK ☐ BUCKET OF LOADER / SHOVEL

OTHER - PLEASE DESCRIBE _____

BLASTER'S NAME: _____
PRINT

_____
SIGNATURE

BLASTER'S CERT. NO. _____

BLASTER'S LIC. NO. _____

NAMES OF PERSONNEL ON BLAST CREW:

_____

_____

_____

_____

_____

_____

TIMING

THE FOLLOWING TOPSOIL TIMING METHODS ARE TO BE USED IN CONJUNCTION WITH THIS PERMIT OPERATION AND WITHIN 12 MONTHS AFTER THE END OF THE PERMIT YEAR:

[X] TIMING METHOD [1] WILL BE USED

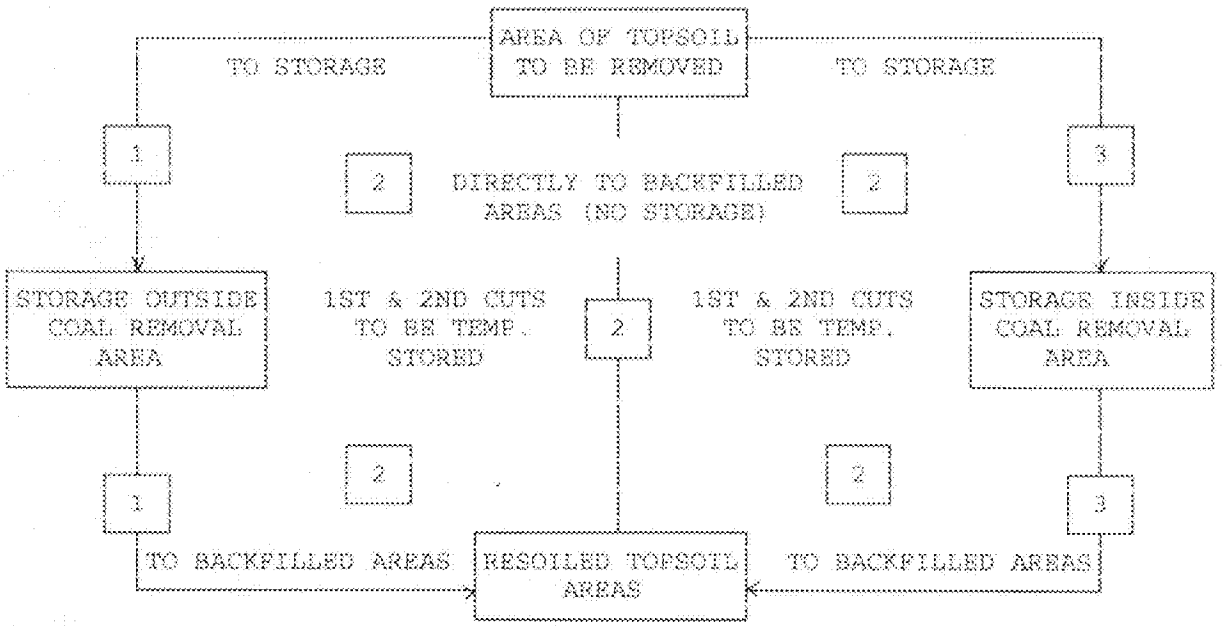
TOPSOIL WILL BE REMOVED SEPERATELY, STOCKPILED AND STABILIZED OUTSIDE THE COAL REMOVAL AREAS. THIS TOPSOIL WILL BE SEPERATELY REDISTRIBUTED ON REGRADED AREAS AS MINING COMMENCES.

[ ] TIMING METHOD [2] WILL BE USED

TOPSOIL FROM THE FIRST AND SECOND CUTS WILL BE STORED TEMPORARILY ON THE PERMITTED AREA TO BE USED LATER IN ITS REDISTRIBUTION. THE TOPSOIL MATERIAL FROM THE THIRD CUT WILL BE REDISTRIBUTED ON THE AREA OF THE FIRST CUT AND THE FOURTH CUT TO THE SECOND CUT AND SO ON. . . . TO THE LAST CUT. THE LAST CUT WILL BE RESOILED USING THE TOPSOIL TEMPORARILY STORED ON THE PERMITTED AREA.

[X] TIMING METHOD [3] WILL BE USED

TOPSOIL WILL BE REMOVED SEPERATELY, STOCKPILED AND STABILIZED. THE STORAGE AREAS WILL BE WITHIN THE DESIGNATED COAL REMOVAL AREA; THEREFOR THE STORAGE AREAS WILL BE ON PREVIOUS MINED REGRADED AREAS THAT ARE AWAY FROM THE ACTIVE MINING. THIS TOPSOIL WILL BE REDISTRIBUTED WHERE IT IS NEEDED ON REGRADED AREAS AS MINING PROGRESSES.



ORIGINAL

ADDENDUM TO PART 3, ITEM D(4), BENNOC, INC.

OVERBURDEN WILL BE GRADED TO THE APPROXIMATE ORIGINAL CONTOUR. SOIL STABILIZATION WILL BE ACCOMPLISHED BY PROMPT REVEGETATION OR, IF NECESSARY, OTHER SOIL STABILIZING PRACTICES. ALL FINAL GRADING, PREPARATION OF SPOIL BEFORE REPLACEMENT OF TOPSOIL, AND PLACEMENT OF TOPSOIL SHALL BE DONE ALONG THE CONTOUR TO MINIMIZE EROSION AND INSTABILITY. SEE PART 4, ITEM C FOR STEEP SLOPE MINING DATA.

ADDENDUM TO PART 3, ITEM D(5), BENNOC, INC.

ALL TOPSOIL WILL BE REMOVED AND STOCKPILED. IF THE TOPSOIL IS LESS THAN SIX INCHES, A SIX INCH LAYER THAT INCLUDES THE TOPSOIL AND THE UNCONSOLIDATED MATERIALS BELOW THE "A" HORIZON WILL BE REMOVED. THE TOPSOIL WILL BE REMOVED, HAULED OR PUSHED TO STORAGE AREAS OR IMMEDIATELY REDISTRIBUTED ON REGRADED AREAS ADJACENT TO THE ACTIVE MINING PIT. ON MODERATE SLOPES THE TOPSOIL WILL BE REMOVED WITH PANS AND ON STEEP SLOPES THE TOPSOIL MAY BE PUSHED WITH DOZERS AND LOADED WITH A HIGHLIFT INTO ROCK TRUCKS.

TOPSOIL STORAGE AREAS WILL BE ON STABLE AREAS WITHIN THE PERMIT AND WILL NOT BE DISTURBED OR EXPOSED TO EXCESSIVE WATER, WIND EROSION, UNNECESSARY COMPACTION AND CONTAMINATION BY UNDESIRABLE MATERIALS. WIND AND WATER EROSION WILL BE PREVENTED BY THE USE OF AN EFFECTIVE COVER OF NON-NOXIOUS, QUICK GROWING ANNUAL AND PERENNIAL VEGETATION, SEEDED OR PLANTED DURING THE FIRST NORMAL PERIOD AFTER REMOVAL FOR FAVORABLE PLANTING CONDITIONS. CONTAMINATION OF THE STORAGE AREAS WILL BE PREVENTED BY THE USE OF DIVERSION DITCHES AND SELECTIVE PLACEMENT OF MATERIAL AWAY FROM POSSIBLE TOXIC AREAS.

ALL TOPSOIL WILL BE REDISTRIBUTED. REDISTRIBUTION WILL BE ACHIEVED BY HAULING OR PUSHING ALL TOPSOIL FROM THE STORAGE AREAS. A UNIFORM THICKNESS OF AT LEAST SIX INCHES WILL BE DISTRIBUTED. EXCESSIVE COMPACTION WILL BE AVOIDED BY NOT REDISTRIBUTING EXTREMELY WET SOILS, PREVENTING EQUIPMENT FROM CONTINUALLY RETRACING THEIR TRACKS AND DISCING IN BETWEEN APPLICATIONS IF PLACING OF TOPSOIL RESULTS IN OVER COMPACTION. DIVERSION DITCHES, ESTABLISHMENT OF PROMPT VEGETATION AND A SUITABLE MULCH AND/OR OTHER STABILITY PRACTICES WILL BE USED ON ALL RESOILED AREAS PER RULE 1501:13-9-15(E)(1).

THE AVERAGE THICKNESS OF TOPSOIL AND SUBSOIL WITHIN THE PERMIT AREA IS SEVEN INCHES AND THIRTY-SEVEN INCHES RESPECTIVELY. THESE THICKNESSES WERE DETERMINED BY THE UNITED STATES DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE, DIGGING MANY HOLES TO STUDY SOIL PROFILES TO COMPILE THE SOIL SURVEY OF BELMONT COUNTY, OHIO.

ORIGINAL

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ADDENDUM TO PART 3, ITEM D(6)(b), BENNOC, INC.

CROPLAND & PASTURELAND

8 LBS/AC. ORCHARD GRASS	7 LBS/AC. ALFALFA
10 LBS/AC. RED CLOVER	10 LBS/AC. TIMOTHY

(TARGET CROP ON CROPLAND WILL BE HAY)

UNDEVELOPED LAND

SPECIES	TREES & SHRUBS
8 LBS/AC. ORCHARD GRASS	GREEN ASH
7 LBS/AC. ALFALFA	SILKY DOGWOOD
10 LBS/AC. RED CLOVER	BLACK LOCUST
10 LBS/AC. TIMOTHY	INDIGOBUSH
	VIRGINIA PINE

(30 - 50% OF THE UNDEVELOPED AREA WILL BE TREES AND SHRUBS)

ADDENDUM TO PART 3, ITEM D(6)(e)

AREAS WILL BE MULCHED WITH HAY OR STRAW AT A RATE OF 2 TONS PER ACRE WITH A MULCHING MACHINE OR MANUALLY.

ADDENDUM TO PART 3, ITEM D(7)

THE SOIL TESTING PLAN WILL CONSIST OF COLLECTING REPRESENTATIVE SAMPLES BY PROBING THE RESOILED AREA TO ACHIEVE COMPOSITE SAMPLES AND THICKNESSES. SOIL SAMPLES WILL BE TESTED BY AN APPROVED LAB TO DETERMINE LIME AND FERTILIZER RECOMMENDATIONS FOR GRASS-LEGUME ESTABLISHMENT.

ADDENDUM TO PART 3, ITEM D(8)

ALL COAL TO BE MINED AS SHOWN ON THE APPLICATION MAP, WHICH IS OF GOOD QUALITY AND ECONOMICALLY FEASIBLE, WILL BE REMOVED AND USED TO GENERATE ENERGY. NO COAL WILL BE WASTED OR RUINED FOR FUTURE MINING OPERATIONS.

ORIGINAL

AEC 19366

ADDENDUM TO PART 3, ITEM D(11), BENNOC, INC.

ANY DEEP MINES ENCOUNTERED WILL BE MINED THROUGH. IF ANY OF THE EXISTING UNMAPPED DEEP MINES ARE LARGER THAN ANTICIPATED, THE SUBMITTED SEALING PLAN WILL BE IMPLEMENTED. THE OPENING SHALL BE SEALED BY FORCING IMPERVIOUS MATERIAL INTO THE MINE OPENING AND THEN BACKFILLING THE AREA AROUND THE UNDERGROUND OPENING WITH IMPERVIOUS MATERIAL BEFORE REPLACING SPOIL. ALL WORK SHALL BE DONE IN ORDER TO MINIMIZE DISTURBANCE TO THE PREVAILING HYDROLOGIC BALANCE AND TO ENSURE THE SAFETY OF PEOPLE, LIVESTOCK, FISH AND WILDLIFE. SEE ATTACHED CROSS SECTION.

THE EXISTING SHAFT ENTRY ON PERMIT D-0425 IS SEALED WITH CONCRETE. THE EXISTING SLOPE ENTRY HAS BEEN TEMPORARILY SEALED WITH EARTH. PROPOSED SURFACE MINING OF THE #11 AND #12 COAL SEAMS WILL HAVE NO IMPACT ON THESE ENTRIES. THE SHAFT AND SLOPE ENTRIES WILL BE AVOIDED BY ACTIVITIES ASSOCIATED WITH THE PROPOSED MINING OPERATION.

ADDENDUM TO PAGE 26, ITEM 15, BENNOC INC.

DEPARTMENT OF THE ARMY
PITTSBURGH DISTRICT, CORPS OF ENGINEERS
WILLIAM S. MOORHEAD FEDERAL BUILDING
1000 LIBERTY AVENUE
PITTSBURGH, PA 15222-4186

REPLY TO
ATTENTION OF:

July 30, 1997

Operations and Readiness Division
Regulatory Branch
199701201

Donald Brafford
Jack A. Hamilton & Associates, Inc.
Box 471, 342 High Street
Flushing, Ohio 43977

Dear Mr. Brafford:

Reference is made to your recent request for a jurisdictional determination on surface mining activities proposed by Bennoc, Inc. These activities would impact five unnamed tributaries of Piney Creek, within Wayne Township, Belmont County, Ohio.

Based on your submittal, it appears that this project will impact greater than 500 feet of channel, which would make it ineligible for authorization under Nationwide Permit No. 26. At this time we will consider authorizing the work under Nationwide Permit No. 21, Surface Coal Mining Activities. This Nationwide Permit requires that the applicant comply with the "Notification" conditions. This "Notification" must include detailed drawings and descriptions of the impacts to the stream channels and any wetland areas. Enclosed is a copy of a Public Notice outlining the Nationwide Permits and conditions.

Please note that this Nationwide Permit will require an individual Water Quality certification from the Ohio Environmental Protection Agency. Enclosed is the application for this certification which should be directed to the Ohio EPA.

In planning development of this site, every effort should be made to avoid and minimize impacts to the streams and wetlands. Any impacts which can not be avoided, will require a permit and mitigation will likely be necessary.

ORIGINAL

1363

We will continue to work with you in your development plans in order to protect the aquatic resources. If you have any questions, please contact Scott A. Hans at (412) 395-7154.

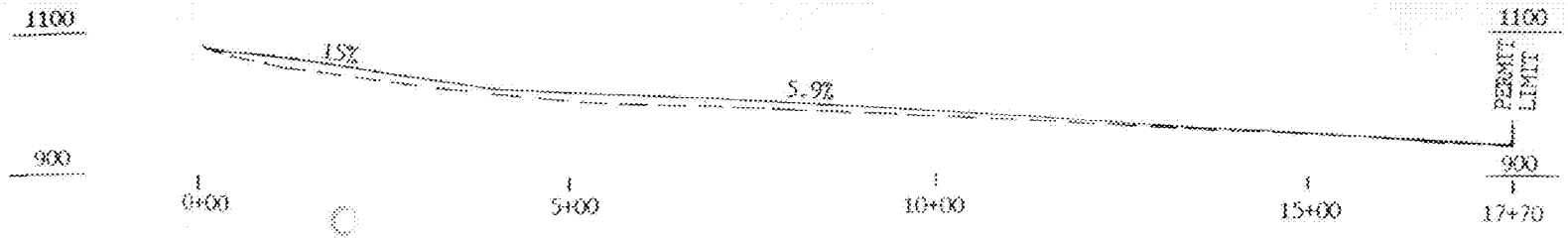
Sincerely,

Albert H. Regalla
Chief, Regulatory Branch

Enclosure

ORIGINAL

1363



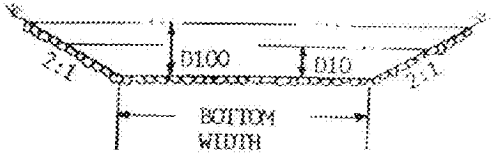
ORIGINAL

STREAM "A" PROFILE

SCALE
HORZ. : 1" = 200'
VERT. : 1" = 200'

Proposed Grade
Existing Grade

STREAM "A" RECONSTRUCTION PLANS
CURVE NUMBER : 80
RAINFALL 10 YR/6 HR : 2.8"
RAINFALL 100 YR/6 HR : 3.8"



TYPICAL CHANNEL CROSS SECTION (NOT TO SCALE)

STATION	WATER-SHED	Q 10 YR/ 6 HR	Q 100 YR/ 6 HR	GRADE	BOTTOM WIDTH	D10	D100	V10 FPS	V100 FPS	CHANNEL TYPE	ROCK SIZE
0+00 - 4+80	13.9 AC	15 CFS	25 CFS	15 %	4'	0.6'	0.7'	6.5	6.7	ROCK	12"
4+00 - 18+40	31.8 AC	49 CFS	83 CFS	5.9%	4'	1.2'	1.5'	6.5	7.9	ROCK	12"

NOTE: 25% OF THE ROCK BY VOLUME WILL BE THE SIZE NOTED OR SLIGHTLY LARGER. THE REMAINING 75% OR LESS WILL BE OF WELL GRADED MATERIAL, SMALLER THAN THE SIZE NOTED INCLUDING SUFFICIENT SANDS AND GRAVELS TO FILL THE VOIDS BETWEEN THE LARGER ROCK. ALL ROCK SHALL BE OF DURABLE MATERIAL. BEDDING MATERIAL WILL BE 6" OF ODOT NO. 3, NO. 4, OR NO. 357 CRUSHED STONE, GRAVEL OR SLAG.

1 of 3

STATE OF OHIO
DONALD M. BRAFFORD
E-28449
REGISTERED PROFESSIONAL ENGINEER

ADDENDUM TO PART 3, ITEM E(2)

BENNOC, INC.

STREAM "A" RECONSTRUCTION

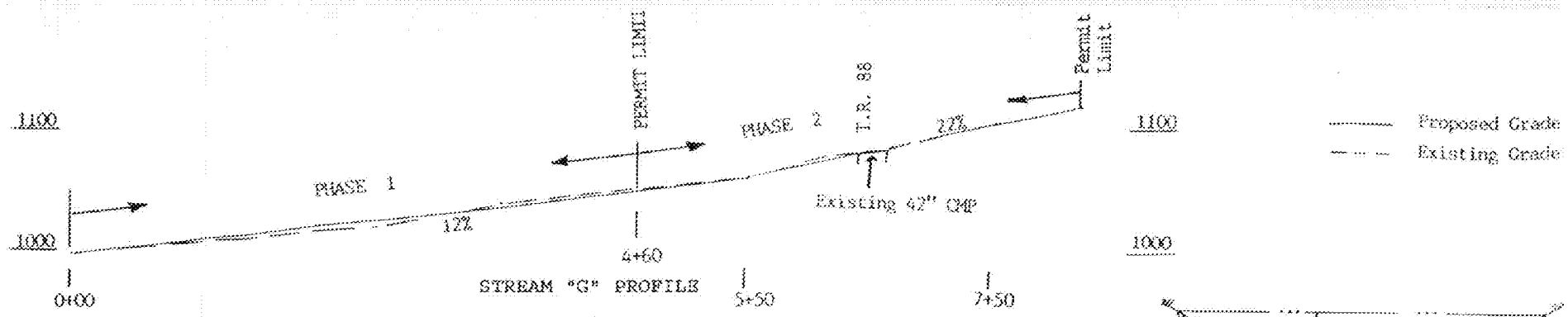
SITUATED IN SECTION 3, T-6, R-5
WAYNE TWP., BELMONT CO., OH.

Donald M Brafford P.E

DONALD M. BRAFFORD, P.E.

11-12-97

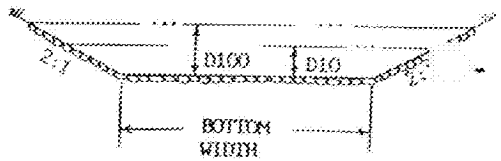
AEC 19370



STREAM "G" PROFILE

STREAM "G" RECONSTRUCTION PLANS
CURVE NUMBER : 80
RAINFALL 10 YR/6 HR = 2.8"
RAINFALL 100 YR/6 HR = 3.8"

SCALE:
HORZ. 1" = 100'
VERT. 1" = 100'



TYPICAL CHANNEL CROSS SECTION
(NOT TO SCALE)

STATION	WATER-SHED	Q 10 YR/ 6 HR	Q 100 YR/ 6 HR	GRADE	BOTTOM WIDTH	D10	D100	V10 FPS	V100 FPS	CHANNEL TYPE	ROCK SIZE
0+00-5+50	19.0 AC	20 CFS	35 CFS	12 %	4.0'	0.4'	0.6'	6.5	6.6	ROCK	8"
5+50-7+50	10.6	11 CFS	19 CFS	22 %	4.0'	0.6'	0.9'	6.6	7.2	ROCK	8"

NOTE: 25% OF THE ROCK BY VOLUME WILL BE THE SIZE NOTED OR SLIGHTLY LARGER. THE REMAINING 75% OR LESS WILL BE OF WELL GRADED MATERIAL, SMALLER THAN THE SIZE NOTED INCLUDING SUFFICIENT SANDS AND GRAVELS TO FILL THE VOIDS BETWEEN THE LARGER ROCK. ALL ROCK SHALL BE OF DURABLE MATERIAL. BEDDING MATERIAL WILL BE 6" OF ODOT NO. 3, NO. 4, OR NO. 357 CRUSHED STONE, GRAVEL OR SLAG.

STATE OF OHIO
DONALD M. BRAFFORD
E-23343
REGISTERED PROFESSIONAL ENGINEER

ADDENDUM TO PART 3, ITEM E(2)

BENNOC, INC.

STREAM "G" RECONSTRUCTION

SITUATED IN SECTION 3, T-6 R-5
WAYNE TWP., BELMONT COUNTY,
OHIO

Donald M. Brafford

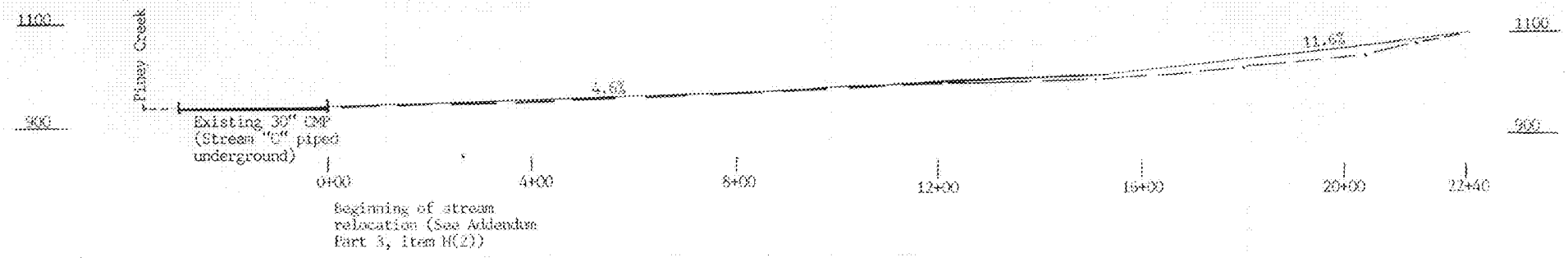
DONALD M. BRAFFORD, P.E.

11-12-93

ORIGINAL

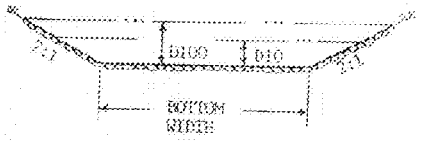
1303

AEC 19371



STREAM "C" PROFILE

SCALE
HORZ. : 1" = 200'
VERT. : 1" = 200'



TYPICAL CHANNEL
CROSS SECTION
(NOT TO SCALE)

STREAM "C" RECONSTRUCTION PLANS
CURVE NUMBER : 80
RAINFALL 10 YR/6 HR : 2.8"
RAINFALL 100 YR/6 HR : 3.8"

STATION	WATER-SHED	Q 10 YR/ 6 HR	Q 100 YR/ 6 HR	GRADE	BOTTOM WIDTH	D10	D100	V10 FPS	V100 FPS	CHANNEL TYPE	ROCK SIZE
0+00 – 15+10	66.2 AC	85 CFS	153 CFS	4.6%	4'	1.6'	2.1'	7.4	9.0	ROCK	12"
15+10 – 22+40	40.2 AC	41 CFS	70 CFS	11.6%	4'	1.0'	1.2'	7.6	9.1	ROCK	18"

NOTE: 25% OF THE ROCK BY VOLUME WILL BE THE SIZE NOTED OR SLIGHTLY LARGER. THE REMAINING 75% OR LESS WILL BE OF WELL GRADED MATERIAL, SMALLER THAN THE SIZE NOTED INCLUDING SUFFICIENT SANDS AND GRAVELS TO FILL THE VOIDS BETWEEN THE LARGER ROCK. ALL ROCK SHALL BE OF DURABLE MATERIAL. BEDDING MATERIAL WILL BE 6" OF ODOT NO. 3, NO. 4, OR NO. 357 CRUSHED STONE, GRAVEL OR SLAG.

ORIGINAL

STATE OF OHIO
DONALD M. BRAFFORD
12848
REGISTERED
PROFESSIONAL ENGINEER

ADDENDUM TO PART 3, ITEM H(2)

BENNOC, INC.

STREAM "C" RECONSTRUCTION

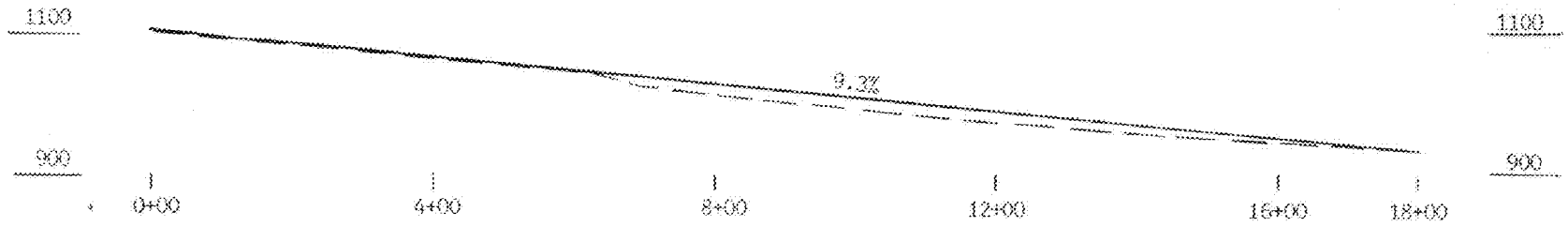
SITUATED IN SECTION 3, T-6, R-5
WAYNE TWP., BELMONT CO., OH.

Donald M Brafford, PE

DONALD M. BRAFFORD, P.E.

1863

AEC 193772

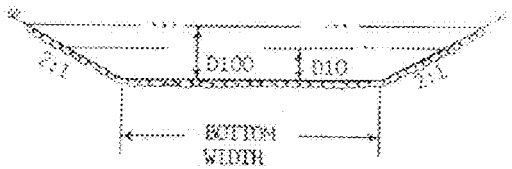


STREAM "D" PROFILE

SCALE
HORZ. : 1" = 200'
VERT. : 1" = 200'

Proposed Grade
Existing G

STREAM "D" RECONSTRUCTION PLANS
CURVE NUMBER : 80
RAINFALL 10 YR/6 HR : 2.8"
RAINFALL 100 YR/6 HR : 3.8"



TYPICAL CHANNEL CROSS SECTION (NOT TO SCALE)

STATION	WATER-SHED	Q 10 YR/ 6 HR	Q 100 YR/ 6 HR	GRADE	BOTTOM WIDTH	D10	D100	V10 FPS	V100 FPS	CHANNEL TYPE	ROCK SIZE
0+00 — 18+00	38.2 AC	41 CFS	69 CFS	9.3%	4'	1.0'	1.2'	7.1	8.6	ROCK	12"

NOTE: 25% OF THE ROCK BY VOLUME WILL BE THE SIZE NOTED OR SLIGHTLY LARGER. THE REMAINING 75% OR LESS WILL BE OF WELL GRADED MATERIAL, SMALLER THAN THE SIZE NOTED INCLUDING SUFFICIENT SANDS AND GRAVELS TO FILL THE VOIDS BETWEEN THE LARGER ROCK. ALL ROCK SHALL BE OF DURABLE MATERIAL. BEDDING MATERIAL WILL BE 6" OF ODOT NO. 3, NO. 4, OR NO. 357 CRUSHED STONE, GRAVEL OR SLAG.

STATE OF OHIO
DONALD M. BRAFFORD
REGISTERED
PROFESSIONAL ENGINEER

ADDENDUM TO PART 3, ITEM E(2)

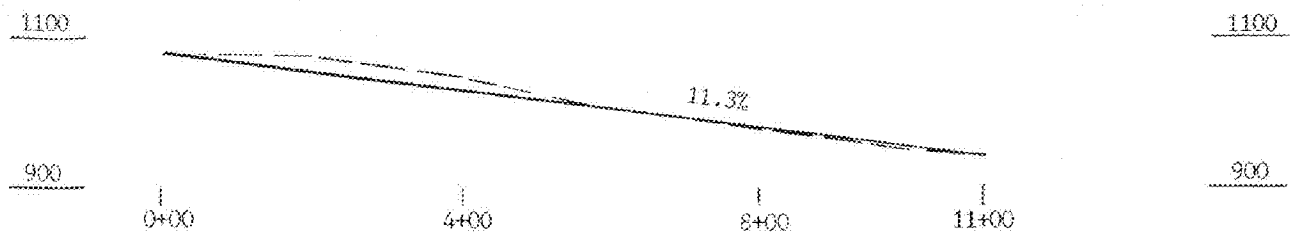
BENNOC, INC.

STREAM "D" RECONSTRUCTION

SITUATED IN SECTION 3, T-6, R-5
WAYNE TWP., BELMONT CO., OH.

DONALD M. BRAFFORD, P.E.

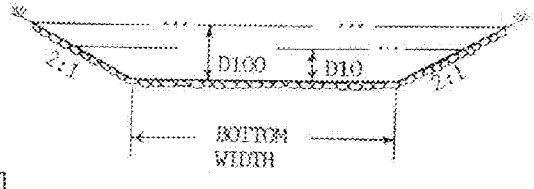
AEC 193773



STREAM "E" PROFILE

SCALE
HORZ. : 1" = 200'
VERT. : 1" = 200'

Proposed G
Existing Grade

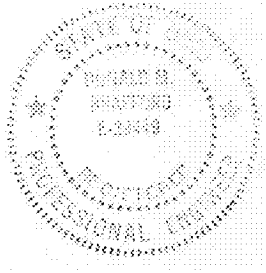


TYPICAL CHANNEL
CROSS SECTION
(NOT TO SCALE)

STREAM "E" RECONSTRUCTION PLANS
CURVE NUMBER : 80
RAINFALL 10 YR/6 HR : 2.8"
RAINFALL 100 YR/6 HR : 3.8"

STATION	WATER-SHED	Q 10 YR/ 6 HR	Q 100 YR/ 6 HR	GRADE	BOTTOM WIDTH	D10	D100	V10 FPS	V100 FPS	CHANNEL TYPE	ROCK SIZE
0+00 - 11+00	45.7 AC	38 CFS	67 CFS	11.3%	4'	0.9'	1.2'	7.3	9.0	ROCK	18"

NOTE: 25% OF THE ROCK BY VOLUME WILL BE THE SIZE NOTED OR SLIGHTLY LARGER. THE REMAINING 75% OR LESS WILL BE OF WELL GRADED MATERIAL, SMALLER THAN THE SIZE NOTED INCLUDING SUFFICIENT SANDS AND GRAVELS TO FILL THE VOIDS BETWEEN THE LARGER ROCK. ALL ROCK SHALL BE OF DURABLE MATERIAL. BEDDING MATERIAL WILL BE 6" OF ODOT NO. 3, NO. 4, OR NO. 357 CRUSHED STONE, GRAVEL OR SLAG.



ADDENDUM TO PART 3, ITEM E(2)

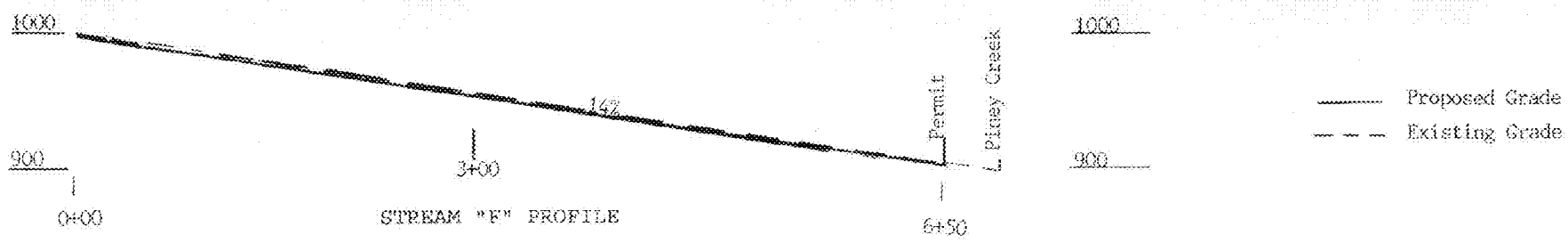
BENNOC, INC.

STREAM "E" RECONSTRUCTION

SITUATED IN SECTION 3, T-6, R-5
WAYNE TWP., BELMONT CO., OH.

Donald M. Brafford, P.E.

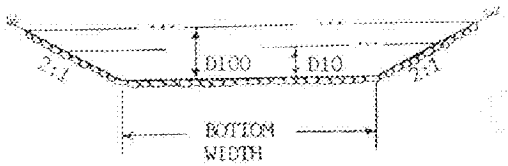
DONALD M. BRAFFORD, P.E.



STREAM "F" PROFILE

SCALE:
HORZ. 1" = 100'
VERT. 1" = 100'

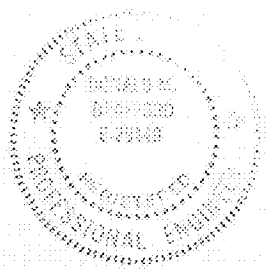
STREAM "F" RECONSTRUCTION PLANS
CURVE NUMBER : 80
RAINFALL 10 YR/6 HR = 2.8"
RAINFALL 100 YR/6 HR = 3.8"



TYPICAL CHANNEL CROSS SECTION
(NOT TO SCALE)

STATION	WATER-SHED	Q 10 YR/ 6 HR	Q 100 YR/ 6 HR	GRADE	BOTTOM WIDTH	D10	D100	V10 FPS	V100 FPS	CHANNEL TYPE	ROCK SIZE
0+00-6+50	30.8 AC	33 CFS	56 CFS	14 %	4.0'	0.8'	1.0'	7.4	9.1	ROCK	12"

NOTE: 25% OF THE ROCK BY VOLUME WILL BE THE SIZE NOTED OR SLIGHTLY LARGER. THE REMAINING 75% OR LESS WILL BE OF WELL GRADED MATERIAL, SMALLER THAN THE SIZE NOTED INCLUDING SUFFICIENT SANDS AND GRAVELS TO FILL THE VOIDS BETWEEN THE LARGER ROCK. ALL ROCK SHALL BE OF DURABLE MATERIAL. BEDDING MATERIAL WILL BE 6" OF ODOT NO. 3, NO. 4, OR NO. 357 CRUSHED STONE, GRAVEL OR SLAG.



ADDENDUM TO PART 3, ITEM E(2)

BENNOC, INC.

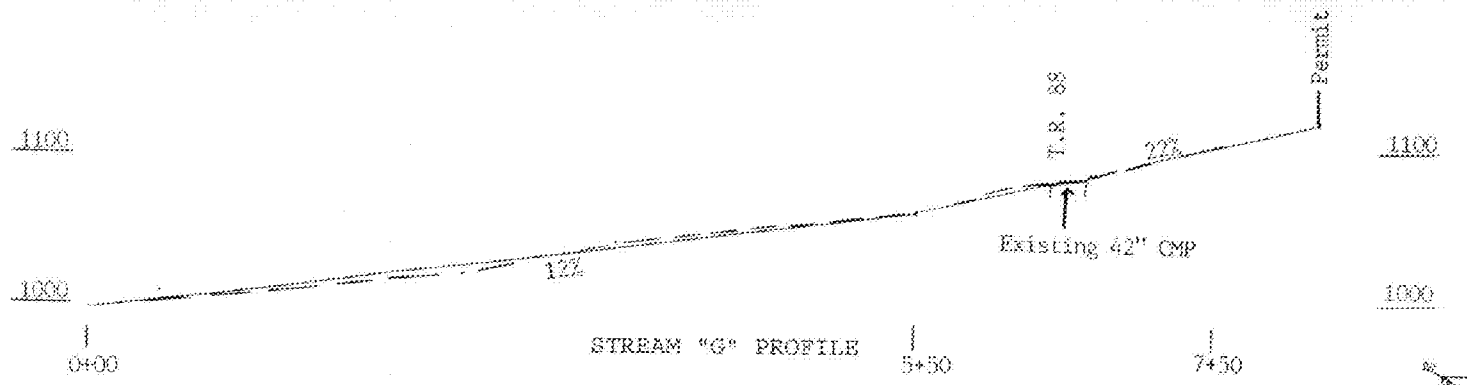
STREAM "F" RECONSTRUCTION

SITUATED IN SECTION 3, T-6 R-5
WAYNE TWP., BELMONT COUNTY,
OHIO

Donald M. Erafford, P.E.

DONALD M. ERAFFORD, P.E.

AEC 19375

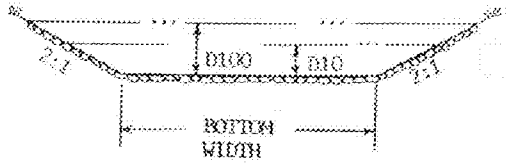


STREAM "G" PROFILE

SCALE:
HORZ. 1" = 100'
VERT. 1" = 100'

Proposed Grade
Existing Grade

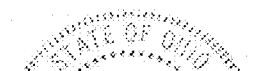
STREAM "G" RECONSTRUCTION PLANS
CURVE NUMBER : 80
RAINFALL 10 YR/6 HR = 2.8"
RAINFALL 100 YR/6 HR = 3.8"



TYPICAL CHANNEL CROSS SECTION
(NOT TO SCALE)

STATION	WATER-SHED	Q 10 YR/6 HR	Q 100 YR/6 HR	GRADE	BOTTOM WIDTH	D10	D100	V10 FPS	V100 FPS	CHANNEL TYPE	ROCK SIZE
0+00-5+50	19.0 AC	20 CFS	35 CFS	12 %	4.0'	0.4'	0.6'	6.5	6.6	ROCK	8"
5+50-7+50	10.6	11 CFS	19 CFS	22 %	4.0'	0.6'	0.9'	6.6	7.2	ROCK	8"

NOTE: 25% OF THE ROCK BY VOLUME WILL BE THE SIZE NOTED OR SLIGHTLY LARGER. THE REMAINING 75% OR LESS WILL BE OF WELL GRADED MATERIAL, SMALLER THAN THE SIZE NOTED INCLUDING SUFFICIENT SANDS AND GRAVELS TO FILL THE VOIDS BETWEEN THE LARGER ROCK. ALL ROCK SHALL BE OF DURABLE MATERIAL. BEDDING MATERIAL WILL BE 6" OF ODOT NO. 3, NO. 4, OR NO. 357 CRUSHED STONE, GRAVEL OR SLAG.



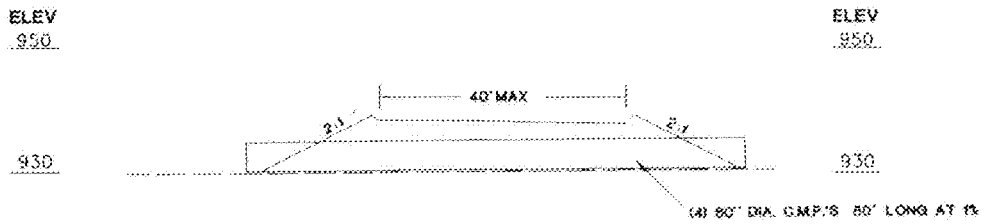
ADDENDUM TO PART 3, ITEM E(2)

BENNOC, INC.

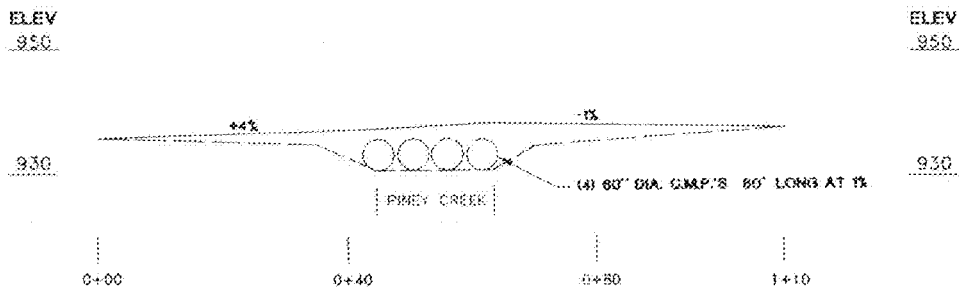
STREAM "G" RECONSTRUCTION

SITUATED IN SECTION 3, T-6 R-5
WAYNE TWP., BELMONT COUNTY,
OHIO

DONALD M. BRAFFORD, P.E.



CROSS-SECTION 0+51
SCALE: 1" = 20'



PROPOSED GRADE
EXISTING GRADE

STREAM CROSSING 001
PROFILE
SCALE: 1" = 20'

DESIGN DATA 60" C.M.P.'S
(1) DRAINAGE AREA: 3910 AC.
(2) SCS RUNOFF CN: 75
(3) Q PEAK 10YR/6HR: 673 cfs
(4) RAINFALL 10YR/6HR: 2.8"
(5) REQUIRED HEADWATER: 7.0'

STATE OF OHIO
DONALD M. BRAFFORD
E-28443
REGISTERED
PROFESSIONAL ENGINEER

STREAM CROSSING 001

ADDENDUM TO PART 3, ITEM E(2) BENNOC, INC.
STREAM CROSSING 001

SECTION : 3	TOWNSHIP : 6	RANGE : 5
TOWNSHIP : WAYNE	COUNTY : BELMONT	

Donald M. Brafford PE — DONALD M. BRAFFORD, P.E.
7-29-97 — DATE

ORIGINALS

1988

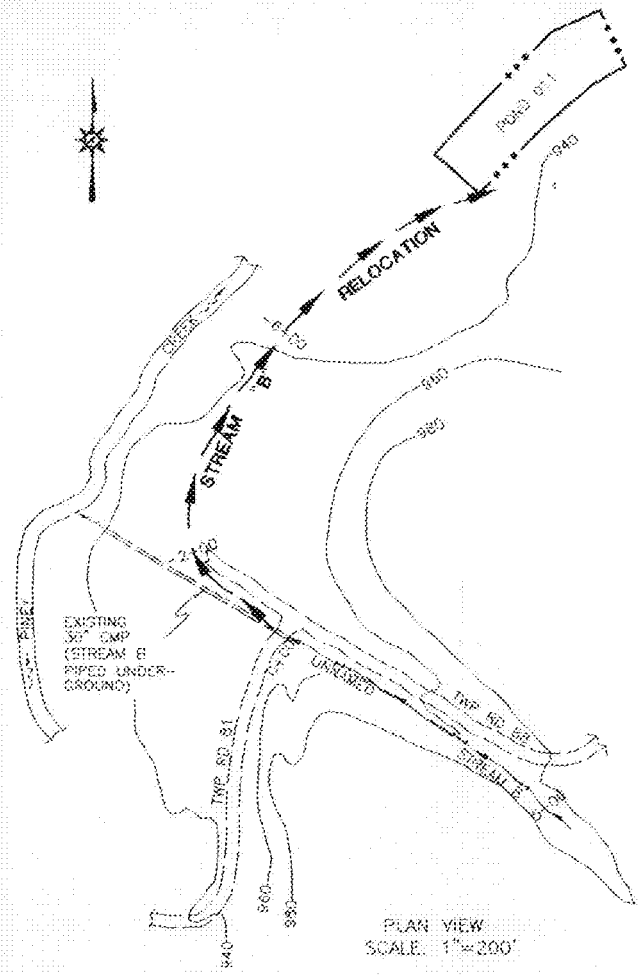
AEC 193777

ADDENDUM TO PART 3, ITEM E(3) (Page 2 of 2)
N.S.P.S.
(NEW SOURCE PERFORMANCE STANDARDS)

FINAL EFFLUENT LIMITATIONS
EFFECTIVE AFTER JUNE 3, 1997

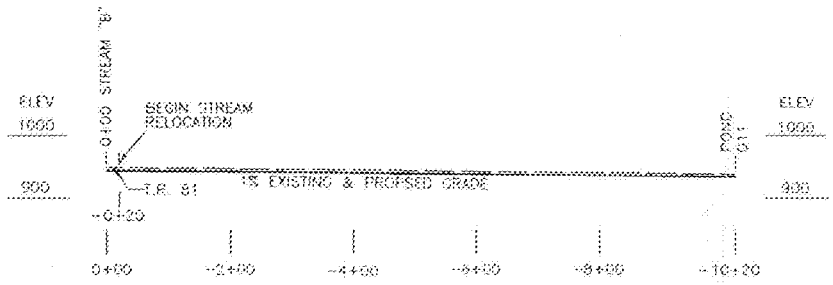
	pH	T.S.S. in mg/l 30 Day/Daily	Fe in mg/l 30 Day/Daily	Mn in mg/l 30 Day/Daily	S.S. in ml/l
1. Discharge from underground workings of underground mines - not commingled	6.5-9.0	35.0 / 70.0	1.4 / 6.0	2.0 / 4.0	
2. Discharge from underground workings of underground mines - commingled					
a) less than or equal to 10 Yr/24Hr	6.5-9.0	35.0 / 70.0	1.4 / 6.0	2.0 / 4.0	
b) greater than 10 Yr/24 Hr	6.5-9.0				
3. Controlled surface mine drainage					
a) less than or equal to 10 Yr/24Hr	6.5-9.0	35.0 / 70.0	1.4 / 6.0	2.0 / 4.0	
b) greater than 10 Yr/24 Hr	6.5-9.0				
4. Non-controlled surface mine drainage (except steep slope and mountaintop removal)					
a) no precipitation 24 Hr.	6.5-9.0	35.0 / 70.0	1.4 / 6.0	2.0 / 4.0	
b) less than 2 Yr/24 Hr	6.5-9.0		1.4 / 7.0		0.5
c) greater than 2 Yr/24 Hr less than or equal to 10 Yr/24 Hr	6.5-9.0		1.4 /		0.5
d) greater than 10 Yr/24 Hr	6.5-9.0				
5. Discharge from coal refuse disposal piles					
a) less than or equal to 1 Yr/24 Hr	6.5-9.0	35.0 / 70.0	1.4 / 6.0	2.0 / 4.0	
b) greater than 1 Yr/24 Hr less than or equal to 10 Yr/24 Hr	6.5-9.0				0.5
c) greater than 10 Yr/24 Hr	6.5-9.0				
6. Discharge from steep slope and mountaintop removal area					
a) no precipitation 24 Hr.	6.5-9.0	35.0 / 70.0	1.4 / 6.0	2.0 / 4.0	
b) less than 10 Yr/24 Hr	6.5-9.0		1.4 /		0.5
c) greater than 10 Yr/24 Hr	6.5-9.0				
7. Discharges from preparation plant associated areas (excluding coal refuse piles) and preparation plants					
a) no precipitation 24 Hr.	6.5-9.0	35.0 / 70.0	1.4 / 6.0	2.0 / 4.0	
b) less than 10 Yr/24 Hr	6.5-9.0				0.5
c) greater than 10 Yr/24 Hr	6.5-9.0				
8. Discharges from Reclamation Areas					
a) less than 10 Yr/24 Hr	6.5-9.0				0.5
b) greater than 10 Yr/24 Hr	6.5-9.0				

ORIGINAL



PLAN VIEW
SCALE: 1"=200'

TYPICAL CHANNEL CROSS SECTION
NTS



STREAM RELOCATION PROFILE
SCALE: 1"=200'

STREAM "B" TEMPORARY RELOCATION

ADDENDUM TO PART 3, ITEM H(2) BENNOC, INC.
TEMPORARY STREAM RELOCATION

SECTION : 3	TOWNSHIP : 6	RANGE : 5
TOWNSHIP : WAYNE	COUNTY : BELMONT	

CHANNEL	LENGTH OF CHANNEL RELOCATION	DRAINAGE AREA (AC)	REQUIRED CFS	GRADE	SIDE SLOPES	DEPTH OF FLOW	BOTTOM WIDTH	TOP WIDTH	VELOCITY (FT/SEC)	CHANNEL TYPE
STREAM B	1000'	47.9	34 CFS	1%	2:1	2.4'	3.0'	11.6'	3.7	VEGETATION

STORM DESIGN : 10 YEAR/6 HOUR

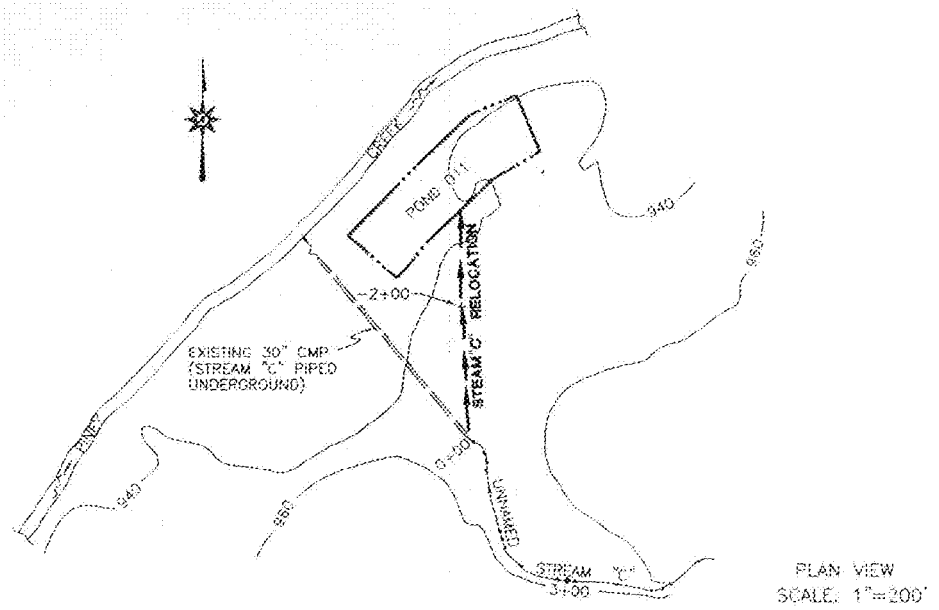
STATE OF OHIO
DONALD M. BRADFORD
E-23143
REGISTERED
PROFESSIONAL ENGINEER

Donald M. Bradford, P.E. 7-30-97
DONALD M. BRADFORD, P.E. DATE

ORIGINAL

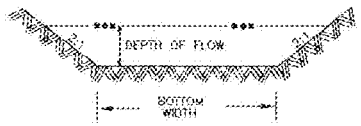
1863

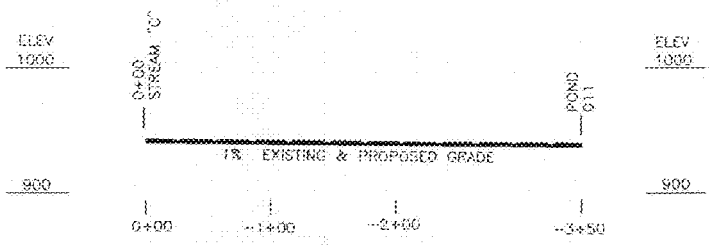
AEIC 193799



PLAN VIEW
SCALE: 1"=200'

TYPICAL CHANNEL
CROSS SECTION
NTS





STREAM RELOCATION
PROFILE
SCALE: 1"=100'

CHANNEL	LENGTH OF CHANNEL RELOCATION	DRAINAGE AREA (AC)	REQUIRED CFS	GRADE	SIDE SLOPES	DEPTH OF FLOW	BOTTOM WIDTH	TOP WIDTH	VELOCITY (FT/SEC)	CHANNEL TYPE
STREAM C	350'	67.5	49 CFS	1%	2:1	2.6'	2.0'	12.4'	4.2	VEGETATION

STORM DESIGN : 10 YEAR/6 HOUR

STATE OF OHIO
DONALD M. BRAFFORD
E-6849
REGISTERED
PROFESSIONAL ENGINEER

STREAM "C" TEMPORARY RELOCATION

ADDENDUM TO PART 3, ITEM H(2) BENNOC, INC.
TEMPORARY STREAM RELOCATION

SECTION : 3	TOWNSHIP : 6	RANGE : 5
TOWNSHIP : WAYNE	COUNTY : BELMONT	

Donald M. Brafford, PE — 7-30-97
DONALD M. BRAFFORD, P.E. — DATE

ORIGINAL

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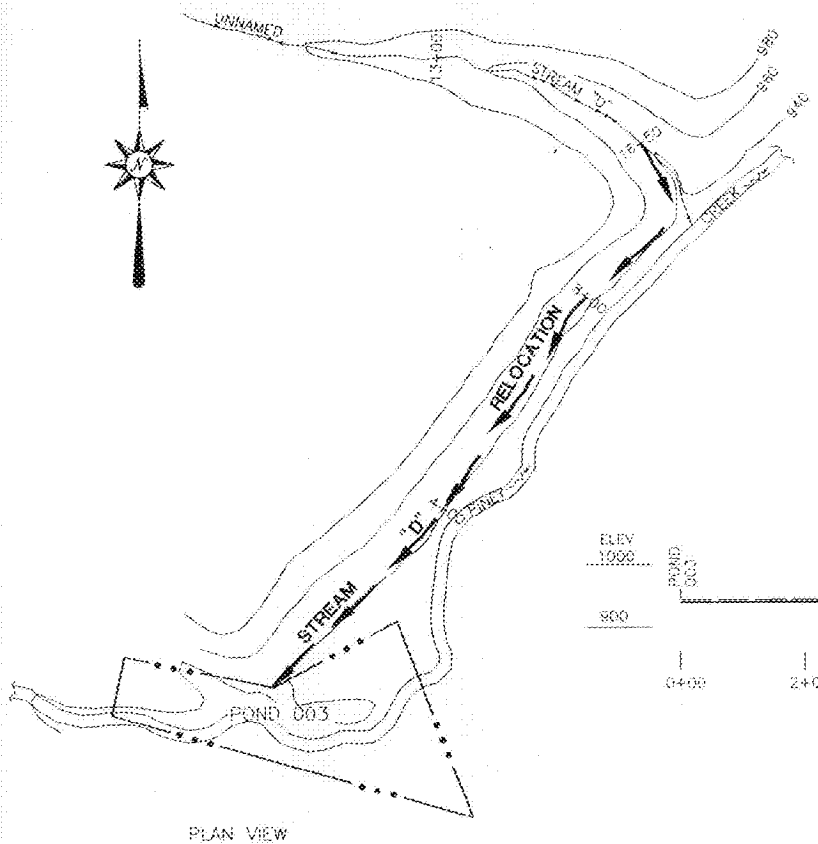
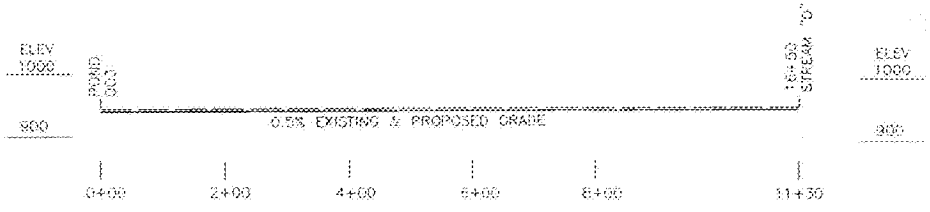
AEC 193880



PLAN VIEW
SCALE: 1"=200'



STREAM RELOCATION
PROFILE
SCALE: 1"=200'

TYPICAL CHANNEL
CROSS SECTION
NTS

CHANNEL	LENGTH OF CHANNEL RELOCATION	DRAINAGE AREA (AC)	REQUIRED CFS	GRADE	SIDE SLOPES	DEPTH OF FLOW	BOTTOM WIDTH	TOP WIDTH	VELOCITY (FT/SEC)	CHANNEL TYPE
STREAM D	1130'	90.1	26 CFS	0.5%	2:1	2.2'	2.0'	12.8'	3.5	VEGETATION

STORM DESIGN 10 YEAR/6 HOUR

STATE OF OHIO
DONALD M. BRADFORD
E-24148
REGISTERED
PROFESSIONAL ENGINEER

STREAM "D" TEMPORARY RELOCATION

ADDENDUM TO PART 3, ITEM H(2) BENNOC, INC.
TEMPORARY STREAM RELOCATION

SECTION : 3	TOWNSHIP : 6	RANGE : 5
TOWNSHIP : WAYNE	COUNTY : BELMONT	

Donald M. Bradford, P.E. 7-30-97
DONALD M. BRADFORD, P.E. DATE

ORIGINAL

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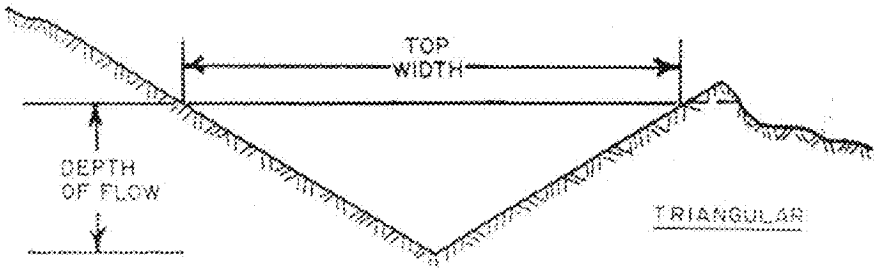
AEC 19381

ADDENDUM TO PART 3, ITEM H (3), BENDOC, INC.
DIVERSION DITCH DESIGN COMPUTATION SHEET

MINE: ALLISON
LOCATION: SECTION 3 & 4, T-6 R-5,
WAYNE TOWNSHIP, BELMONT CO., OH.

D.D.#	LENGTH OF D.D.	DRAINAGE AREA (AC.)	STORM DESIGN	REQ'D. cfs	DESIGN cfs	SLOPE	SIDE SLOPES	DEPTH OF FLOW (MAX.)	TOP WIDTH	VELOCITY (FT./SEC.) (MAX.)
1A	1530'	24.9	2YR/6HR	7.0	7.0	1%	2:1	1.6'	6.4'	1.4
1B	1540'	15.7	2YR/6HR	3.5	3.5	1%	2:1	1.4'	5.6'	0.9
2A	580'	3.0	2YR/6HR	0.8	0.8	1%	2:1	1.1'	4.4'	0.3
2B	800'	6.1	2YR/6HR	1.7	1.7	1%	2:1	1.3'	5.2'	0.5
3A	980'	6.2	2YR/6HR	1.3	1.3	0.5%	2:1	1.5'	6.0'	0.6
3B	450'	33.3	2YR/6HR	5.6	5.6	1%	2:1	2.0'	8.0'	1.7
3C	270'	27.1	2YR/6HR	4.9	4.9	1%	2:1	2.0'	8.0'	1.6
3D	1830'	22.4	2YR/6HR	4.3	4.3	1%	2:1	1.9'	7.6'	1.5
3E	300'	2.4	2YR/6HR	0.7	0.7	1%	2:1	1.0'	4.0'	0.5
4A	500'	1.4	2YR/6HR	0.6	0.6	1%	2:1	1.0'	4.0'	0.5
4B	500'	13.9	2YR/6HR	3.2	3.2	1%	2:1	1.8'	7.2'	1.3
4C	420'	8.5	2YR/6HR	2.3	2.3	1%	2:1	1.6'	6.4'	1.1
4D	1000'	6.1	2YR/6HR	2.6	2.6	1%	2:1	1.7'	6.8'	1.2
5A	870'	8.6	2YR/6HR	2.5	2.5	1%	2:1	1.7'	6.8'	1.2
5B	250'	2.8	2YR/6HR	1.2	1.2	1%	2:1	1.3'	5.2'	0.7
6A	500'	2.2	2YR/6HR	0.9	0.9	1%	2:1	1.2'	4.8'	0.7
6B	370'	1.6	2YR/6HR	0.7	0.7	1%	2:1	1.0'	4.0'	0.5
11A	500'	7.5	2YR/6HR	3.2	3.2	1%	2:1	1.4'	5.6'	0.9
11B	1000'	108.3	2YR/6HR	2.3	2.3	1%	2:1	2.1'	8.4'	2.7



Donald M. Bradford, P.E.

Date: 11-12-97

ORIGINAL

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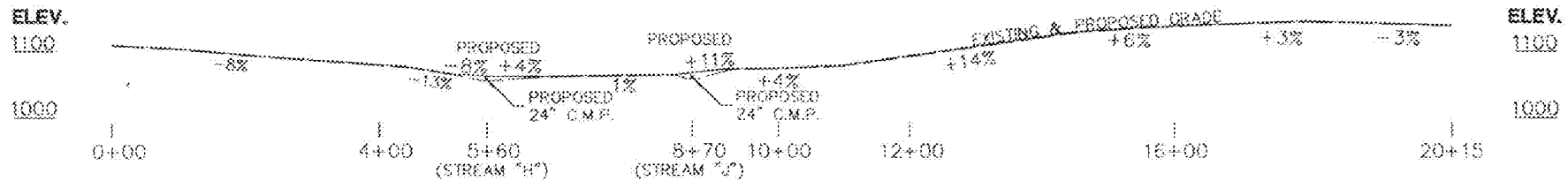
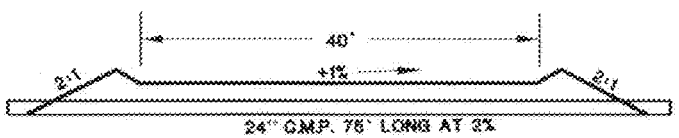
AEC 19382



PRIMARY ROAD 001
PROFILE
SCALE: 1" = 200'

NOTE: 10' X 5' X 2' SUMPS WILL BE CONSTRUCTED @ 5+00 & 9+30



TYPICAL X-SECTION
NOT TO SCALE

DESIGN DATA 24" C.M.P. @ 5+60

(1) DRAINAGE AREA : 57.0 AC.
(2) SCS RUNOFF CN : 72
(3) RAINFALL 10YR/6HR : 2.8"
(4) Q PEAK 10YR/6HR : 22 cfs
(5) REQUIRED HEADWATER : 5.0'

DESIGN DATA 24" C.M.P. @ 8+70

(1) DRAINAGE AREA : 47.7 AC.
(2) SCS RUNOFF CN : 73
(3) RAINFALL 10YR/6HR : 2.8"
(4) Q PEAK 10YR/6HR : 23 cfs
(5) REQUIRED HEADWATER : 5.0'

PRIMARY ROAD 001

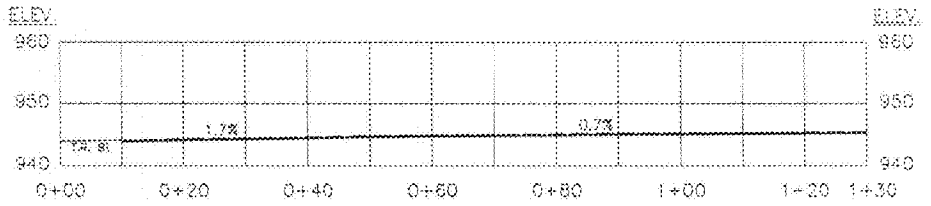
ADDENDUM TO PART 3, ITEM K(1) BENNOC, INC.
PRIMARY ROAD 001

SECTION : 3	TOWNSHIP : 6	RANGE : 5
TOWNSHIP : WAYNE	COUNTY : BELMONT	

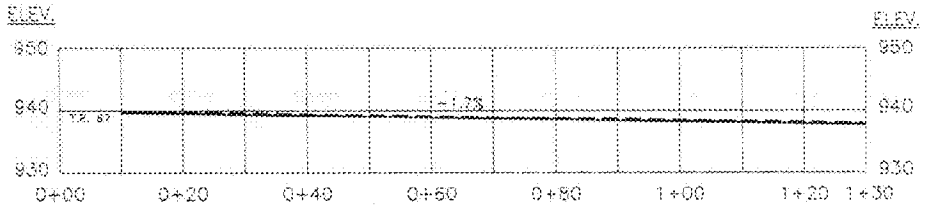
Donald M Brafford, P.E. — 3-3-97
DONALD M. BRAFFORD, P.E. — DATE

AEC 193883

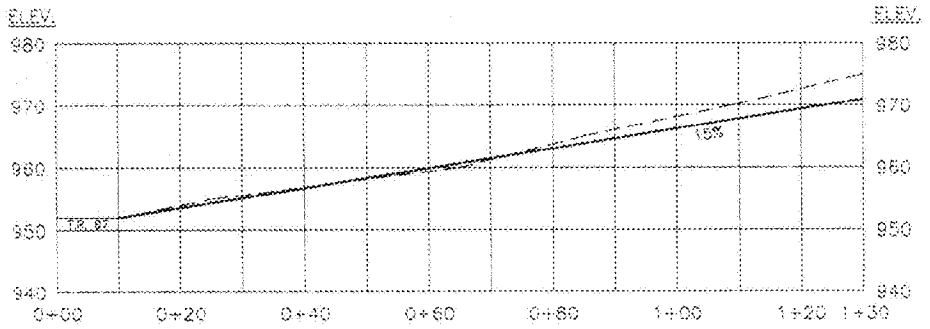
ORIGINAL



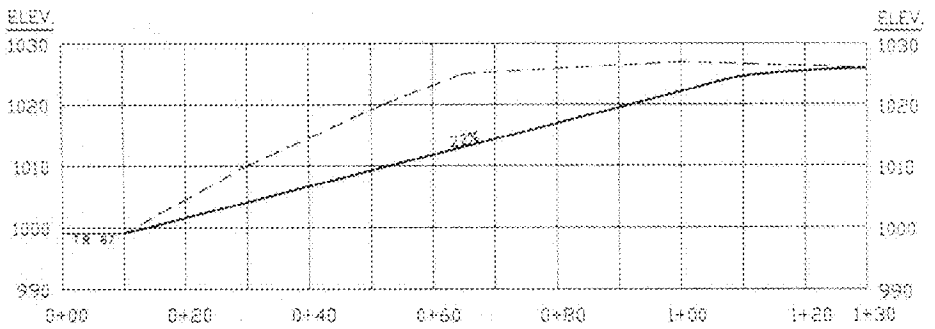
PROFILE PRIMARY ROAD 005



PROFILE PRIMARY ROAD 004



PROFILE PRIMARY ROAD 003



PROFILE PRIMARY ROAD 002

EXISTING GRADE

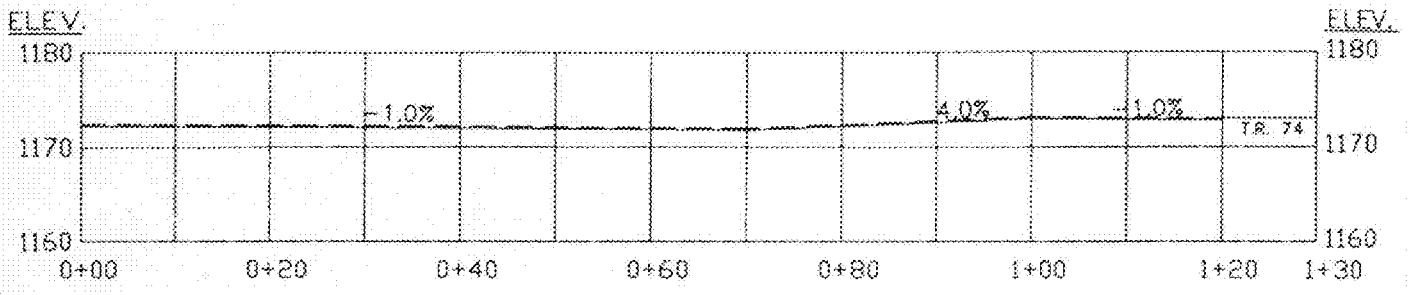
PROPOSED GRADE

STATE OF OHIO
DONALD M. BRUNFORD
E-
REGISTERED
LEGAL ENGINEER

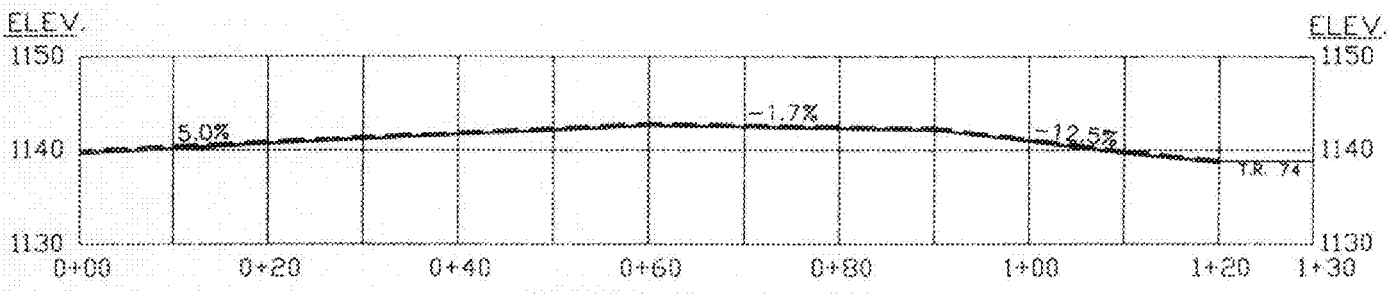
11-12-97

ADDENDUM TO PART 3, ITEM K(1), BENNOC, INC.
PRIMARY ROADS 002, 003, 004, & 005

SECTIONS: 3	TOWNSHIP: 6	RANGE: 5
TOWNSHIP: WAYNE	COUNTY: BELMONT	
SCALE: 1"=20'		
DATE: 11/11/97	COMM.# 625	



PROFILE PRIMARY ROAD 007



PROFILE PRIMARY ROAD 006

— — — EXISTING GRADE

——— PROPOSED GRADE

STATE OF OHIO
DONALD M. BRAFFORD
E-29449
REGISTERED PROFESSIONAL ENGINEER

11-12-97

ADDENDUM TO PART 3, ITEM K(1), BENNOC, INC. PRIMARY ROADS 006 AND 007		
SECTIONS: 4	TOWNSHIP: 6	RANGE: 5
TOWNSHIP: WAYNE	COUNTY: BELMONT	
SCALE: 1"=20'		
DATE: 11/11/97	COMM.# 625	

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AEC 19385

STEEP SLOPE MINING

The application map indicates the specific areas which contain slopes of 30 degrees or steeper in the No. 11 and No. 12 coal seam mining. To insure the post-mining stability of these areas, this slope stability analysis has been prepared using the steepest area encountered and the following mining implementation plan has been prepared.

I. SLOPE STABILITY ANALYSIS

One section located at the steepest area in the proposed mining area has been analyzed. This section is designated on the attached exhibit map as cross-section A-A'. The stability of this section has been calculated using the REAME (Rotational Equilibrium Analysis of Multilayered Embankments) computer program developed by Yang H. Huang, Sc.D. of the University of Kentucky. The REAME program is a personal computer adaptation based on the simplified Bishop method of slope evaluation.

The information gathered from the test boring logs of Test Holes #1, #2, #3 and #4 was used as a base to derive a conservative model of the strength parameters of the spoil material. By using soil characteristics and analyses performed on common spoils material encountered in similar mining conditions, the following coefficients were selected for use: phi = 29.2, cohesion = 220 psf and a unit weight of 123.3 pcf. The previous values reflect conservative coefficients for spoil materials.

The strata below the No. 11 and No. 12 coal seams has been determined by using Test holes #1, #2, #3 and #4. The boring logs for these test holes are provided in this permit. The location of these test holes is also shown on the attached exhibit map. These logs indicate that the dominant material directly below the No. 11 and No. 12 coal seams is claystone. Conservative strength values of phi = 26 degrees, cohesion = 1660 psf and a unit weight of 108 pcf, as listed on page 36 of Stability Analysis of Earth Slopes, by Yang H. Huang, Sc. D., have been used in this analysis.

The results of the analysis is contained in the following pages.

II. Mining Implementation Plan

The following guidelines have been prepared for mining and reclamation practices which will promote the stability of the final reclaimed steep slopes.

A. Drainage and Erosion Control

In order to promote the stability of the following procedures will be implemented to minimize erosion and maintain the lowest practical phreatic surface in the backfill material.

1. Temporary diversion ditches will be installed across the backfill as necessary to minimize erosion. These channels will be lined or protected.

2. To protect the strata beneath the No. 11 and No. 12 coal seams, which could potentially be less stable if saturated, care will be taken so that the existing claystone is left in place. The claystone will be compacted by the equipment used in coal removal.

ORIGINAL

3. Cross-drains will be installed in natural low areas of the pit floor in locations dictated by site conditions to reduce saturation of the spoil and dewater the impervious claystone underlying the coal seam. Installation of the drains will take place after coal removal operations are completed and prior to backfilling the pit. The pit foreman will determine spacing as well as where and when the drains will be installed to avoid creation of slip conditions. (See Typical Drain Cross Section Addendum)

4. Riprap will be provided on the slope below the discharge of the cross-drains as needed.

B. Material Placement and Compaction

The following procedures will be implemented to assure that material placement will promote stability of the final reclaimed fill.

1. Material subject to decaying or rust deterioration such as organics and metals shall not be placed in the fill in steep slope areas.

2. All backfill material will be placed in lifts not to exceed two feet in thickness and will be compacted by rubber tired haulage equipment such as trucks, scrapers and front end loaders and cleated equipment such as dozers.

3. The entire highwall will be covered with compacted spoil material.

4. The applicant will initiate an on going program to examine materials prior to placement in the steep slope areas. Materials having strength properties unsuitable for placement in the steep slope areas will not be placed in them.

C. General

To supplement and enhance the previously described procedures to provide for slope stability the applicant will also utilize the following measures.

1. The applicant will complete mining operations and backfilling at certain sites in the No. 11 and No. 12 pits other than steep slope areas prior to affecting the steep slope areas. This chronology of mining will enable the applicant to gain additional knowledge of and experience at handling similar overburden material and topography.

2. The applicant will employ professional engineer(s) and/or geologist(s) to re-examine post-mining steep slope stability after step 1., above, has been accomplished. Evaluation of step 1. by professional engineer(s) and/or geologist(s) will provide additional information to determine post-mining stability of the steep slope areas with a high level of assuredness. Based on these evaluations, the applicant reserves the right to decline to mine any or all of the steep slope areas.

3. The applicant is cognizant of changing technologies in reclamation and will remain abreast of these changes. The applicant will, employ, where practical and feasible, proven new technologies in the reclamation of the steep slope areas.

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ADDENDUM TO PART 4, ITEM C
BENNOC, INC.

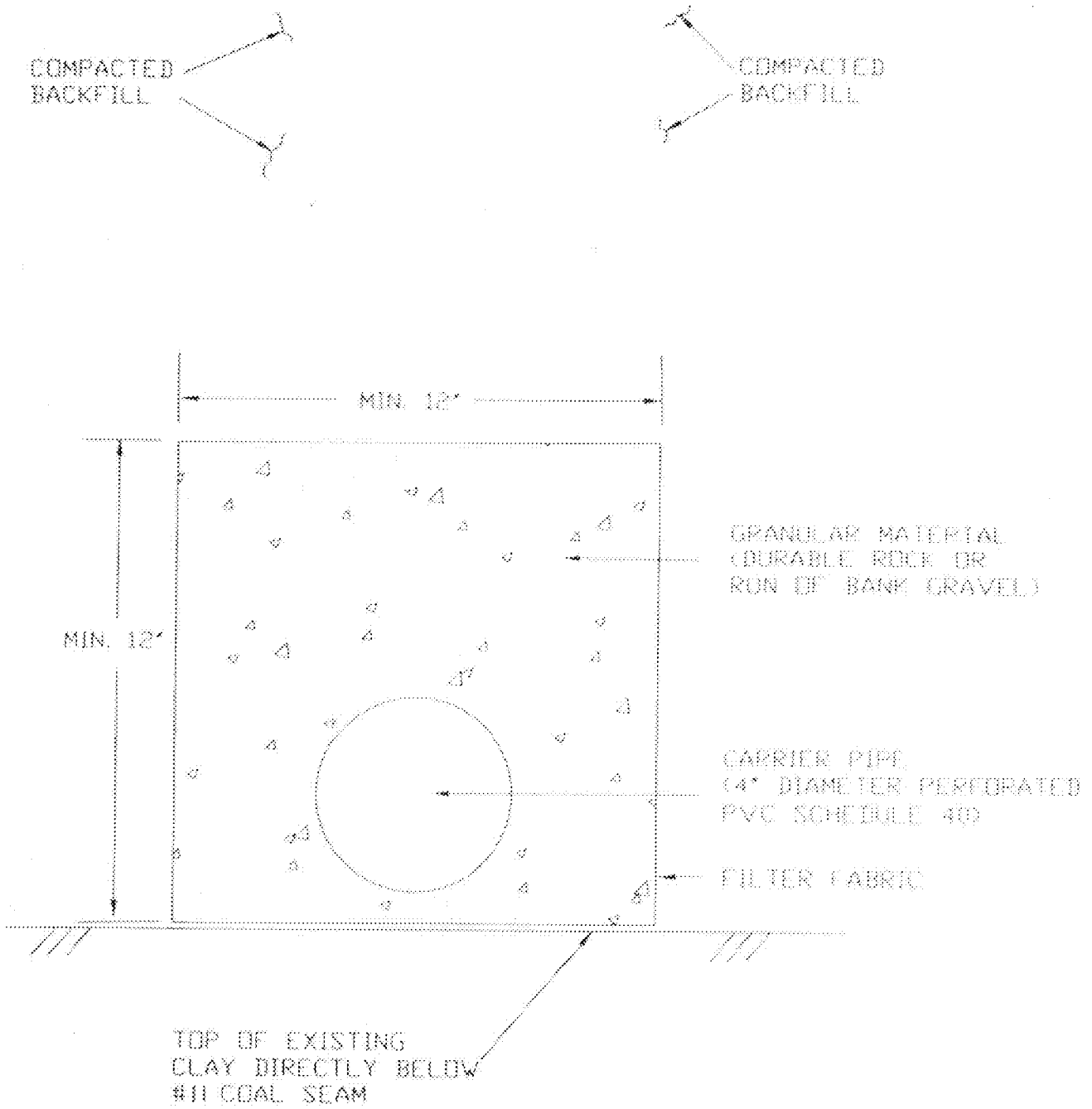
STEEP SLOPE STABILITY ANALYSIS MAP

PRE-MINING STEEP SLOPE AREAS
(20° OR STEEPER)

PERMIT LIMITS

MAP SHOWS STEEP SLOPE AREAS LOCATED IN SECTION 3, T-6 R-8, WAYNE TWP., BELMONT COUNTY, OHIO.

DATE: 3/4/94 (NOT TO SCALE)



ADDENDUM TO PART 4, ITEM C

ORIGINAL

STATE OF OHIO
DONALD M. BRAFFORD
E-43010
REGISTERED
PROFESSIONAL ENGINEER

BENNOC, INC.

TYPICAL CROSS SECTION
CROSS-DRAINS

SECTIONS 3 & 4, T-6, R-5, WAYNE TOWNSHIP,
BELMONT COUNTY, OHIO

Donald M. Brafford P.E.

DONALD M. BRAFFORD, P.E.

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-REAME,BASIC, MAY 1, 1991  RSION
COPYRIGHT, CIVIL ENGINEE  G SOFTWARE CENTER
UNIVERSITY OF KENTUCKY, LEXINGTON, KY 40506

FILE NAME -625A

  PUT FROM FILE (NINPUT)?(ENTER 1 WHEN INPUT FROM FILE & 0 WHEN NOT) 1


TITLE -SLOPE STABILITY ANALYSIS

NO. OF STATIC AND SEISMIC CASES- 1

CASE NO. 1     SEISMIC COEFFICIENT= 0

NO. OF BOUNDARY LINES= 3

NO. OF POINTS ON BOUNDARY LINE 1 = 5
 1  X COORD.= 58              Y COORD.= 1050
 2  X COORD.= 65              Y COORD.= 99
 3  X COORD.= 65              Y COORD.= 987
 4  X COORD.= 66              Y COORD.= 983
 5  X COORD.= 160             Y COORD.= 983

NO. OF POINTS ON BOUNDARY LINE 2 = 4
 1  X COORD.= 58              Y COORD.= 1050
 2  X COORD.= 65              Y COORD.= 990
 3  X COORD.= 65              Y COORD.= 987
 4  X COORD.= 156             Y COORD.= 987

  . OF POINTS ON BOUNDARY LINE 3 = 3
 1  X COORD.= 58              Y COORD.= 1050
 2  X COORD.= 156             Y COORD.= 987
 3  X COORD.= 160             Y COORD.= 983

LINE NO. AND SLOPE OF EACH SEGMENT ARE:
 1        -135.857 +99999.000      -4.000      +0.000
 2          -8.571 +99999.000      +0.000
 3          -0.643      -1.000

MIN. DEPTH OF TALLEST SLICE= 0
NO. OF RADIUS CONTROL ZONES= 1

RADIUS DECREMENT FOR ZONE 1 = 0
NO. OF CIRCLES FOR ZONE 1 = 5
ID NO. FOR FIRST CIRCLE FOR ZONE 1 = 1
NO. OF BOTTOM LINES FOR ZONE 1 = 1

FOR ZONE 1     LINE SEQUENCE 1
LINE NO.= 1    BEG. NO.= 1    END NO.= 5

SOIL NO.       COHESION       FRIC. ANGLE    UNIT WEIGHT
 1              1600           26             108
 2              220            29.2           124

  E PHREATIC SURFACE
  IT WEIGHT OF WATER= 62.4
USE GRID
NO. OF SLICES= 10              NO. OF ADD. RADII= 3

NO. OF POINTS ON WATER TABLE= 5
 1  X COORD.= 58              Y COORD.= 990
```

ORIGINAL

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NO. OF POINTS ON WATER T E= 5
1 X COORD.= 58 Y COORD.= 990
2 X COORD.= 65 Y COORD.= 990
3 X COORD.= 65 Y COORD.= 987
4 X COORD.= 156 Y COORD.= 987
5 X COORD.= 160 Y COORD.= 983

NO. OF SOILS WITH DIFFERENT WATER TABLE= 0
NO. OF SOILS WITH DIFFERENT PORE PRESSURE RATIO= 0

INPUT COORD. OF GRID POINTS 1,2,AND 3

POINT 1 X COORD.= 180 Y COORD.= 1150
POINT 2 X COORD.= 180 Y COORD.= 1040
POINT 3 X COORD.= 100 Y COORD.= 1040

X INCREMENT= 12 Y INCREMENT= 8
NO. OF DIVISIONS BETWEEN POINTS 1 AND 2= 5
NO. OF DIVISIONS BETWEEN POINTS 2 AND 3= 4
ONLY F. S. AT EACH CENTER WILL BE PRINTED
SLICES WILL BE SUBDIVIDED

AUTOMATIC SEARCH WILL FOLLOW AFTER GRID

WARNING IN THE FOLLOWING TABLE INDICATES HOW MANY TIMES THE
MAXIMUM RADIUS IS LIMITED BY THE END POINTS OF GROUND LINES

CENTER X COORDINATE	CENTER Y COORDINATE	NO. OF CIRCLE TOTAL	CRITIC.	RADIUS	LOWEST F.S.	WARNING
180	1150	5	1	157.747	1.579	0
180	1138	11	8	142.820	1.410	0
180	1126	11	7	131.154	1.572	0
180	1084	11	8	100.025	1.911	0
180	1062	11	10	78.779	2.783	0
180	1040	5	1	60.407	5.702	0
160	1150	5	1	142.843	2.292	0
160	1128	5	1	128.406	1.598	0
160	1106	5	1	116.362	1.373	0
160	1084	11	6	96.689	1.425	0
160	1062	11	7	74.875	1.560	0
160	1040	11	3	52.898	1.854	0
140	1150	5	1	129.321	6.590	0
140	1128	5	1	113.172	2.451	0
140	1106	5	1	99.298	1.609	0
140	1084	5	1	88.769	1.411	0

ORIGINAL

160	1040	11	3	52.898	1.854	0
140	1150	5	1	129.321	6.590	0
140	1128	5	1	113.172	2.451	0
140	1106	5	1	99.298	1.609	0
140	1084	5	1	88.769	1.411	0
140	1062	11	2	74.087	1.468	0
140	1040	11	2	52.786	1.603	0
120	1150	1	1	117.661	1000000.000	0
120	1128	5	1	99.639	10.677	0
120	1106	5	1	83.546	2.628	0
120	1084	5	1	70.711	1.617	0
120	1062	5	1	63.151	1.537	0
120	1040	11	10	41.058	1.740	0
100	1150	1	1	108.462	1000000.000	0
100	1128	1	1	88.589	1000000.000	0
100	1106	3	1	70.000	27.802	0
100	1084	5	1	54.037	2.784	0
100	1062	5	1	43.681	1.684	0
100	1040	11	8	26.731	2.004	0

AT POINT (160 1106)RADIUS 116.362

THE MINIMUM FACTOR OF SAFETY IS 1.373

ORIGINAL

WARNING IN THE FOLLOWING TABLE INDICATES HOW MANY TIMES THE MAXIMUM RADIUS IS LIMITED BY THE END POINTS OF GROUND LINES

CENTER X COORDINATE	CENTER Y. COORDINATE	NO. OF CIRCLE TOTAL	CRITIC.	RADIUS	LOWEST F.S.	WARNING
160	1106	5	1	116.362	1.373	0
172	1106	11	6	119.876	1.434	0
148	1106	5	1	106.000	1.480	0
160	1114	5	1	120.416	1.434	0
160	1098	11	7	111.010	1.364	0
160	1090	11	6	102.451	1.402	0

1363

11/92

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION
ATTACHMENT 1
(OWNERS AND CONTROLLERS)

Applicant's Name BENNOC, INC.

This attachment is to be completed and submitted with the permit application if the applicant is other than a single proprietorship. Provide the following for all partners, officers, directors, stockholders owning ten percent or more of any class of voting stock or other instruments of ownership, and any other person performing a function similar to a director. If any person listed is a business entity and not an individual, also complete an Attachment 1 for that person.

Name of business entity BENNOC, INC.

Name RAWLEY LEE CONWAY, AKA R. LEE CONWAY
Street address 41020 BETHESDA-BELMONT ROAD
City BETHESDA State OHIO Zip 43719
EIN _____, or SSN ____
Title of position within entity SECRETARY/TREASURER
Date position assumed/ended (if applicable) 5-1-81 /
Percent of ownership 68% Date of ownership 5-1-68
Location in organizational structure SECRETARY/TREASURER

Name LARRY CONWAY
Street address 60962 SANDY RIDGE ROAD
City BARNESVILLE State OHIO Zip 43713
EIN _____, or SSN ____
Title of position within entity PRESIDENT
Date position assumed/ended (if applicable) 5-1-81 /
Percent of ownership 16% Date of ownership 5-1-81
Location in organizational structure PRESIDENT

Name DAVID CONWAY
Street address 60750 SANDY RIDGE ROAD
City BARNESVILLE State OHIO Zip 43713
EIN _____, or SSN ____
Title of position within entity VICE PRESIDENT
Date position assumed/ended (if applicable) 5-1-81 /
Percent of ownership 16% Date of ownership 5-1-81
Location in organizational structure VICE PRESIDENT

Submit and identify additional pages necessary to complete response.

ORIGINAL 1863

RECEIVED

11/92

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

ATTACHMENT 3
(IDENTIFICATION OF OTHER BUSINESS ENTITIES)

Applicant's Name BENNOC, INC.

This attachment is to be completed and submitted with the permit application if the response to item C.(4) in Part I of the permit application is "yes." A separate attachment is to be submitted for each business entity.

Name of business entity WYOMING POCAHONTAS LAND CO.

Statutory agent GERALD P. DUFF

Street Address 46457 NATIONAL ROAD WEST

City ST. CLAIRSVILLE State OHIO Zip 43950

Person's Name HUBERT PAYNE Position PRESIDENT

Street Address 46457 NATIONAL ROAD WEST

City ST. CLAIRSVILLE State OHIO Zip 43950

Person's Name LAUREN RORRER Position SEC./TREAS.

Street Address 46457 NATIONAL ROAD WEST

City ST. CLAIRSVILLE State OHIO Zip 43950

Person's Name _____ Position _____

Street Address _____

City _____ State _____ Zip _____

Person's Name _____ Position _____

Street Address _____

City _____ State _____ Zip _____

ORIGINAL

11/92

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

ATTACHMENT 3
(IDENTIFICATION OF OTHER BUSINESS ENTITIES)

Applicant's Name BENNOC, INC.

This attachment is to be completed and submitted with the permit application if the response to item C.(4) in Part 1 of the permit application is "yes." A separate attachment is to be submitted for each business entity.

Name of business entity BENNOC, INC.

Statutory agent PETE CHRISTAKIS

Street Address 61753 JOELLA CIRCLE

City ST. CLAIRSVILLE State OHIO Zip 43950

Person's Name LARRY CONWAY Position PRESIDENT

Street Address 60962 SANDY RIDGE ROAD

City BARNESVILLE State OHIO Zip 43713

Person's Name DAVID CONWAY Position VICE-PRESIDENT

Street Address 60750 SANDY RIDGE ROAD

City BARNESVILLE State OHIO Zip 43713

Person's Name LEE CONWAY Position SEC/TREAS

Street Address 41020 BETHESDA-BELMONT ROAD

City BETHESDA State OHIO Zip 43719

Person's Name _____ Position _____

Street Address _____

City _____ State _____ Zip _____

ORIGINAL

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OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

ATTACHMENT 3
(IDENTIFICATION OF OTHER BUSINESS ENTITIES)

Applicant's Name BENNOC, INC.

This attachment is to be completed and submitted with the permit application if the response to item C.(4) in Part I of the permit application is "yes." A separate attachment is to be submitted for each business entity.

Name of business entity BENNOC, INC.

Statutory agent LARRY CONWAY

Street Address 60962 SANDY RIDGE ROAD

City BARNESVILLE State OHIO Zip 43713

Person's Name LARRY CONWAY Position PRESIDENT

Street Address 60962 SANDY RIDGE ROAD

City BARNESVILLE State OHIO Zip 43713

Person's Name DAVID CONWAY Position VICE-PRESIDENT

Street Address 60750 SANDY RIDGE ROAD

City BARNESVILLE State OHIO Zip 43713

Person's Name LEE CONWAY Position SEC/TREAS

Street Address 41020 BETHESDA-BELMONT ROAD

City BETHESDA State OHIO Zip 43719

Person's Name _____ Position _____

Street Address _____

City _____ State _____ Zip _____

ORIGINAL 1363

11/92

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

ATTACHMENT 4
(ADJACENT OWNERS)

Applicant's Name BENNOC, INC.

This attachment is to be completed and submitted with the permit application if the response to item C.(5) in Part 1 of the permit application is "yes".

Name of owner HOWARD & MARILYN PERKINS

Address 55490 BELMONT RIDGE RD.

City BEALLSVILLE State OHIO Zip 43716

X Surface, X Mineral

Name of owner CLIFFORD & HARRIET PERKINS

Address 55430 BELMONT RIDGE RD.

City BEALLSVILLE State OHIO Zip 43716

X Surface, X Mineral

Name of owner JAMES & CONNIE SAFFELL

Address RT. 1

City BEALLSVILLE State OHIO Zip 43716

X Surface, X Mineral

Name of owner C., A., & W. WARD

Address 269 ROOSEVELT ROAD

City BARNESVILLE State OHIO Zip 43713

X Surface, X Mineral

Name of owner

Address

City State Zip

Surface, Mineral

ORIGINAL 1363

11/92

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

ATTACHMENT 5
(PERMIT LISTING)

Applicant's Name BENNOC, INC.

Submit the following information for each coal mining operation owned or controlled by either the applicant or by any person who owns or controls the applicant.

Name of Business Entity BENNOC, INC.
Address 38722 NATIONAL ROAD, P.O. BOX 208
City MORRISTOWN State OHIO Zip 43759
Telephone 614 - 782 - 1330
EIN _____ _____ or SSN (Optional) _____

Permit No.	State	Regulatory Authority	MSHA No. and Date Issued
D-0425	OHIO	ODNR	33-61070 10/22/84

If not previously provided, indicate the ownership or control relationship of the business entity with the applicant, including percent of ownership and location in organizational structure:

ORIGINAL 1303

AEC 19398

Rev. 10/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

Date: February 16, 1994

ATTACHMENT 12
(DRILLING REPORT - SURFACE MINE)

Applicant's Name Bennoc, Inc.

(Check one: ____ core drilled, X rotary air, ____ other (describe) _____) Test Hole # 1

Lithologic Unit (1)	Thickness	pH	$CaCO_3$ Deficiency (1000 Tons)	Neutralization Potential (1000 Tons)	Potential Acidity	Total or Pyritic Sulfur%	Physical Properties (2)	
							Compactible	Erodible
Topsoil	1.5'							
Subsoil	1.5'							
Gray Shale	26'	8.00	- 76.44	79.88	3.44	.11	Moderately	Slightly
Brown/Gray Shale	10'	7.90	- 36.16	42.73	6.56	.21	Moderately	Slightly
Brown Sandy Shale	10'	7.80	- 41.74	42.05	0.31	.01	Moderately	Slightly
Dark Gray Shale	8'	7.90	47.86	10.88	58.73	1.88	Moderately	Slightly
#12 Coal	2.8'	7.70	73.09	9.70	82.79	2.65	Slightly	Very
Gray Claystone	30'	8.90	- 36.56	36.88	0.31	.01	Slightly	Slightly

57' Total thickness 1154 Surface elevation of test hole

Coal Seam Information

Name	Number	Total Sulfur %	Pyrite/Marcasite Sulfur %
Washington	12	2.65	1.77

(1) If subsurface water was encountered, identify the stratum in which it was encountered by an asterisk (*).

(2) Describe any observable physical properties of each stratum (e.g. color, grain size, compactibility, erodibility, etc.).

Réam and Haager Laboratories Lab.#'s: 228094 thru 228099 cc, Jack A. Hamilton & Assoc., Inc.

AEC 19399

Rev. 10/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

Date: February 16, 1994

ATTACHMENT 12
(DRILLING REPORT - SURFACE MINE)

Applicant's Name Bennoc, Inc.

(Check one: ____ core drilled, X rotary air, ____ other (describe) _____) Test Hole # 2

Lithologic Unit (1)	Thickness	pH	$CaCO_3$ Deficiency (1000 Tons)	Neutralization Potential (1000 Tons)	Potential Acidity	Total or Pyritic Sulfur %	Physical Properties (2)	
							Compactible	Erodible
Topsoil	.25'							
Subsoil	.25'							
Brown Clay	14'	7.60	- 20.41	20.73	0.31	.01	Very	Slightly
Gray Shale	3'	8.00	- 78.81	79.13	0.31	.01	Moderately	Slightly
Limestone	2'	8.30	-94.19	94.50	0.31	.01	Moderately	Slightly
Gray Shale	45'	8.30	- 24.87	38.30	13.43	.43	Moderately	Slightly
Coal #12	2.7'	8.80	67.82	17.15	84.97	2.72	Slightly	Very
Gray Claystone	5'	9.10	- 38.96	39.28	0.31	.01	Slightly	Slightly

64.5' Total thickness 1126.41 Surface elevation of test hole

Coal Seam Information

Name	Number	Total Sulfur %	Pyrite/Marcasite Sulfur %
Washington	12	2.72	2.22

(1) If subsurface water was encountered, identify the stratum in which it was encountered by an asterisk (*).

(2) Describe any observable physical properties of each stratum (e.g. color, grain size, compactibility, erodibility, etc.).

Ream and Haager Laboratories Lab.#'s: 228100 thru 228105 cc, Jack A. Hamilton & Assoc., Inc.

AEC 19400

Rev. 10/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

Date: February 16, 1994

ATTACHMENT 12
(DRILLING REPORT - SURFACE MINE)

Applicant's Name Bennoc, Inc.

(Check one: ____ core drilled, X rotary air, ____ other (describe) _____) Test Hole # 3

Lithologic Unit(1)	Thickness	pH	$CaCO_3$ Deficiency (1000 Tons)	Neutralization Potential (1000 Tons)	Potential Acidity	Total or Pyritic Sulfur%	Physical Properties (2)	
							Compactible	Erodible
Topsoil	.25'							
Subsoil	.2'							
Brown Clay	20'	7.70	- 14.36	14.68	0.31	.01	Very	Slightly
Gray Shale	5'	8.20	61.44	15.73	77.16	2.47	Moderately	Slightly
Black & Gray Shale	3'	7.90	20.73	18.33	39.05	1.25	Moderately	Slightly
Gray Shale	45'	8.90	- 64.24	87.05	22.81	.73	Moderately	Slightly
Coal #11	3'	7.80	113.22	13.30	126.52	4.05	Slightly	Very
Gray Claystone	4'	9.10	- 30.31	30.63	0.31	.01	Slightly	Slightly

73.45' Total thickness 1036.79 Surface elevation of test hole

Coal Seam Information

Name	Number	Total Sulfur %	Pyrite/Marcasite Sulfur %
Waynesburg	11	4.05	2.92

(1) If subsurface water was encountered, identify the stratum in which it was encountered by an asterisk (*).

(2) Describe any observable physical properties of each stratum (e.g. color, grain size, compactibility, erodibility, etc.).

Ream and Haager Laboratories Lab.#'s: 228106 thru 228111 cc, Jack A. Hamilton & Assoc., Inc.

AEC 19401

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OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

Date: February 16, 1994

ATTACHMENT 12
(DRILLING REPORT - SURFACE MINE)

Applicant's Name Bennoc, Inc.

(Check one: ____ core drilled, X rotary air, ____ other (describe) _____) Test Hole # 4

Lithologic Unit (1)	Thickness	pH	$CaCO_3$ Deficiency (1000 Tons)	Neutralization Potential (1000 Tons)	Potential Acidity	Total or Pyritic Sulfur%	Physical Properties (2)	
							Compactible	Erodible
Topsoil	.2'							
Subsoil	.2'							
Brown Shale	4'	8.10	- 37.96	38.28	0.31	.01	Moderately	Slightly
Hard Gray Shale	5'	8.10	- 40.93	45.93	5.00	.16	Moderately	Slightly
Gray Shale	16'	8.20	- 30.67	40.98	10.31	.33	Moderately	Slightly
Black & Gray Shale	3.2'	7.90	17.89	16.48	34.36	1.10	Moderately	Slightly
Coal #11	3.2'	7.50	107.47	10.93	118.40	3.79	Slightly	Very
Gray Claystone	4.2'	9.00	- 34.16	34.48	0.31	.01	Slightly	Slightly

28.6 Total thickness 1010.62 Surface elevation of test hole

Coal Seam Information

Name	Number	Total Sulfur %	Pyrite/Marcasite Sulfur %
Waynesburg	11	3.79	2.67

(1) If subsurface water was encountered, identify the stratum in which it was encountered by an asterisk (*).

(2) Describe any observable physical properties of each stratum (e.g. color, grain size, compactibility, erodibility, etc.).

Ream and Hauger Laboratories Lab #'s: 228112 thru 228118 cc. Jack A. Hamilton & Assoc., Inc.

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AEC 19402

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OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

APPLICANT BENNOC, INC. (ALLISON)

1.	Identification No. of sampling Station from Hydrology Map	U-1	U-2	U-3	U-10	D-1	D-2
2.	Lab Identification Number 93-	12-1111	12-1112	12-1113	12-1114	12-1115	12-1116
3.	High (H) / Low (L) Designation (if applicable)	L	L	L	L	L	L
4.	Surface Elevation for Sampling Station (msl)	845	1040	960	942	840	960
5.	Depth of Well Below Land Surface (feet)	--	--	--	--	--	--
6.	Static Water Level of Well Below Land Surface (feet)	--	--	--	--	--	--
7.	Flow for Spring and Stream (gpm or cfs)	100.8CFS	.03 CFS	2.1 CFS	7.4 CFS	102 CFS	.075 CFS
8.	Date Above Measurements Made	12-29-93	12-29-93	12-29-93	12-29-93	12-29-93	12-29-93
9.	Aquifer/Zone Identification for Well/Spring	--	--	--	--	--	--
10.	pH (Standard Units)	7.93	7.79	7.80	7.84	7.89	7.88
11.	Total Acidity (mg/l CaCO3)	6.80	6.20	6.80	8.00	5.40	8.60
12.	Total Alkalinity (mg/l CaCO3)	146.80	152.40	115.40	79.60	147.00	162.00
13.	Specific Conductivity (µmho/cm at 25.)	385	353	253	202	385	323
14.	Total Dissolved Solids (mg/l)	--	--	--	--	--	--
15.	Total Manganese (mg/l)	< 0.02	< 0.02	< 0.02	< 0.02	0.02	0.03
16.	Total Sulfates (mg/l)	42.0	34.0	34.0	22.0	46.0	49.0
17.	Total Iron (mg/l)	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
18.	Total Suspended Solids (mg/l)	3.0	5.0	4.0	3.0	3.0	2.0
19.	Total Hardness (mg/l as CaCO3)	178.0	181.0	140.0	116.0	185.0	218.0
20.	Date Sampled for Analysis	12-29-93	12-29-93	12-29-93	12-29-93	12-29-93	12-29-93
21.	Date Last Precipitation Event	12-25-93	12-25-93	12-25-93	12-25-93	12-29-93	12-29-93

Laboratory Name Industrial Lab Analysis, Inc.
Address 2240 Williamsburg Drive City Glen Dale
State West Virginia Zip 26003

NOTE: If information required by items 5, 6, and 9 is unobtainable, submit as an addendum to Attachment 14A a statement giving the reasons why the information is unobtainable

NOTE: For each sample provide data for either item 13 or item 14. ▶▶ ~ 1363

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OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

APPLICANT BENNOC, INC. (ALLISON)

1.	Identification No. of sampling Station from Hydrology Map	D-9	D-10	(POND 008 D-0425) WI-1	WI-1	(POND 002 D-0425) WI-4	WI-4
2.	Lab Identification Number 93-	12-1123	12-1124	94-03-489	90-08-565	90-08-564	90-12-1213
3.	High (H) / Low (L) Designation (if applicable)	L	L	SUPPLEMENTAL		SUPPLEMENTAL	
4.	Surface Elevation for Sampling Station (msl)	940	898	930	930	1000	1000
5.	Depth of Well Below Land Surface (feet)	--	--	--	--	--	--
6.	Static Water Level of Well Below Land Surface (feet)	--	--	--	--	--	--
7.	Flow for Spring and Stream (gpm or cfs)	.04 CFS	25 CFS	--	--	--	--
8.	Date Above Measurements Made	12-29-93	12-29-93	2-09-94		8-08-90	12-26-90
9.	Aquifer/Zone Identification for Well/Spring	--	--	--	--	--	--
10.	pH (Standard Units)	7.96	7.90	7.43	7.52	7.88	8.07
11.	Total Acidity (mg/l CaCO3)	9.60	5.00	DATA UNAVAILABLE		DATA UNAVAILABLE	
12.	Total Alkalinity (mg/l CaCO3)	176.40	94.40	DATA UNAVAILABLE		DATA UNAVAILABLE	
13.	Specific Conductivity (µmho/cm at 25,)	492	253	955	798	420	546
14.	Total Dissolved Solids (mg/l)	--	--	--	--	--	--
15.	Total Manganese (mg/l)	0.05	< 0.02	0.75	0.25	0.02	0.05
16.	Total Sulfates (mg/l)	97.0	42.0	DATA UNAVAILABLE		DATA UNAVAILABLE	
17.	Total Iron (mg/l)	0.06	0.11	0.24	0.12	0.12	0.08
18.	Total Suspended Solids (mg/l)	2.0	4.0	4.0	11.0	11.0	2.0
19.	Total Hardness (mg/l as CaCO3)	225.0	127.0	DATA UNAVAILABLE		DATA UNAVAILABLE	
20.	Date Sampled for Analysis	12-29-93	12-29-93	2-09-94	8-08-90	8-08-90	12-26-90
21.	Date Last Precipitation Event	12-25-93	12-25-93	2-09-94	8-06-90	8-06-90	12-25-90

Laboratory Name Industrial Lab Analysis, Inc.
Address 2240 Williamsburg Drive City Glen Dale
State West Virginia Zip 26003

NOTE: If information required by items 5, 6, and 9 is unobtainable, submit as an addendum to Attachment 14A a statement giving the reasons why the information is unobtainable

NOTE: For each sample provide data for either item 13 or item 14.

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OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

APPLICANT BENNOC, INC. (ALLISON)

1.	Identification No. of sampling Station from Hydrology Map	S-2	W-2	S-3	W-3	DW-3A	S-4
2.	Lab Identification Number 93-	12-1164	12-1165	12-1166	12-1167	12-1168	12-1169
3.	High (H) / Low (L) Designation (if applicable)	L	L	L	L	L	L
4.	Surface Elevation for Sampling Station (msl)	1085	1235	1082	1260	1260	980
5.	Depth of Well Below Land Surface (feet)	--	103'	--	REPORTED 115'	37'	--
6.	Static Water Level of Well Below Land Surface (feet)	--	51'	--	93'	21'	--
7.	Flow for Spring and Stream (gpm or cfs)	19 GPM	--	8.6 GPM	--	--	1.1 GPM
8.	Date Above Measurements Made	12-29-93	12-29-93	12-29-93	12-29-93	12-29-93	12-29-93
9.	Aquifer/Zone Identification for Well/Spring	B	A	B	A	A	C
10.	pH (Standard Units)	6.98	7.29	7.54	7.49	7.35	7.52
11.	Total Acidity (mg/l $CaCO_3$)	8.80	16.60	6.60	11.40	13.80	8.80
12.	Total Alkalinity (mg/l $CaCO_3$)	87.20	284.60	91.60	248.60	227.00	226.40
13.	Specific Conductivity (umho/cm at 25,)	210	763	210	763	741	480
14.	Total Dissolved Solids (mg/l)	--	--	--	--	--	--
15.	Total Manganese (mg/l)	0.99	< 0.02	< 0.02	< 0.02	0.04	0.08
16.	Total Sulfates (mg/l)	26.0	46.0	20.0	37.0	50.0	22.0
17.	Total Iron (mg/l)	2.15	0.08	< 0.04	< 0.04	0.09	0.99
18.	Total Suspended Solids (mg/l)	3.0	6.0	8.0	3.0	4.0	15.0
19.	Total Hardness (mg/l as $CaCO_3$)	118.0	408.0	138.0	350.0	382.0	264.0
20.	Date Sampled for Analysis	12-29-93	12-29-93	12-29-93	12-29-93	12-29-93	12-29-93
21.	Date Last Precipitation Event	12-25-93	12-25-93	12-25-93	12-25-93	12-25-93	12-25-93

Laboratory Name Industrial Lab Analysis, Inc.
Address 2240 Williamsburg Drive City Glen Dale
State West Virginia Zip 26083

NOTE: If information required by items 5, 6, and 9 is unobtainable, submit as an addendum to Attachment 14A a statement giving the reasons why the information is unobtainable

NOTE: For each sample provide data for either item 13 or item 14.

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OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

APPLICANT BENNOC, INC. (ALLISON)

1.	Identification No. of sampling Station from Hydrology Map	S-5	W-5	W-6	S-6	S-7	W-7
2.	Lab Identification Number 93-	12-1170	12-1171	12-1172	12-1173	12-1174	12-1175
3.	High (H) / Low (L) Designation (if applicable)	L	L	L	L	L	L
4.	Surface Elevation for Sampling Station (msl)	1085	1242	1262	1080	1080	1062
5.	Depth of Well Below Land Surface (feet)	--	REPORTED 81'	91'	--	--	UNOBTAIN ABLE
6.	Static Water Level of Well Below Land Surface (feet)	--	55'	43'	--	--	29'
7.	Flow for Spring and Stream (gpm or cfs)	1.3 GPM	--	--	2.9 GPM	< 1 GPM	--
8.	Date Above Measurements Made	12-29-93	12-29-93	12-29-93	12-29-93	12-29-93	12-29-93
9.	Aquifer/Zone Identification for Well/Spring	B	A	A	B	B	C
10.	pH (Standard Units)	7.55	7.24	7.57	7.66	7.80	7.42
11.	Total Acidity (mg/l $CaCO_3$)	6.40	14.00	11.00	5.60	3.20	10.00
12.	Total Alkalinity (mg/l $CaCO_3$)	106.00	255.60	258.60	256.40	151.00	133.40
13.	Specific Conductivity (umho/cm at 25°)	220	981	654	270	447	392
14.	Total Dissolved Solids (mg/l)	--	--	--	--	--	--
15.	Total Manganese (mg/l)	0.04	0.04	0.02	< 0.02	0.02	0.02
16.	Total Sulfates (mg/l)	15.0	73.0	67.0	37.0	24.0	49.0
17.	Total Iron (mg/l)	< 0.04	0.06	< 0.04	0.09	0.08	0.13
18.	Total Suspended Solids (mg/l)	6.0	3.0	4.0	9.0	10.0	3.0
19.	Total Hardness (mg/l as $CaCO_3$)	138.0	474.0	370.0	160.0	246.0	213.0
20.	Date Sampled for Analysis	12-29-93	12-29-93	12-29-93	12-29-93	12-29-93	12-29-93
21.	Date Last Precipitation Event	12-25-93	12-25-93	12-25-93	12-25-93	12-25-93	12-25-93

Laboratory Name Industrial Lab Analysis, Inc.
Address 2240 Williamsburg Drive City Glen Dale
State West Virginia Zip 26083

NOTE: If information required by items 5, 6, and 9 is unobtainable, submit as an addendum to Attachment 14A a statement giving the reasons why the information is unobtainable

NOTE: For each sample provide data for either item 13 or item 14.

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OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

APPLICANT BENNOC, INC. (ALLISON)

1.	Identification No. of sampling Station from Hydrology Map	D-9	D-10				
2.	Lab Identification Number 94-	03-470	03-471				
3.	High (H) / Low (L) Designation (if applicable)	H	H				
4.	Surface Elevation for Sampling Station (msl)	940	898				
5.	Depth of Well Below Land Surface (feet)	--	--				
6.	Static Water Level of Well Below Land Surface (feet)	--	--				
7.	Flow for Spring and Stream (gpm or cfs)	.19 CFS	68.6 CFS				
8.	Date Above Measurements Made	3-9-94	3-9-94				
9.	Aquifer/Zone Identification for Well/Spring	--	--				
10.	pH (Standard Units)	8.21	8.06				
11.	Total Acidity (mg/l $CaCO_3$)	3.20	8.00				
12.	Total Alkalinity (mg/l $CaCO_3$)	121.40	85.80				
13.	Specific Conductivity (µmho/cm at 25°)	320	200				
14.	Total Dissolved Solids (mg/l)	--	--				
15.	Total Manganese (mg/l)	< 0.02	0.04				
16.	Total Sulfates (mg/l)	77.0	38.0				
17.	Total Iron (mg/l)	0.08	0.17				
18.	Total Suspended Solids (mg/l)	7.0	3.0				
19.	Total Hardness (mg/l as $CaCO_3$)	136.0	87.0				
20.	Date Sampled for Analysis ORIGINAL	3-9-94	3-9-94				
21.	Date Last Precipitation Event	3-7-94	3-7-94				

Laboratory Name Industrial Lab Analysis, Inc.
Address 2240 Williamsburg Drive City Glen Dale
State West Virginia Zip 26083

NOTE: If information required by items 5, 6, and 9 is unobtainable, submit as an addendum to Attachment 14A a statement giving the reasons why the information is unobtainable.

NOTE: For each sample provide data for either item 13 or item 14.

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9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

APPLICANT BENNOC, INC. (ALLISON)

1.	Identification No. of sampling Station from Hydrology Map	S-2	W-2	S-3	W-3	DW-3A	S-4
2.	Lab Identification Number 94-	03-475	03-575	03-476	03-576	03-581	03-477
3.	High (H) / Low (L) Designation (if applicable)	H	H	H	H	H	H
4.	Surface Elevation for Sampling Station (msl)	1085	1235	1082	1260	1260	980
5.	Depth of Well Below Land Surface (feet)	--	103'	--	REPORTED 115'	37'	--
6.	Static Water Level of Well Below Land Surface (feet)	--	51'	--	77'	18'	--
7.	Flow for Spring and Stream (gpm or cfs)	54 GPM	--	52 GPM	--	--	5.8 GPM
8.	Date Above Measurements Made	3-9-94	3-10-94	3-9-94	3-10-94	3-10-94	3-9-94
9.	Aquifer/Zone Identification for Well/Spring	B	A	B	A	A	C
10.	pH (Standard Units)	7.99	8.06	7.91	8.03	7.88	8.01
11.	Total Acidity (mg/1 CaCO3)	3.60	9.40	4.60	7.40	9.40	3.20
12.	Total Alkalinity (mg/1 CaCO3)	79.40	311.40	87.40	258.00	121.20	187.40
13.	Specific Conductivity (umho/cm at 25.)	160	706	160	856	260	371
14.	Total Dissolved Solids (mg/1)	--	--	--	--	--	--
15.	Total Manganese (mg/1)	< 0.02	< 0.02	0.02	< 0.02	< 0.02	0.02
16.	Total Sulfates (mg/1)	27.0	49.0	24.0	41.0	20.0	35.0
17.	Total Iron (mg/1)	0.17	0.07	0.11	< 0.04	0.29	0.39
18.	Total Suspended Solids (mg/1)	2.0	2.0	6.0	3.0	6.0	11.0
19.	Total Hardness (mg/1 as CaCO3)	76.0	320.0	80.0	328.0	98.0	192.0
20.	Date Sampled for Analysis ORIGINAL	3-9-94	3-10-94	3-9-94	3-10-94	3-10-94	3-9-94
21.	Date Last Precipitation Event	3-7-94	3-9-94	3-7-94	3-9-94	3-9-94	3-7-94

Laboratory Name Industrial Lab Analysis, Inc.
Address 2240 Williamsburg Drive City Glen Dale
State West Virginia Zip 26033

NOTE: If information required by items 5, 6, and 9 is unobtainable, submit as an addendum to Attachment 14A a statement giving the reasons why the information is unobtainable

NOTE: For each sample provide data for either item 13 or item 14. 1368

9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

APPLICANT BENNOC, INC. (ALLISON)

1.	Identification No. of sampling Station from Hydrology Map	S-5	W-5	W-6	S-6	S-7	W-7
2.	Lab Identification Number 94-	03-478	03-577	03-578	03-479	03-584	03-579
3.	High (H) / Low (L) Designation (if applicable)	H	H	H	H	H	H
4.	Surface Elevation for Sampling Station (msl)	1085	1242	1262	1080	1080	1062
5.	Depth of Well Below Land Surface (feet)	--	REPORTED 81'	91'	--	--	UNOBTAIN ABLE
6.	Static Water Level of Well Below Land Surface (feet)	--	53'	38'	--	--	22'
7.	Flow for Spring and Stream (gpm or cfs)	6.8 GPM	--	--	83 GPM	16.2 GPM	--
8.	Date Above Measurements Made	3-9-94	3-10-94	3-10-94	3-9-94	3-10-94	3-10-94
9.	Aquifer/Zone Identification for Well/Spring	B	A	A	B	B	C
10.	pH (Standard Units)	8.09	7.95	8.14	8.00	7.86	8.00
11.	Total Acidity (mg/l CaCO3)	4.00	12.80	6.00	4.80	6.60	7.60
12.	Total Alkalinity (mg/l CaCO3)	88.60	255.20	259.00	93.60	100.80	169.80
13.	Specific Conductivity (umho/cm at 25.)	160	1061	728	210	407	407
14.	Total Dissolved Solids (mg/l)	--	--	--	--	--	--
15.	Total Manganese (mg/l)	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
16.	Total Sulfates (mg/l)	20.0	108.0	84.0	36.0	36.0	76.0
17.	Total Iron (mg/l)	0.13	0.06	< 0.04	0.15	0.05	0.07
18.	Total Suspended Solids (mg/l)	7.0	< 2.0	< 2.0	8.0	5.0	2.0
19.	Total Hardness (mg/l as CaCO3)	73.0	420.0	340.0	92.0	118.0	175.0
20.	Date Sampled for Analysis ORIGINAL	3-9-94	3-10-94	3-10-94	3-9-94	3-10-94	3-10-94
21.	Date Last Precipitation Event	3-7-94	3-9-94	3-9-94	3-7-94	3-9-94	3-9-94

Laboratory Name Industrial Lab Analysis, Inc.
Address 2240 Williamsburg Drive City Glen Dale
State West Virginia Zip 26083

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9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

APPLICANT BENNOC, INC. (ALLISON)

1.	Identification No. of sampling Station from Hydrology Map	U-1	U-2	U-3	U-10	D-1	D-2
2.	Lab Identification Number 94-	03-472	03-473	03-474	03-481	03-462	03-463
3.	High (H) / Low (L) Designation (if applicable)	H	H	H	H	H	H
4.	Surface Elevation for Sampling Station (msl)	845	1040	960	942	840	960
5.	Depth of Well Below Land Surface (feet)	--	--	--	--	--	--
6.	Static Water Level of Well Below Land Surface (feet)	--	--	--	--	--	--
7.	Flow for Spring and Stream (gpm or cfs)	321.7CFS	.11 CFS	9.6 CFS	26.7 CFS	338 CFS	.31 CFS
8.	Date Above Measurements Made	3-9-94	3-9-94	3-9-94	3-9-94	3-9-94	3-9-94
9.	Aquifer/Zone Identification for Well/Spring	--	--	--	--	--	--
10.	pH (Standard Units)	8.16	8.17	8.04	8.21	7.83	7.95
11.	Total Acidity (mg/l $CaCO_3$)	2.40	3.60	4.40	5.20	14.60	7.00
12.	Total Alkalinity (mg/l $CaCO_3$)	119.60	134.00	91.40	61.00	129.80	132.00
13.	Specific Conductivity (umho/cm at 25,)	290	260	190	160	280	260
14.	Total Dissolved Solids (mg/l)	--	--	--	--	--	--
15.	Total Manganese (mg/l)	0.03	< 0.02	< 0.02	< 0.02	0.03	< 0.02
16.	Total Sulfates (mg/l)	54.0	33.0	28.0	19.0	44.0	47.0
17.	Total Iron (mg/l)	0.14	0.17	0.10	0.12	0.17	0.21
18.	Total Suspended Solids (mg/l)	2.0	6.0	3.0	3.0	7.0	3.0
19.	Total Hardness (mg/l as $CaCO_3$)	120.0	120.0	82.0	72.0	124.0	124.0
20.	Date Sampled for Analysis ORIGINAL	3-9-94	3-9-94	3-9-94	3-9-94	3-9-94	3-9-94
21.	Date Last Precipitation Event	3-7-94	3-7-94	3-7-94	3-7-94	3-9-94	3-7-94

Laboratory Name Industrial Lab Analysis, Inc.
Address 2240 Williamsburg Drive City Glen Dale
State West Virginia Zip 26083

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PB-1363

9/88

Ohio DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

APPLICANT BENNOC, INC. (ALLISON)

1.	Identification No. of sampling Station from Hydrology Map	D-3	D-4	D-5	D-6	D-7	D-8
2.	Lab Identification Number 93-	12-1117	12-1118	12-1119	12-1120	12-1121	12-1122
3.	High (H) / Low (L) Designation (if applicable)	L	L	L	L	L	L
4.	Surface Elevation for Sampling Station (msl)	935	940	940	940	938	940
5.	Depth of Well Below Land Surface (feet)	--	--	--	--	--	--
6.	Static Water Level of Well Below Land Surface (feet)	--	--	--	--	--	--
7.	Flow for Spring and Stream (gpm or cfs)	3.4 CFS	.05 CFS	.03 CFS	.1 CFS	.07 CFS	.25 CFS
8.	Date Above Measurements Made	12-29-93	12-29-93	12-29-93	12-29-93	12-29-93	12-29-93
9.	Aquifer/Zone Identification for Well/Spring	--	--	--	--	--	--
10.	pH (Standard Units)	7.93	7.82	7.83	7.97	7.98	7.50
11.	Total Acidity (mg/l $CaCO_3$)	6.60	8.00	7.60	6.40	6.60	14.00
12.	Total Alkalinity (mg/l $CaCO_3$)	113.60	83.00	134.80	199.60	190.00	171.00
13.	Specific Conductivity (umho/cm at 25,)	273	222	333	589	621	963
14.	Total Dissolved Solids (mg/l)	--	--	--	--	--	--
15.	Total Manganese (mg/l)	0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.73
16.	Total Sulfates (mg/l)	33.0	39.0	47.0	120.0	104.0	404.0
17.	Total Iron (mg/l)	0.05	< 0.04	< 0.04	0.04	0.07	0.73
18.	Total Suspended Solids (mg/l)	4.0	7.0	6.0	3.0	2.0	5.0
19.	Total Hardness (mg/l as $CaCO_3$)	143.0	121.0	173.0	256.0	301.0	462.0
20.	Date Sampled for Analysis	12-29-93	12-29-93	12-29-93	12-29-93	12-29-93	12-29-93
21.	Date Last Precipitation Event	12-25-93	12-25-93	12-25-93	12-25-93	12-29-93	12-29-93

Laboratory Name Industrial Lab Analysis, Inc.
Address 2240 Williamsburg Drive City Glen Dale
State West Virginia Zip 26083

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NOTE: For each sample provide data for either item 13 or item 14.

ORIGINAL

PP - 1363

AEC 19411

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

APPLICANT BENNOC, INC. (ALLISON)

1.	Identification No. of sampling Station from Hydrology Map	DW-7A	DS-8	S-9		DM-1	DM-2
2.	Lab Identification Number 93-	12-1176	12-1177	12-1178	94-	02-735	02-736
3.	High (H) / Low (L) Designation (if applicable)	L	L	L		SUPPLEMENTAL	
4.	Surface Elevation for Sampling Station (msl)	1082	1220	1085		980	977
5.	Depth of Well Below Land Surface (feet)	20'	--	--		--	--
6.	Static Water Level of Well Below Land Surface (feet)	9'	--	--		--	--
7.	Flow for Spring and Stream (gpm or cfs)	--	3.4 GPM	4.9 GPM		2 GPM	< 1 GPM
8.	Date Above Measurements Made	12-29-93	12-29-93	12-29-93		2-24-94	2-24-94
9.	Aquifer/Zone Identification for Well/Spring	B	A	B		C	C
10.	pH (Standard Units)	7.62	7.92	7.88		6.57	5.20
11.	Total Acidity (mg/1 $CaCO_3$)	8.00	6.80	4.60		4.60	12.60
12.	Total Alkalinity (mg/1 $CaCO_3$)	182.40	215.80	224.20		13.80	7.20
13.	Specific Conductivity (mmho/cm at 25°)	425	981	719		120	456
14.	Total Dissolved Solids (mg/1)	--	--	--		--	--
15.	Total Manganese (mg/1)	0.04	< 0.02	< 0.02		0.20	0.64
16.	Total Sulfates (mg/1)	54.0	40.0	56.0		28.0	155.0
17.	Total Iron (mg/1)	5.70	0.07	0.04		3.80	3.15
18.	Total Suspended Solids (mg/1)	18.0	2.0	8.0		130.0	109.0
19.	Total Hardness (mg/1 as $CaCO_3$)	248.0	452.0	334.0		72.0	210.0
20.	Date Sampled for Analysis	12-29-93	12-29-93	12-29-93		2-24-94	2-24-94
21.	Date Last Precipitation Event	12-25-93	12-25-93	12-25-93		2-24-94	2-24-94

Laboratory Name Industrial Lab Analysis, Inc.
Address 2240 Williamsburg Drive City Glen Dale
State West Virginia Zip 26083

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1363

ORIGINAL

9/88

WEST VIRGINIA DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

APPLICANT BENNOC, INC. (ALLISON)

1.	Identification No. of sampling Station from Hydrology Map	D-3	D-4	D-5	D-6	D-7	D-8
2.	Lab Identification Number 94-	03-464	03-463	03-466	03-467	03-468	03-469
3.	High (H) / Low (L) Designation (if applicable)	H	H	H	H	H	H
4.	Surface Elevation for Sampling Station (msl)	935	940	940	940	938	940
5.	Depth of Well Below Land Surface (feet)	--	--	--	--	--	--
6.	Static Water Level of Well Below Land Surface (feet)	--	--	--	--	--	--
7.	Flow for Spring and Stream (gpm or cfs)	12.3 CFS	.13 CFS	.12 CFS	.26 CFS	.26 CFS	1.08 CFS
8.	Date Above Measurements Made	3-9-94	3-9-94	3-9-94	3-9-94	3-9-94	3-9-94
9.	Aquifer/Zone Identification for Well/Spring	--	--	--	--	--	--
10.	pH (Standard Units)	7.90	7.88	7.92	8.16	8.09	8.04
11.	Total Acidity (mg/l $CaCO_3$)	8.40	7.80	9.20	4.40	3.60	4.60
12.	Total Alkalinity (mg/l $CaCO_3$)	97.60	86.60	119.60	198.20	172.00	124.20
13.	Specific Conductivity (umho/cm at 25.)	200	170	290	392	519	700
14.	Total Dissolved Solids (mg/l)	--	--	--	--	--	--
15.	Total Manganese (mg/l)	0.04	< 0.02	< 0.02	< 0.02	0.10	0.36
16.	Total Sulfates (mg/l)	30.0	34.0	34.0	78.0	103.0	270.0
17.	Total Iron (mg/l)	0.18	0.21	0.12	0.13	0.21	0.83
18.	Total Suspended Solids (mg/l)	6.0	4.0	2.0	5.0	3.0	9.0
19.	Total Hardness (mg/l as $CaCO_3$)	124.0	124.0	120.0	168.0	249.0	259.0
20.	Date Sampled for Analysis ORIGINAL	3-9-94	3-9-94	3-9-94	3-9-94	3-9-94	3-9-94
21.	Date Last Precipitation Event	3-7-94	3-7-94	3-7-94	3-7-94	3-7-94	3-7-94

Laboratory Name Industrial Lab Analysis, Inc.
Address 2240 Williamsburg Drive City Glen Dale
State West Virginia Zip 26081

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NOTE: For each sample provide data for either item 13 or item 14. ▶▶ 1363

AEC 19413

9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

APPLICANT HEMMOC, INC. (ALLISON)

1.	Identification No. of sampling Station from Hydrology Map	DW-7A	DS-8	S-9		DS-10	
2.	Lab Identification Number 94-	03-580	03-582	03-480		03-584	
3.	High (H) / Low (L) Designation (if applicable)	H	H	H		SUPPLE-MENTAL	
4.	Surface Elevation for Sampling Station (msl)	1082	1220	1085		1080	
5.	Depth of Well Below Land Surface (feet)	20'	--	--		--	
6.	Static Water Level of Well Below Land Surface (feet)	6'	--	--		--	
7.	Flow for Spring and Stream (gpm or cfs)	--	11.5 GPM	60 GPM		2.3 GPM	
8.	Date Above Measurements Made	3-10-94	3-10-94	3-9-94		3-10-94	
9.	Aquifer/Zone Identification for Well/Spring	B	A	B		B	
10.	pH (Standard Units)	7.83	7.74	8.10		7.75	
11.	Total Acidity (mg/l $CaCO_3$)	9.00	10.40	4.00		10.00	
12.	Total Alkalinity (mg/l $CaCO_3$)	154.40	160.40	181.60		211.60	
13.	Specific Conductivity (µmho/cm at 25°)	300	920	477		428	
14.	Total Dissolved Solids (mg/l)	--	--	--		--	
15.	Total Manganese (mg/l)	< 0.02	< 0.02	< 0.02		< 0.02	
16.	Total Sulfates (mg/l)	67.0	57.0	46.0		25.0	
17.	Total Iron (mg/l)	0.07	0.09	0.22		0.04	
18.	Total Suspended Solids (mg/l)	4.0	3.0	6.0		2.0	
19.	Total Hardness (mg/l as $CaCO_3$)	132.0	307.0	196.0		207.0	
20.	Date Sampled for Analysis ORIGINAL	3-10-94	3-10-94	3-9-94		3-10-94	
21.	Date Last Precipitation Event	3-9-94	3-9-94	3-7-94		3-9-94	

Laboratory Name Industrial Lab Analysis, Inc.
Address 2240 Williamsburg Drive City Glen Dale
State West Virginia Zip 26081

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1363

9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

APPLICANT BENNOC, INC. (ALLISON)

1.	Identification No. of sampling Station from Hydrology Map	D-11	D-12	S-10	SZ-1	SZ-2	
2.	Lab Identification Number	258745	258746	258747	258748	748749	
3.	High (H) / Low (L) Designation (if applicable)	---------- SUPPLEMENTAL ----------					
4.	Surface Elevation for Sampling Station (msl)	1005	900	995	930	930	
5.	Depth of Well Below Land Surface (feet)	--	--	--	--	--	
6.	Static Water Level of Well Below Land Surface (feet)	--	--	--	--	--	
7.	Flow for Spring and Stream (gpm or cfs)	<1 GPM	<1 GPM	<1 GPM	<1 GPM	<1 GPM	
8.	Date Above Measurements Made	7-17-97	7-17-97	7-17-97	7-17-97	7-17-97	
9.	Aquifer/Zone Identification for Well/Spring	--	--	C	UNKNOWN	UNKNOWN	
10.	pH (Standard Units)	7.59	7.99	7.63	6.38	7.49	
11.	Total Acridity (mg/1 CaCO3)	10.00	2.00	8.00	32.00	6.00	
12.	Total Alkalinity (mg/1 CaCO3)	196.00	150.00	244.00	156.00	160.00	
13.	Specific Conductivity (umho/cm at 25,)	1270	624	1040	1690	1400	
14.	Total Dissolved Solids (mg/1)	--	--	--	--	--	
15.	Total Manganese (mg/1)	0.01	0.08	0.00	1.39	0.08	
16.	Total Sulfates (mg/1)	158.88	172.87	274.13	715.36	395.14	
17.	Total Iron (mg/1)	0.07	0.10	0.07	63.70	0.01	
18.	Total Suspended Solids (mg/1)	10.00	1.00	8.00	1.00	1.00	
19.	Total Hardness (mg/1 as CaCO3)	454.00	230.00	316.00	772.00	336.00	
20.	Date Sampled for Analysis ORIGINAL	7-17-97	7-17-97	7-17-97	7-17-97	7-17-97	
21.	Date Last Precipitation Event	7-7-97	7-9-97	7-9-97	7-9-97	7-9-97	

Laboratory Name Ream & Haager Laboratories, Inc.
Address 1226 Kaderly Street NW City New Philadelphia
State Ohio Zip 44663

NOTE: If information required by items 5, 6, and 9 is unobtainable, submit as an addendum to Attachment 14A a statement giving the reasons why the information is unobtainable

NOTE: For each sample provide data for either item 13 or item 14. 1363

AEC 19415

9/88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

ATTACHMENT 14A
(HYDROLOGIC MEASUREMENTS AND ANALYSES)

APPLICANT BENNOC, INC. (ALLISON)

1.	Identification No. of sampling Station from Hydrology Map	W-11Y					
2.	Lab Identification Number	97-10-479					
3.	High (H) / Low (L) Designation (if applicable)	SUPPLE-MENTAL					
4.	Surface Elevation for Sampling Station (msl)	930					
5.	Depth of Well Below Land Surface (feet)	150'					
6.	Static Water Level of Well Below Land Surface (feet)	85'					
7.	Flow for Spring and Stream (gpm or cfs)	--					
8.	Date Above Measurements Made	10-13-97					
9.	Aquifer/Zone Identification for Well/Spring	D					
10.	pH (Standard Units)	7.45					
11.	Total Acidity (mg/1 CaCO3)	10.20					
12.	Total Alkalinity (mg/1 CaCO3)	188.60					
13.	Specific Conductivity (umho/cm at 25.)	546					
14.	Total Dissolved Solids (mg/1)	--					
15.	Total Manganese (mg/1)	0.24					
16.	Total Sulfates (mg/1)	36.0					
17.	Total Iron (mg/1)	0.06					
18.	Total Suspended Solids (mg/1)	24.0					
19.	Total Hardness (mg/1 as CaCO3)	80.0					
20.	Date Sampled for Analysis	10-13-97					
21.	Date Last Precipitation Event	10-10-97					

Laboratory Name Industrial Lab Analysis, Inc.
Address 2240 Williamsburg Drive City Glen Dale
State West Virginia Zip 26083

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NOTE: For each sample provide data for either item 13 or item 14.

ORIGINAL

1363 -B

AEC 19416

ADDENDUM TO ATTACHMENT 14A
BENNOC, INC.

SITE WI-2 IS AN EXISTING SEDIMENT POND FOR ODNR PERMIT D-0425. IT HAS NOT DISCHARGED, AND THEREFORE HAS NOT BEEN SAMPLED FOR SOME TIME. THIS IMPOUNDMENT WILL BE SIGNIFICANTLY ENLARGED FOR USE UNDER THIS PROPOSED SURFACE MINE PERMIT. SITE WI-4 IS ALSO AN EXISTING POND FOR ODNR PERMIT D-0425. THE ANALYSES FOR THIS OUTFALL ARE FROM POND MONITORING RECORDS. THE ITEMS MARKED "DATA UNAVAILABLE" ARE PARAMETERS NOT REQUIRED FOR MONTHLY POND MONITORING. THE SAME APPLIES TO ANALYSES FOR WI-1. SITE WI-3 WAS NOT SAMPLED DUE TO THE FACT THAT LONG RUN, WHICH FLOWS INTO, AND DISCHARGES FROM WI-3, WAS SAMPLED ABOVE AND BELOW THE IMPOUNDMENT. U-3 / D-3 WATER ANALYSES REFLECT WATER QUALITY OF THIS IMPOUNDMENT.

'UNOBTAINABLE' WELL DEPTHS ARE CASES WHERE OBSTRUCTIONS IN THE WELL CASING PROHIBITED ACCESS FOR MEASURING EQUIPMENT, AND THE RESIDENT DID NOT HAVE THIS INFORMATION. 'REPORTED' WELL DEPTHS WERE OBTAINED FROM THE RESIDENT DUE TO THE SAME CIRCUMSTANCE, IN CASES WHERE THE RESIDENT HAD KNOWLEDGE OF THE WELL DEPTH.

ORIGINAL

9-88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

ATTACHMENT 14B
(GROUND WATER HYDROLOGY DESCRIPTION)

Applicant's Name HENNUC, INC. (ALLISON)

Aquifer/Zone Identification	Aquifer/Zone Lithology	Aquifer/Zone Thickness	Aquifer/Zone Elev. (msl)	Aquifer/Zone Horizontal Extent	Aquifer/Zone Known Uses	Approx. Rate of Discharge/Usage of Aquifer/Zone (gpm or cfs)
A	SANDSTONE, SHALE	189'	1239' TO 1130'	UPPER RIDGE OUTCROP TO OUTCROP	W-2, W-3, DW-3A, W-5, W-6, DS-8	DOMESTIC 3.4 GPM
B	SANDSTONE, SHALE, #12 COAL	37'	1097' TO 1060'	MID-RIDGE OUTCROP TO OUTCROP	DW-7A, DS-10 S-1 THRU S-3, S-5 THRU S-9	DOMESTIC AGRICULTURAL MINE 1 TO 19 GPM
C	SHALE, #11 COAL	45'	995 TO 950	LOWER-RIDGE OUTCROP TO OUTCROP	S-4, S-10, W-7 DM-1, DM-2	MINE 2 GPM
*D	LIMESTONE, SANDSTONE, SHALE	80'	847 TO 768	REGIONAL	W-1, W-11Y	NONE 2.7 GPM
* SEE ADDNDA TO ATTACHMENT 14B WHICH PROVIDES A BASIS FOR THE EXISTENCE, AND QUANTITY OF ZONE D.						

ORIGINAL

AEC 194118

ADDENDUM TO ATTACHMENT 14B, BENNOC, INC.

TABLE C.1

1981 GROUND WATER MONITORING DATA
ALLISON MINE
THE YOUGHIOGHENY AND OHIO COAL COMPANY
BEALLSVILLE, BELMONT COUNTY, OHIO

SITE IDENTIFICATION

Site Designation:	W-1, M-1
Coordinate Location:	N693,690 E2,414,410
Property Owner:	Y&O Coal Company
Site Description:	Shaft entry water ring discharge into storage yard depression.

PHYSICAL PARAMETERS

	JANUARY	APRIL	JULY	OCTOBER	DECEMBER
Flow Rate (GPD)	4,000	4,000	4,000	4,400	4,320*
Static Water Level (elevation in feet)	850	850	850	850	850

WATER QUALITY DATA

	JANUARY	APRIL	JULY	OCTOBER	DECEMBER
pH (standard units)	8.07	7.75	7.50	7.88	7.14
Total Acidity (mg/ℓ $CaCO_3$)	3.4	4.7	0.0	0.0	0.0
Total Iron (mg/ℓ)	0.07	0.08	0.03	0.03	0.01
Total Manganese (mg/ℓ)	0.02	0.01	0.0	0.0	0.20
Total Suspended Solids (mg/ℓ)	2.4	3.0	0.0	30.0	0.0
Total Hardness (mg/ℓ $CaCO_3$)	80	78	100	108	90
Total Sulfate (mg/ℓ)	124	129	120	130	108
Specific Conductance (μMHO/cm at 25°C)	1,145	1,202	1,000	1,050	1,010

Note: This data was obtained from approved permit D-0425.

ORIGINAL

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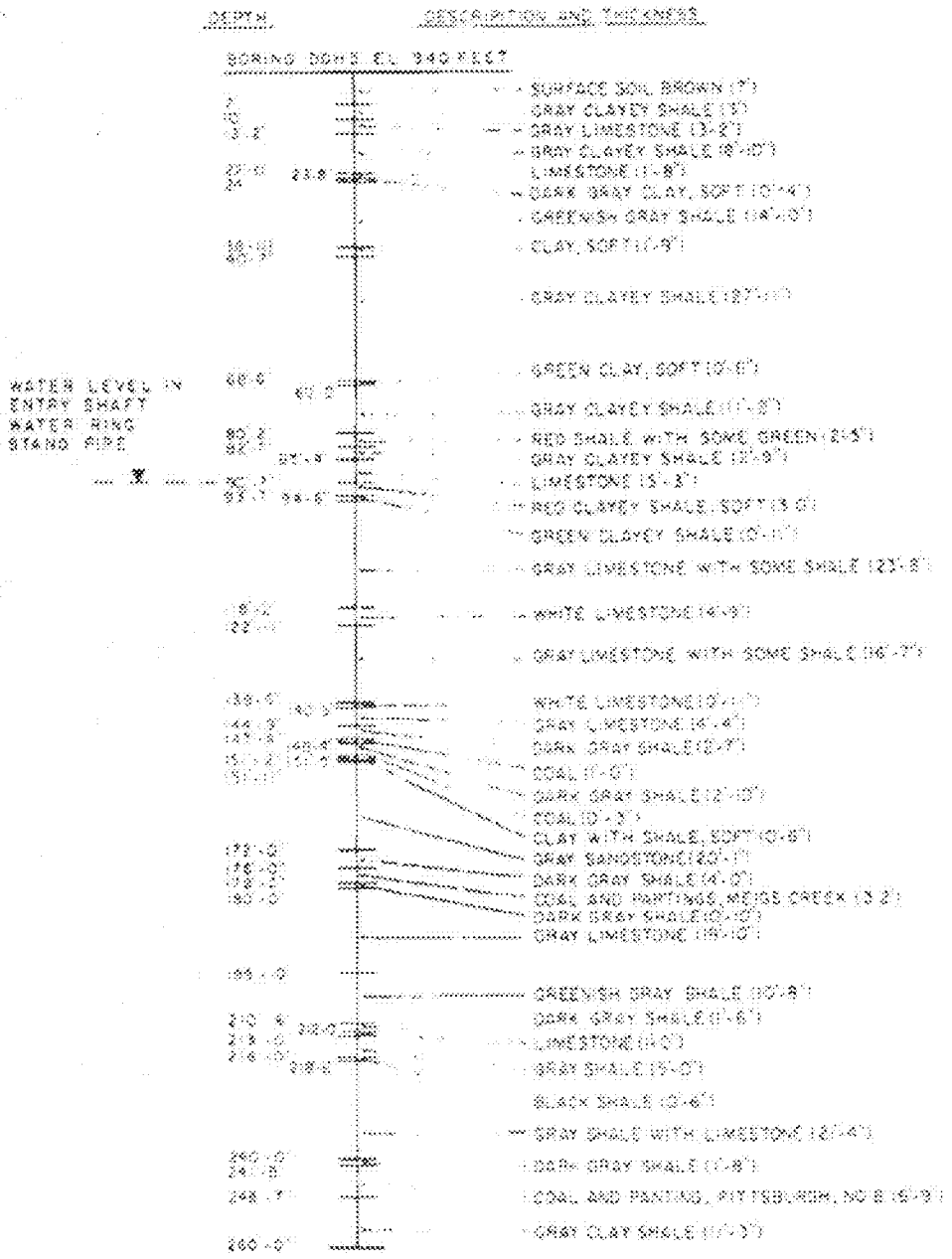
ADDENDUM TO ATTACHMENT 14B, BENNOC, INC.



LITHOLOGIC AND HYDROGEOLOGIC SECTION

Note: This information is contained in approved permit D-0425. This boring was located approximately 30' south of the southeast corner of the concrete pad shown on the Bennoc, Inc. Application #1363 map.

ORIGINAL

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OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

ATTACHMENT 14C
(WELL/SPRING INVENTORY)

ORIGINAL

Applicant's Name BENNOC, INC. (ALLISON)

Well/Spring Identification Number	Name of Owner of Well/Spring	Surface Elevation of Well/Spring	Depth of Well in Feet Below Land Surface	Static Water Level of Well in Feet Below Land Surface	Lithology of Supplying Aquifer/ Waterbearing Zone	Known Uses of Well/Spring (if spring give discharge rate)
S-2	AMERICAN ENERGY CORP.	1085	N/A	N/A	B	NONE 19 TO 54 GPM
S-3	AMERICAN ENERGY CORP.	1082	N/A	N/A	B	NONE 8.6 TO 52 GPM
S-4	AMERICAN ENERGY CORP.	980	N/A	N/A	C	NONE 1.1 TO 5.8 GPM
S-5	AMERICAN ENERGY CORP.	1085	N/A	N/A	B	NONE 1.3 TO 6.8 GPM
S-6	WYOMING POCAHON-TAS LAND CO.	1060	N/A	N/A	B	NONE 2.9 TO 83 GPM
S-7	WYOMING POCAHON-TAS LAND CO.	1080	N/A	N/A	B	NONE <1 TO 16.2 GPM
S-9	AMERICAN ENERGY CORP.	1085	N/A	N/A	B	NONE 4.9 TO 60 GPM
W-2	C & H PERKINS	1235	103'	51'	A	DOMESTIC
W-3	J & M PILES	1260	REPORTED 115'	77' TO 93'	A	DOMESTIC

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OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

ATTACHMENT 14C
(WELL/SPRING INVENTORY)

ORIGINAL

Applicant's Name BENNOC, INC. (ALLISON)

Well/Spring Identification Number	Name of Owner of Well/Spring	Surface Elevation of Well/Spring	Depth of Well in Feet Below Land Surface	Static Water Level of Well in Feet Below Land Surface	Lithology of Supplying Aquifer/ Waterbearing Zone	Known Uses of Well/Spring (if spring give discharge rate)
DW-3A	J & M PILES	1260	37'	18' TO 21'	A	(OCCASIONAL) DOMESTIC
W-5	J & C SAFFELL	1242	REPORTED 81'	53' TO 55'	A	DOMESTIC
W-6	H & M PERKINS	1262	91'	38' TO 43'	A	DOMESTIC
W-7	M & J WARD	1062	UNOBTAINABLE	22' TO 29'	C	DOMESTIC
DW-7A	M & J WARD	1082	20'	6' TO 9'	B	AGRICULTURAL
DS-8	H & M PERKINS	1220	N/A	N/A	A	NONE 3.4 TO 11.5 GPM
DM-1	AMERICAN ENERGY CORP.	980	N/A	N/A	C	NONE 2 GPM
DM-2	AMERICAN ENERGY CORP.	977	N/A	N/A	C	NONE <1 GPM
DS-10	AMERICAN ENERGY CORP.	1080	N/A	N/A	B	NONE 2.3 GPM

AEC 19422

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

ATTACHMENT 14C
(WELL/SPRING INVENTORY)

Applicant's Name: BENNC, INC. (ALLISON)

Well/Spring Identification Number	Name of Owner of Well/Spring	Surface Elevation of Well/Spring	Depth of Well in Feet Below Land Surface	Static Water Level of Well in Feet Below Land Surface	Lithology of Supplying Aquifer/ Waterbearing Zone	Known Uses of Well/Spring (if spring give discharge rate)
S-1	AMERICAN ENERGY CORP.	1075	N/A	N/A	B	NONE 10 GPM
S-10	AMERICAN ENERGY CORP.	995	N/A	N/A	C	NONE < 1 GPM
SZ-1	AMERICAN ENERGY CORP.	930	N/A	N/A	* possible refuse disposal seepage	NONE
SZ-2	AMERICAN ENERGY CORP.	930	N/A	N/A	* possible seepage from pond	NONE
W-1	AMERICAN ENERGY CORP.	940	UNKNOWN	90'	D	NONE
**W-5Y	AMERICAN ENERGY CORP.	940	UNKNOWN	UNKNOWN	PROBABLY D	NONE
**W-6Y	AMERICAN ENERGY CORP.	942	UNKNOWN	UNKNOWN	PROBABLY D	NONE
W-11Y	WYOMING POCAHONTAS LAND CO.	930	150'	85'	D	NONE

** THESE WELLS WERE EITHER PROPOSED OR DRILLED FOR USE AT THE ALLISON MINE OFFICE AND BATH HOUSE. THESE BLDG'S NO LONGER EXIST. W-11Y WAS LOCATED DURING A FIELD REVIEW, WAS MEASURED AND SAMPLED FOR QUALITY.

ORIGINAL

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OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

ATTACHMENT 14C
(WELL/SPRING INVENTORY)

Applicant's Name BENMIC, INC. (ALLISON)

Well/Spring Identification Number	Name of Owner of Well/Spring	Surface Elevation of Well/Spring	Depth of Well in Feet Below Land Surface	Static Water Level of Well in Feet Below Land Surface	Lithology of Supplying Aquifer/ Waterbearing Zone	Known Uses of Well/Spring (if spring give discharge rate)
**W-12Y	WYOMING POCAHON-TAS LAND CO.	931	UNKNOWN	UNKNOWN	PROBABLY D	NONE
**W-13Y	WYOMING POCAHON-TAS LAND CO.	932	UNKNOWN	UNKNOWN	PROBABLY D	NONE

** THESE WELLS WERE EITHER PROPOSED OR DRILLED FOR USE AT THE ALLISON MINE OFFICE AND BATH HOUSE. THESE BLDG'S NO LONGER EXIST.

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AEC 194244

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

ATTACHMENT 14D
(SURFACE WATER BODIES/PUBLIC WATER SUPPLIES)

Applicant's Name BENNOC, INC. (ALLISON)

Surface Water/ Public Supply Identification #	Type of Surface Water/Public Supply	Name of Owner of Surface Water/ Public Supply	Known Uses of Surface Water/ Public Supply
U-1 D-1	PERENNIAL (CAPTINA CREEK)	AMERICAN ENERGY CORP, WYOMING POCAHONTAS LAND CO., M & J WARD	NONE
U-2 D-2	INTERMITTENT	WYOMING POCAHONTAS LAND CO., D WHITE, ETAL	NONE
U-3 D-3	PERENNIAL (LONG RUN)	WYOMING POCAHONTAS LAND CO., AMERICAN ENERGY CORP, D WHITE, ETAL	NONE
S-6 D-4	INTERMITTENT	WYOMING POCAHONTAS LAND CO.	NONE
S-7 D-5	INTERMITTENT	WYOMING POCAHONTAS LAND CO., J & C SAFFELL, AMERICAN ENERGY CORP.	NONE
S-5 D-6	INTERMITTENT	AMERICAN ENERGY CORP.	NONE
S-9 D-7	INTERMITTENT	AMERICAN ENERGY CORP.	NONE

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OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

ATTACHMENT 14D
(SURFACE WATER BODIES/PUBLIC WATER SUPPLIES)

Applicant's Name BENNOC, INC. (ALLISON)

Surface Water/ Public Supply Identification #	Type of Surface Water/Public Supply	Name of Owner of Surface Water/ Public Supply	Known Uses of Surface Water/ Public Supply
S-2, S-3 D-8	INTERMITTENT	AMERICAN ENERGY CORP.	NONE
S-1 D-9	INTERMITTENT	AMERICAN ENERGY CORP.	NONE
U-10 D-10	PERENNIAL (PINEY CREEK)	RAVEN ROCKS INC., WYOMING POCAHONTAS LAND CO., AMERICAN ENERGY CORP, J SAFFELL C, A, & W WARD	NONE
WI-1 WI-1A WI-1B (POND 008 SERIES)	IMPOUNDMENTS	AMERICAN ENERGY CORP.	SEDIMENT CONTROL (D-0425)
WI-2 (POND 011)	IMPOUNDMENT	AMERICAN ENERGY CORP.	SEDIMENT CONTROL (D-0425)
WI-3	IMPOUNDMENT	AMERICAN ENERGY CORP.	NONE
WI-4 (POND 002)	IMPOUNDMENT	WYOMING POCAHONTAS LAND CO.	MINE WATER DISCHARGE (NOT IN USE) (D-0425)

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OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

ATTACHMENT 14D
(SURFACE WATER BODIES/PUBLIC WATER SUPPLIES)

Applicant's Name BENNOC, INC. (ALLISON)

Surface Water/ Public Supply Identification #	Type of Surface Water/Public Supply	Name of Owner of Surface Water/ Public Supply	Known Uses of Surface Water/ Public Supply
DS-8 D-11	INTERMITTENT	AMERICAN ENERGY CORP., H. & M. PERKINS	NONE
S-10 D-12	INTERMITTENT	AMERICAN ENERGY CORP.	NONE

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ADDENDUM TO PART 2, ATTACHMENTS 12, 14A, 14C, 14D

BENNOC, INC.

SAMPLE SITE	STATE PLANE COORDINATES X	Y
S-1	2,414,805	696,599
S-2	2,413,337	696,798
S-3	2,412,537	695,920
S-4	2,412,390	693,592
S-5	2,412,957	694,557
S-6	2,412,776	692,256
S-7	2,415,645	692,431
DS-8	2,416,741	692,822
S-9	2,416,445	693,799
DS-10	2,411,951	695,012
W-2	2,416,758	694,268
W-3	2,416,577	692,370
DW-3A	2,416,496	692,289
W-5	2,415,307	691,533
W-6	2,417,064	692,759
W-7	2,417,692	697,385
DW-7A	2,417,478	697,404
DM-1	2,411,737	694,103
DM-2	2,412,145	693,638
D-1	2,417,322	698,484
D-2	2,411,615	693,675
D-3	2,413,810	693,093
D-4	2,414,349	692,253
D-5	2,413,909	693,399
D-6	2,414,233	693,996
D-7	2,414,448	694,012
D-8	2,414,903	694,901
D-9	2,415,310	695,654
D-10	2,417,484	696,454
U-1	2,413,967	698,273
U-2	2,411,404	695,005
U-3	2,411,287	693,468
U-10	2,413,435	691,110
WI-1	2,415,114	694,727
WI-1A	2,415,114	694,740
WI-1B	2,415,075	694,892
WI-2	2,414,664	694,136
WI-3	2,412,466	693,371
WI-4	2,414,515	692,899
T.H. 1	2,414,654	697,290
T.H. 2	2,416,332	693,389
T.H. 3	2,415,636	693,285
T.H. 4	2,411,742	694,516
S-10	2,416,080	696,460
SZ-1	2,415,150	694,430
SZ-2	2,415,192	694,640
D-11	2,415,920	693,399
D-12	2,416,390	696,244

NOTE: X - Y COORDINATES FOR ALL EXISTING IMPOUNDMENTS WERE DETERMINED USING A POINT IN THE CENTER OF THE IMPOUNDMENTS AS THEY ARE SHOWN ON THE PERMIT APPLICATION MAP.

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OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

ATTACHMENT 15
(PRIME FARMLAND RESTORATION PLAN)

Applicant's Name BENNOC, INC.

1. Submit a signed copy of the U.S. Soil Conservation form OH-CPA-65 with a soil map and soil descriptions attached.

2. If a first order soil survey (1:1,000 scale or larger) has been conducted by the applicant to the standards and specifications of the National Cooperative Soil Survey and in accordance with Agriculture Handbooks 18 and 436 as provided for in 1501:13-4-12(F) (2) (a), provide a description of the soils which includes at a minimum the following

   A description of the soil profile which will include: the soil horizon, the average soil horizon depth; horizon boundaries; soil color with description of any mottling; texture; structure; consistence; reaction and any other features such as soil type, classification, parent material, physiography, relief, slope, erosion, drainage, depth to distribution, and land use.

   The range of prime farmland soil depths to bedrock which were encountered on the application area must be included (for example: soil depths between 46 - 54 inches to bedrock were encountered).

   A map must be provided, at a minimum first order scale or larger, delineating the mapped area(s) of prime soils and, if a previous SCS soil map exist, the SCS delineation of the prime farmland unit(s) must also be included on the map.

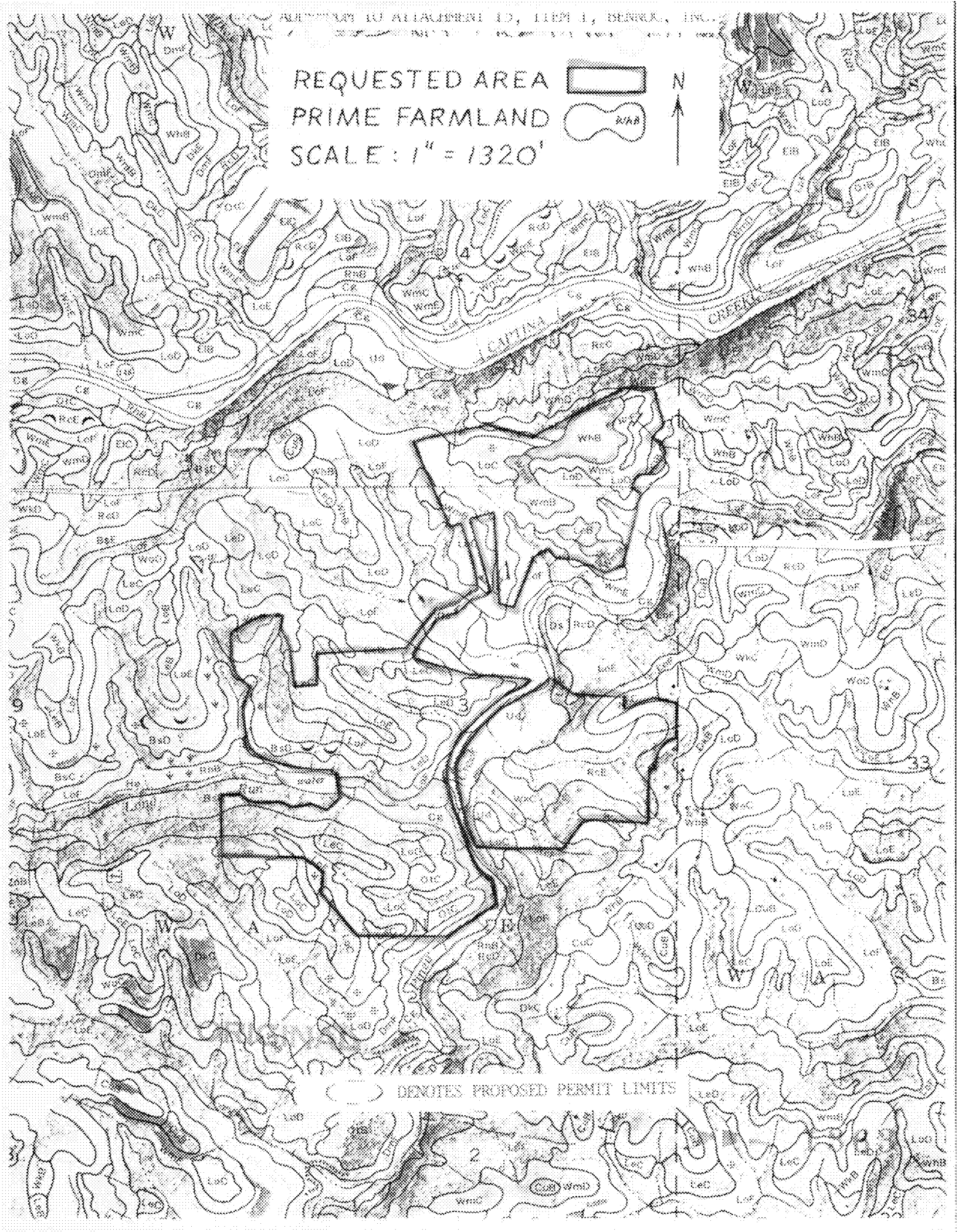
   Please note: If a 1st order survey is <u>not</u> performed, information regarding PFL soil extent and depth submitted to the Division <u>cannot</u> be revised subsequent to application approval.

   N/A

3. Provide a time schedule for soil removal and stockpiling.

   SEE ADDENDUM TO ATTACHMENT 15, ITEM 3

ORIGINAL


REQUESTED AREA
PRIME FARMLAND
SCALE: 1" = 1320'
N
DENOTES PROPOSED PERMIT LIMITS

OH-CPA-65
2-84

NAME OF MINE OPERATOR BENNOC, INC.

LOCATION OF PERMIT APPLICATION AREA BELMONT COUNTY, OHIO
WAYNE TOWNSHIP, SECTIONS 3 & 4, T-6, R-5

SIZE OF APPLICATION AREA IN ACRES 375±

CHECK THE APPROPRIATE BLOCK:

☐ I have determined that this permit application does not contain prime farmland in accordance with U. S. Soil Conservation Service "Land Inventory and Monitoring Memorandum - 3" (Revised).

☑ I have determined that the permit application contains prime farmland in accordance with U. S. Soil Conservation Service "Land Inventory and Monitoring Memorandum - 3" (Revised)

A soils map has been attached and prime farmland units are as follows:

Map Symbol	Unit Name
Cg	CHAGRIN SILT LOAM, OCCASIONALLY FLOODED
LeB	LOWELL SILT LOAM, 3 TO 8% SLOPES
WhB	WELLSTON SILT LOAM, 3 TO 8% SLOPES
WkB	WESTMORE SILT LOAM, 3 TO 8% SLOPES
WmB	WESTMORELAND SILT LOAM, 3 TO 8% SLOPES

ORIGINAL 1868

SIGNATURE: James W. Fomsby
District Conservationist

DATE: 2-14-99

ADDENDUM TO ATTACHMENT 15, ITEM 3, BENNOC, INC.

SOIL REMOVAL

THE PRIME FARMLAND AREA IS IDENTIFIED BY THE SOIL CONSERVATION SERVICE AND THE AREA IS THEN TRANSFERRED TO THE APPLICATION MAP.

REMOVAL OF THE SOIL HORIZONS OF THE WhB, WmB UNITS WILL BE ACCOMPLISHED WITH DOZERS, PANS OR ROCK TRUCKS UNDER THE SUPERVISION OF A FOREMAN. SOIL REMOVAL SHALL BE COMPLETED BY REMOVING THE TOPSOIL LAYER (A HORIZON) AND PUSHING IT TO IT'S DESIGNATED AREA FOR STOCKPILING. IF THE NATURAL TOPSOIL LAYER IS LESS THAN SIX INCHES THICK, THE TOP SIX INCHES WILL BE REMOVED AND TREATED AS TOPSOIL. THE A, B, AND/OR C HORIZONS WILL BE REMOVED TO A DEPTH OF 48 INCHES OR TO THE Cr OR R HORIZONS AND PUSHED OR TRANSPORTED BY PANS OR TRUCKS TO A SEPARATE, DESIGNATED AREA FOR STOCKPILING. REFER TO SCS TECHNICAL GUIDE SECTION IV AS DOCUMENTATION IN SUPPORT OF THE SUITABILITY OF B-C HORIZON MATERIALS TO BE MIXED.

ADVERSE SEASONAL AND CLIMATIC CONDITIONS CAN HAVE A NEGATIVE EFFECT ON ACTIVITIES INVOLVING THE STRIPPING AND REPLACEMENT OF PRIME FARMLAND SOILS. FOR THIS REASON THE FOLLOWING LIMITATIONS RELATING TO SOIL REMOVAL WILL BE OBSERVED. STRIPPING OF "A" AND "B" HORIZON SOILS SHOULD NOT OCCUR DURING INCLEMENT WEATHER CONDITIONS. SUCH CONDITIONS FOR THESE PURPOSES ARE THOSE THAT WOULD SIGNIFICANTLY INCREASE THE COMPACTION LEVEL OF THE RECLAIMED SOIL.

REMOVAL OF PRIME FARMLAND SOIL SHOULD NOT OCCUR WHEN THE FROST PENETRATION IS BELOW THE "A", "B" AND/OR "C" SOIL HORIZON INTERFACE. REMOVAL OF THE PRIME FARMLAND SOIL SHOULD NOT OCCUR WHEN THE SOIL MOISTURE CONTENT IS SUFFICIENTLY ELEVATED SO THAT IT PROMOTES INCREASED COMPACTION. PROPER SOIL MOISTURE CONTENT IS DETERMINED BY STANDARD AGRICULTURAL TECHNIQUES UNDER THE SUPERVISION OF A QUALIFIED SOILS TECHNICIAN. THE FIELD TESTS USED BY FARMERS FOR YEARS, INVOLVES OBSERVING WHETHER THE SOIL GLISTENS OR IF IT FORMS A COHESIVE BALL OR RIBBON WHEN ROLLED BETWEEN THE THUMB AND FOREFINGERS. IF SO, THE SOIL IS TO MOIST FOR WORKING. A SOIL MOISTURE CONTENT TEST WILL BE CONDUCTED ON THE TOP AND SUB SUB SOILS.

SOIL STOCKPILING

SURFACE RELIEF, PERCENT OF SLOPE AND LAND SUSCEPTIBLE TO SLIPPAGE HAS BEEN TAKEN INTO CONSIDERATION IN DETERMINING STOCKPILING SITES.

STOCKPILE SITES WILL BE PREPARED BE REMOVING ALL WOODY VEGETATION AND OTHER MATERIALS THAT MAY INTERFERE WITH PLACEMENT OR REMOVAL OF STOCKPILED SOIL. STOCKPILE SIDE SLOPES WILL BE NO GREATER THAN 2 HORIZONTAL TO 1 VERTICAL.

EACH HORIZON WILL BE STOCKPILED SEPARATELY AS SHOWN ON THE APPLICATION MAP. ONLY DOZERS WILL BE USED TO WINDROW THE STOCKPILES.

THE SOIL STOCKPILE MATERIALS WILL BE PROTECTED FROM WIND AND WATER EROSION BY AN EFFECTIVE COVER OF NON-NOXIOUS, QUICK GROWING ANNUAL AND PERENNIAL PLANTS, SEEDED DURING THE FIRST NORMAL PERIOD FOR FAVORABLE PLANTING CONDITIONS AFTER STOCKPILING IS COMPLETED. THE TEMPORARY SEEDING WILL CONSIST OF OATS, RYE, WHEAT AND BARLEY AT 2 BUSHELS PER ACRE.

WHEN NECESSARY, BERMS, OR DIVERSIONS WILL BE CONSTRUCTED TO PREVENT SOIL FROM ERODING FROM THE STOCKPILE AREAS.

SOIL STOCKPILING WILL OCCUR WITHIN SOIL MOISTURE AND TEMPERATURE RANGES THAT WILL MINIMIZE COMPACTION. ADDITIONAL PROTECTION FROM EROSION WILL BE OBTAINED BY MULCHING WITH HAY OR STRAW.

ORIGINAL

4. Provide a time schedule for soil reconstruction and revegetation.

   SEE ADDENDUM TO ATTACHMENT 15, ITEM 4

5. Provide a time schedule for restoration of soil productivity.

   SEE ADDENDUM TO ATTACHMENT 15, ITEM 5

6. Indicate the depths of topsoil and B horizon or B and C horizons by soil series to be removed and segregated during stockpiling.

   SEE ADDENDUM TO ATTACHMENT 15, ITEM 6

7. Describe the measures planned to avoid excessive soil compaction.

   SEE ADDENDUM TO ATTACHMENT 15, ITEM 4

8. Describe the measures planned to treat the soils on areas where excessive compaction is unavoidable.

   DEEP TILLAGE IS PERFORMED ON ALL PRIME FARMLAND SUBSOIL PRIOR TO REPLACING THE A HORIZON. THE TOPSOIL IS ALSO RIPPED PRIOR TO PLANTING. ADDITIONAL USE OF DEEP TILLAGE EQUIPMENT WILL BE IMPLEMENTED WHERE EXCESSIVE COMPACTION IS UNAVOIDABLE. ALSO, THE USE OF DEEP ROOTED LEGUMES AND GRASSES WILL HELP PROVIDE ORGANIC MATTER AND BREAK UP SOIL PARTICLES AND IMPROVE SOIL STRUCTURE.

9. Indicate the soil moisture conditions under which topsoil and subsoil will be handled, describing how suitable soil handling moisture conditions will be determined.

   SEE ADDENDUM TO ATTACHMENT 15, ITEM 3

ORIGINAL

ADDENDUM TO ATTACHMENT 15, ITEM 4, BENNOC, INC.

SOIL RECONSTRUCTION

DURING BACKFILLING OPERATIONS WHEN THE AREA IS NEARLY READY FOR GRADING, THE SURVEY CREW WILL STAKE AN AREA OF EQUAL SIZE TO THE ORIGINAL PRIME FARMLAND UNITS, UTILIZING THE SAME EQUIPMENT AS FOR REMOVAL OPERATIONS THE FOREMAN WILL REPLACE THE STOCKPILED HORIZONS IN THEIR PROPER SEQUENCE AND DEPTHS TO REESTABLISH THE PRIME FARMLAND ACREAGE. TRAVEL ACROSS THE PILES WILL BE LIMITED TO THAT WHICH IS ABSOLUTELY NECESSARY DURING REPLACEMENT OF THE SOILS. WORK ON REPLACEMENT OF PRIME FARMLAND SOIL WILL OCCUR WITHIN SOIL MOISTURE AND TEMPERATURE RANGES THAT WILL MINIMIZE COMPACTION. IF THE MOISTURE CONTENT OF THE SOIL IS SUCH THAT IT GLISTENS OR FORMS A COHESIVE BALL OR RIBBON WHEN ROLLED BETWEEN THE THUMB AND FOREFINGERS IT IS TOO MOIST FOR WORKING. RECONSTRUCTION WILL OCCUR WHEN THESE CONDITIONS DO NOT EXIST.

THE MINIMUM DEPTH OF SOIL AND SOIL MATERIAL TO BE RECONSTRUCTED FOR PRIME FARMLAND SHALL BE FORTY-EIGHT INCHES.

THE MATERIAL FROM "B", OR "B" AND "C", WILL FIRST BE REPLACED IN SUCH A MANNER AS TO AVOID EXCESS COMPACTION OF OVERBURDEN AT A UNIFORM THICKNESS NOT LESS THAN FORTY-EIGHT INCHES.

THE MATERIAL FROM THE "A" HORIZON WILL BE REPLACED ON TOP THE "B" AT A UNIFORM THICKNESS NOT LESS THAN TWELVE INCHES. THIS THICKNESS RESTORATION, COMBINED WITH THE INSTALLATION OF PROPER ARTIFICIAL DRAINAGE, FERTILIZER AND LIME APPLICATION AS DETERMINED BY LABORATORY ANALYSIS AND PROPER MANAGEMENT PRACTICES WILL CREATE A FINAL SOIL HAVING AN EQUAL OR GREATER PRODUCTIVE CAPACITY THAN EXISTED IN THE SOIL BEFORE MINING .

BY SEPARATELY REMOVING, STOCKPILING AND REPLACING THE "A" AND "B" HORIZONS THE TEXTURE OF THE REPLACED SOILS WILL BE WITHIN THE RANGES OF THE UNMINED SOILS. THE REACTION OF THE REPLACED SOILS WILL BE WITHIN THE RANGES OF THE UNMINED SOILS BY TAKING SOIL TEST TO DETERMINE THE LIME RATES TO BE APPLIED TO THE REPLACED SOIL.

EXISTING ARTIFICIAL DRAINAGE WILL BE RE-ESTABLISHED SUBSEQUENT TO MINING. DRAINAGE IMPROVEMENTS WILL BE EQUIVALENT TO WHAT EXISTED PRIOR TO MINING.

THE PRIME FARMLAND SOIL AREA WILL BE RESTORED TO ALLOW FOR POSITIVE SURFACE DRAINAGE AFTER FINAL SETTLING OCCURS. THE RECONSTRUCTED SOIL WILL HAVE AN AVERAGE SLOPE PERCENTAGE WITHIN THE SLOPE RANGE OF THE UNMINED PRIME FARMLAND MAP UNIT.

IN ORDER TO REDUCE COMPACTION EFFECTS WHICH MAY HAVE OCCURRED DURING THE REPLACEMENT OPERATIONS, ADDITIONAL CONDITIONING OF THE "A" AND "B" HORIZON SOILS IS UNDERTAKEN. A SUBSOILER IS USED TO LOOSEN THE SOILS. THE SUBSOILER IS PULLED BY A DUAL-TIRED AGRICULTURAL TRACTOR. THE "A" HORIZON SOILS ARE CONDITIONED AFTER REPLACEMENT BY NORMAL AGRICULTURAL SEED BED PREPARATION. POROSITY OF THE SOILS AFTER RECONDITIONING SHALL PERMIT PENETRATION OF ROOTS.

SEEDING, MULCHING AND OTHER EROSION CONTROL MEASURES SHALL BE COMPLETED AS SOON AS WEATHER CONDITIONS PERMIT AFTER REPLACEMENT OF TOPSOIL. SEE ADDENDUM TO ATTACHMENT 15, ITEM 4, SOIL REVEGETATION.

ORIGINAL

COMPACTION OF THE REPLACED PRIME FARMLAND SOIL CAN BE REDUCED BY MINIMIZING THE NUMBER OF PASSES MADE BY MACHINERY OVER THE SOIL. TYPICALLY, THE ROUTE FOLLOWED BY RESOILING EQUIPMENT IS DESIGNED FOR THE MACHINE TO PASS OVER ONLY THAT LENGTH OF REPLACED SOILS NECESSARY TO DISCHARGE ITS LOAD. SOILS ARE SPREAD IN LAYERS AS THICK AS PRACTICAL TO REDUCE THE EFFECTS OF REPEATED EQUIPMENT PASSES. RESOILING WILL OCCUR IN AN ACROSS-SLOPE DIRECTION. IF COMPACTION SHOULD OCCUR, THE "B" MATERIAL WILL BE RIPPED PRIOR TO REPLACING THE "A" HORIZON MATERIAL.

FOR TIMETABLES SEE PART 3, ITEMS D(1-3).

ORIGINAL

AEC 19435

ADDENDUM TO ATTACHMENT 15, ITEM 4, BENNOC, INC.

SOIL REVEGETATION

FARM TRACTORS, DISCS, GRAIN DRILLS, LIME AND FERTILIZER SPREADERS, ROCK RAKES, ROCK PICKERS, MECHANICAL MULCHERS AND CRIMPERS TO PREPARE SEEDBED AND PLANT THE TEMPORARY AND PERMANENT SEED MIXTURES WILL BE UTILIZED. SEEDBED PREPARATION WILL BE ACCOMPLISHED UTILIZING THE AFOREMENTIONED AGRICULTURAL EQUIPMENT AND APPROPRIATE SOIL AMENDMENTS ADDED BASED ON SOIL TEST ANALYSES AND RECOMMENDATIONS. ALL TILLAGE OPERATIONS AND ESPECIALLY FINAL SEEDBED PREPARATION AND PLANTING WILL BE DONE ON THE CONTOUR TO THE EXTENT POSSIBLE. SUCCESSFUL ESTABLISHMENT OF THE FORAGE CROP WILL BEGIN BY PREPARING A LEVEL, FIRM, WEED-FREE SEEDBED. AFTER SUBSOILING OR RIPPING OF THE "A" HORIZON MATERIAL THE SEEDBED WILL BE PREPARED WITH A DISC AND/OR HARROW. SEEDING WILL BE DONE WITH A GRAIN DRILL. PLACEMENT OF FORAGE SEEDS WILL BE NO DEEPER THAN ONE-QUARTER INCH IN THE SOIL. ONLY HIGH QUALITY DISEASE RESISTANT, CERTIFIED SEED OF ADAPTED SPECIES AND VARIETIES WILL BE USED. PERMANENT VEGETATION WILL CONSIST OF 4 lbs/AC. ORCHARD GRASS, 2 lbs/AC. TIMOTHY, 12 lbs/AC. ALFALFA AND 6 lbs/AC. BIRDSFOOT TREFOIL. SEED MIXTURES ARE MADE DAILY WITH THE PROPER INNOCULUM APPLIED TO LEGUMES PRIOR TO MIXING. PLANTING OF PERMANENT VEGETATION WILL BE CONDUCTED DURING THE FIRST NORMAL PERIOD FAVORABLE FOR PLANTING CONDITIONS AFTER FINAL PREPARATION. IF TEMPORARY VEGETATION IS NECESSARY, A MIXTURE OF OATS, RYE, WHEAT AND BARLEY AT A RATE OF 2 BUSHELS PER ACRE WILL BE USED. PLANTING OF TEMPORARY VEGETATION WILL BE CONDUCTED AS CONTEMPORANEOUSLY AS PRACTICABLE WITH THE COMPLETION OF BACKFILLING, GRADING AND TOPSOILING.

SOIL FERTILITY AND LIME TESTS ARE TAKEN PRIOR TO SEEDBED PREPARATION. LIME RATES ARE DETERMINED BY THE TEST RESULTS AND APPLIED PRIOR TO DISCING. FERTILITY RATES ARE DETERMINED BY TEST RESULTS. THE FERTILITY RECOMMENDATIONS ARE BASED ON A FIVE YEAR MANAGEMENT PROGRAM. FERTILIZER IS BROADCAST PRIOR TO LAST DISCING. ADDITIONAL APPLICATIONS WILL BE TOPDRESSED.

THE REVEGETATION PLAN FOR PRIME FARMLAND WILL RETURN THE LAND TO A HAY CROP. THE SPECIFIC SEED MIXTURE WILL DEPEND UPON CONDITIONS TO BE MET AND WILL INCLUDE THE FOLLOWING GRASSES AND LEGUMES:

ALFALFA	ORCHARD GRASS
TIMOTHY	BIRDSFOOT TREFOIL

THE PRECISE MIXTURE WILL BE REVIEWED WITH SCS. THIS SEED MIXTURE WILL BE MIXED DAILY AND RECEIVES DOUBLE INNOCULUM. ONLY CERTIFIED SEED WILL BE PLANTED.

THE PRIMARY REASONS FOR SELECTING A HAY CROP FOR REVEGETATION ARE AS FOLLOWS:

1. GRASS - LEGUME HAY IS THE RECOMMENDED REFERENCE CROP TO EVALUATE THE RESTORATION OF PRODUCTIVITY ON PRIME FARMLAND. THE SOIL CONSERVATION SERVICE RECOMMENDS GRASS-LEGUME HAY FOR BELMONT COUNTY.

2. HAY CROPS CREATE A MORE EXTENSIVE ROOT PENETRATION THAN MOST COMMON ROW CROPS. THIS SERVES TO PROMOTE PED STRUCTURE FORMATION, THUS OPENING UP THE SOIL ZONES, FACILITATING AERATION, MOISTURE PENETRATION, REDUCING SOIL COMPACTION. THIS IS GOOD LONG-TERM SOIL MANAGEMENT.

ORIGINAL

AEC 194366

ADDENDUM TO ATTACHMENT 15, ITEM 4, BENNOC, INC.

3. HAY CROPS PROVIDE A BETTER COVER FOR EROSION CONTROL THAN ROW CROPS DUE TO ITS QUICKER ESTABLISHMENT AND MORE UNIFORM AND THICKER COVER.

4. HAY CROPS INCLUDE LEGUMES WHICH FIX NITROGEN IN THE SOILS. A ROW CROP SUCH AS CORN WILL REDUCE THE NITROGEN. THEREFORE, HAY CROPS HELP TO REESTABLISH THE NECESSARY NITROGEN BASE AND IMPROVE THE SOIL STRUCTURE SO THAT OVER THE LONG TERM THE SOILS CAN BE USED MORE SUCCESSFULLY FOR THE PRODUCTION OF CROPS.

5. HAY CROPS ARE RECOGNIZED IN THE RULES (ORC 13:1:02(P)) AS A RECLAMATION CROP.

6. THE COAL INDUSTRY AS A WHOLE HAS A GREAT NEED FOR HAY AS MULCH IN THEIR RECLAMATION WORK. THUS, GROWING HAY FOR USE AS MULCH IS AN IMPORTANT PART OF OVERALL RECLAMATION PROGRAMS.

AFTER SEEDING MULCH WILL BE APPLIED AT A RATE OF 2 1/2 TONS PER ACRE. THE MULCH WILL THEN BE ANCHORED INTO THE SOIL USING CRIMPING MACHINES. MEASURES TO BE USED TO ADEQUATELY CONTROL EROSION AND SEDIMENTATION ON THE RECLAIMED PRIME FARMLAND WILL INCLUDE A TEMPORARY PLANTING OF A COVER CROP AND MULCHING. WATER MANAGEMENT MEASURES WILL INCLUDE THE USE OF DIVERSION DITCHES TO PROTECT PRIME FARMLAND AREAS FROM RUNOFF FROM ADJACENT HIGHER GROUND. DITCHES WILL NOT BE USED WITHIN PRIME FARMLAND UNITS. PROPER GRADING TO RETURN THE AREA TO THE PREMINING CONDITION AND ELIMINATION OF SMALL DEPRESSIONS WILL PROVIDE AN ADEQUATE SUPPLY OF MOISTURE TO ENHANCE GROWTH AND YIELD. TEMPORARY PLANTING WILL BE CONDUCTED DURING THE FIRST NORMAL PERIOD FAVORABLE FOR PLANTING CONDITIONS AFTER REPLACEMENT OF THE "A" HORIZON. ONLY PERSONNEL WITH EXPERIENCE IN AGRICULTURAL OPERATIONS (WHO ARE FAMILIAR WITH EQUIPMENT OPERATION) AND EXPERIENCED FOREMEN AND SUPERVISORS WILL BE USED TO INSURE THAT PROPER PRIME FARMLAND RECONSTRUCTION ACTIVITIES ARE PERFORMED IN ACCORDANCE WITH THE RECONSTRUCTION PLAN.

MANAGEMENT OF THE RECLAIMED PRIME FARMLAND AREAS WILL INCLUDE PROMPTLY RESEEDING TO CONTROL EROSION AND TO ESTABLISH 80 PERCENT OF GROUND COVER. NEW SEEDINGS WILL HAVE MADE A MINIMUM GROWTH OF TEN INCHES BEFORE ANY HARVESTING.

ORIGINAL

ADDENDUM TO ATTACHMENT 15, ITEM 5, BENNOC, INC.

RESTORING SOIL PRODUCTIVITY

RESTORATION OF SOIL WILL BEGIN WITH DEEP TILLAGE, LIMING AND FERTILIZING PRIOR TO INITIAL PLANTING. DEMONSTRATION OF SOIL PRODUCTIVITY WILL BEGIN DURING THE FIVE YEAR TERM OF PHASE III RECLAMATION.

A GRASS-LEGUME HAY CROP WILL BE UTILIZED TO DEMONSTRATE PRODUCTIVITY OF THE PRIME FARMLAND SOIL. STANDARD TESTING PROCEDURES WILL BE UTILIZED. THE TYPICAL PROCEDURE WILL PROBABLY BE AS FOLLOWS:

SAMPLE SITES WILL BE SELECTED AT RANDOM AND THE GROWTH IN A 25 1/2 INCH SQUARE AREA WILL BE HARVESTED NEAR GROUND LEVEL. THE SAMPLES WILL BE WEIGHED AND THE AVERAGE WEIGHT FOR THE TWELVE SAMPLES WILL BE CALCULATED. A SUBSAMPLE WILL BE RETAINED AND OVEN DRIED TO ADJUST FOR MOISTURE CONTENT. THE AVERAGE WEIGHT OF THE TWELVE SAMPLES WILL BE MULTIPLIED BY 10,000 TO OBTAIN THE EQUIVALENT YEILD PER ACRE. HEIGHT MEASUREMENTS WILL ALSO BE MADE AT RANDOMLY SELECTED SITES TO DETERMINE THE UNIFORMITY OF THE HAY CROP.

TARGET YIELDS FOR EACH PRIME FARMLAND SOIL TYPE ARE LISTED ON THE ATTACHMENT 15, ITEM 15 OF THIS APPLICATION AND ARE TAKEN FROM THE EXTENSION BULLETIN NO. 685. THE RECLAMATION WILL BE DETERMINED TO BE SUCCESSFUL IF AN EQUIVALENT OR HIGHER YIELD CAN BE DEMONSTRATED.

ALL PROCEDURES WILL BE UNDER THE DIRECT SUPERVISION OF A QUALIFIED SOILS TECHNICIAN. BENNOC, INC. WILL IMPLEMENT A HIGH LEVEL OF POST MINING LAND MANAGEMENT USING APPROVED AGRICULTURAL PRACTICES, INCLUDING:

1. SCARIFICATION
2. TILLAGE OPERATIONS (MOLD BOARD PLOWING OR RELATED TILLAGE)
3. DISCING OPERATION
4. AERATION
5. LIMING
6. FERTILIZATION
7. SUPPLEMENTAL OR VARIED
8. SUBSOILING
9. PESTICIDES
10. HERBICIDES
11. INSECTICIDES

IMPLEMENTATION OF THE ABOVE PRACTICES WILL BE ACHIEVED USING STANDARD METHODS AND TIMING USED BY THE AGRICULTURAL INDUSTRY. THE NEEDS OF SPECIFIC LANDOWNERS AND IMPLEMENTATION OF NEW TECHNOLOGY WILL BE MET.

BENNOC, INC. WILL ENGAGE THE SERVICES OF EXPERTS IN THE AGRICULTURAL FIELDS TO ENSURE THAT THE PRIME FARMLAND IS PROPERLY RESTORED. THE YIELD WILL EITHER EQUAL OR EXCEED THE TARGET YIELD SPECIFIED IN THE CURRENT OHIO COOPERATIVE EXTENSION BULLETIN 685. IN ACCORDANCE WITH PPD REGULATORY 90-1 DIVISION OF RECLAMATION WILL BE NOTIFIED IN WRITING AT LEAST 5 AND NO MORE THAN 10 WORKING DAYS PRIOR TO THE DATE OF HARVEST FOR YIELD VERIFICATIONS. THE REFERENCE CROP WILL BE HAY AND TWO CUTTING SYSTEM WILL BE FOLLOWED.

FOR TIMETABLES SEE PART 3, ITEMS D(1-3).

ADDENDUM TO ATTACHMENT 18, ITEM 6, BENNOX, INC.

MAP UNIT	SYMBOL	HORIZON	DEPTH
WELLSTON SILT LOAM	WhB	A	0" TO 7"
		B	7" TO 40"
WESTMORELAND SILT LOAM	WmB	A	0" TO 8"
		B	8" TO 27"

ORIGINAL

AEC 194399

10. List the types of equipment proposed for use during the removal of the soil and during the reconstruction phases of reclamation.

    SEE ADDENDUMS TO ATTACHMENT 15, ITEMS 3, 4 AND 5

11. Describe the measures planned to assure positive surface drainage on the reconstructed soils.

    THE AREA WILL BE REVIEWED BY THE FOREMAN AND SOILS TECHNICIAN PRIOR TO SOIL REPLACEMENT. SMOOTHING AND FINAL GRADING AT THE AREA WILL ENSURE POSITIVE DRAINAGE OF THE RECONSTRUCTED AREA. ANY POCKETS WHICH FORM AS A RESULT OF DIFFERENTIAL SETTLING WILL BE REGRADED. DEPENDING ON FINAL REGRADED SLOPES, FLATTER AREAS MAY INCLUDE DESIGNED SURFACE CHANNELS OR GRASSED WATERWAYS TO ASSURE POSITIVE SURFACE DRAINAGE.

12. Describe the erosion control and water management measures along with design criteria to be utilized during the stockpiling, reconstruction, and revegetation phases of reclamation.

    REMOVAL OF PRIME FARMLAND SOILS FOR STOCKPILING, RECONSTRUCTION AND REVEGETATION WILL NOT OCCUR DURING NORMAL FLOODING SEASONS. SEE ADDENDUMS TO ATTACHMENT 15, ITEMS 3 AND 4 FOR ADDITIONAL MEASURES AND DESIGN CRITERIA.

13. describe the planned revegetation techniques, including seedbed preparation, soil amendments, seeding mixtures and methods, and mulching materials and methods.

    SEE ADDENDUM TO ATTACHMENT 15, ITEM 4

14. Describe the soil, crop, and pest management practices to be implemented following revegetation.

    MANAGEMENT PRACTICES WILL BE DETERMINED AND USED EACH YEAR DEPENDING ON WEATHER CONDITIONS AND NEED. SOIL FERTILITY AND LIME TEST WILL BE TAKEN AND RECOMMENDATIONS FOR A FIVE YEAR PROGRAM FOLLOWED. MANAGEMENT PRACTICES WILL BE AIMED AT MAINTAINING ALFALFA IN THE STAND BY APPLYING FERTILIZER IN THE RECOMMENDED AMOUNTS TO REPLACE NUTRIENTS REMOVED IN THE HARVESTED CROP. OTHER MANAGEMENT PRACTICES USED WILL BE DEPENDENT ON NEED.

ORIGINAL

15. List the reference crop(s) and target yield for each area of reconstructed prime farmland.

THE REFERENCE CROP WILL BE GRASS-LEGUME HAY. THE REFERENCE CROP HAS BEEN RECOMMENDED BY THE SOIL CONSERVATION SERVICE IN THE INTERIM STANDARD FOR RECLAMATION OF SURFACED MINED PRIME FARMLAND. THE YIELDS FOR EACH SOIL UNIT AS LISTED IN EXTENSION BULLETIN NO. 685 ARE AS FOLLOWS:

SOIL SERIES	HAY TON/AC.
WELLSTON	4.3
WESTMORELAND	4.3

16. Describe the techniques to be used in establishing, managing, and verifying yields of each reference crop.

SEE ADDENDUM TO ATTACHMENT 15, ITEM 5

17. List the qualifications and describe the involvement of personnel responsible for implementing the restoration plan.

BENNOC, INC. PERSONNEL HAVE MINED AND RECLAIMED MANY ACRES OF LAND (INCLUDING CROPLANDS) WITH HIGH DEGREES OF SUCCESS. BENNOC EMPLOYEE'S EXPERTISE WILL ENSURE THAT THE RESTORATION PLAN IS PROPERLY IMPLEMENTED.

18. Describe the applicant's past performance on prime farmland restoration.

THE APPLICANT HAS NOT PREVIOUSLY RESTORED PRIME FARMLAND.

19. Describe or demonstrate by some other means that the applicant has the technological capability to restore the prime farmland to equivalent or higher levels of yield as non-mined prime farmland in the surrounding area under equivalent levels of management.

THE APPLICANT WILL WORK CLOSELY WITH THE LANDOWNER AND OTHER LOCAL AGENCIES (INCLUDING ASCS AND SCS) TO ENSURE THAT THE MOST MODERN TECHNOLOGY CURRENTLY AVAILABLE IS UTILIZED IN THE RESTORATION OF THE PRIME FARMLAND AREA AND BY FOLLOWING THE PRIME FARMLAND RESTORATION PLAN OUTLINED IN THIS ATTACHMENT 15 AND ADDENDA.

20. Submit pertinent research studies, field demonstrations, and other information supporting the proposed reclamation techniques. Identify as addendum to Attachment 15.

SEE ADDENDUM TO ATTACHMENT 15, ITEM 20

ORIGINAL

The requested scientific studies (OAC 1501:13-4-12(F)(2)(g)), the demonstraction of technological capability required (OAC 1501:13-4-(F)(2)(h)) and the fact that the soil is to be returned to specified levels of yield (OAC 1501:13-4-12(F)(2)(i), in our opinion is demonstrated by our earlier statements and further supported in studies found in the following literature.

Literature review:

Studies at the University of Illinois have demonstrated that productivity of prime farmland can indeed be restored to premining levels. Drought years can depress overall yields, but climatological adjustments confirm equivalent or better yields when compared to undisturbed soils.

There is data available on the production potential of mined lands. The capability of the soil material and some productivity insights are presented in Illinois Bulletin 628. Three-year average yields of forage mixtures, produced on mined lands in 1949-1951, for alfalfa and grasses, average 3.4 tons per acre throughout the state on mined land without any added fertilizer. On page 29 it says, "these yields compare very favorably with yields obtained on treated farmland." It is reported that on Illinois farmlands, yields of 2.8 tons of dry forage per acre may be expected from fertilized alfalfa-brome-grass. That data was accumulated 30 years ago. Peabody has three years of recent data (1979-1981) from mined lands. The average yields are: River King #6 mine in Illinois --3.6 tons per acre, in Indiana--3.1 tons per acre and in Missouri--4.8 tons per acre. These yields are on graded mine lands, without topsoil or fertilizer amendments.

Clearly, there is adequate evidence that mined lands produce forage crop yields comparable with unmined lands. Reclamation of prime farmland for forage crop production is a reality.

Other studies demonstrated that a reasonable topsoil replacement of of a"B" horizon, produced yeilds of soybeans and forages at 94 and 89 percent yields compared to check plots. A conclusion that can be reached from these studies is that well reclaimed prime farmland incorporating an adequate "B" horizon certainly should produce an equivalent yield which has the ability to restore prime farmland to its original or better productivity.

Jansen, I.J., 1981 reconstructing soils after surface mining of prime agricultural land 1981. Obviously, freeze/thaw cycles and the accumulation of soil organic matter from recycled vegetative matter contributes to the positive redevelopment soils. Jansen cites studies of old mine spoil sites in which the exposed spoils had been developing soils for 10 to 60 years. In those locations there were significant organic matter accumulations down to depths of 5 and 14 inches. It is reasonable to expect that if a suitable high density root system can be developed in reclaimed prime farmland, there is full expectation of adequate of superior soil development in a relatively short time compared to natural soil formation times.

ORIGINAL

Jansen cites references indicating that it is impossible to totally reconstruct a premined soil, but concludes that appropriate care in replacement of properly graded and stratified horizons will restructure a soil acceptable for prime farmland reclamation. The natural improvement of soils will occur faster than the formation of soils from raw "C" horizon materials. Jansen also postulates that if productivity can be restored to equal premined activity within 5 years after mining, then superior productivity should be expected within 25 to 50 years.

Sutton J. and J. Underwood 1982, unpublished study for Ohio Agricultural Research and Development Center, Wooster, Ohio.
Sutton and Underwood have completed a study of a variety of cropping procedures in Ohio soils, including mined prime farmlands. Data obtained unpublished as of this date, have encouraged the authors that equivalent or higher yields in these Ohio soils under "high management" can be obtained.

K.R. Lucas June 1983, private communication to J. Shupert Ohio Mining and Reclamation Association.
Lucas cites greenhouse studies with reclaimed Illinois prime farmland soils achieving acceptable yields. These soils were similar taxonomically to Ohio soils and Lucas projects a similar, positive performance with soils in Southeast Ohio.

The above mentioned reclamation and prime farmland soil management techniques will be followed as close as possible in the reconstruction of the prime farmland unit in this permit.

These studies demonstrate that proper reclamation and adequate management of prime farmland soils will reestablish acceptable premining productivity. Prime farmlands that were mined before current regulations were implemented have also been returned to a productivity level commensurate with their premining potential. It is within our reasonable expectation that prime farmlands mined in Southeastern Ohio can and will be reclaimed to productivity levels equal to or better than premining status.

ORIGINAL

9-88

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

ATTACHMENT 16
(NEGATIVE DETERMINATION OF PRIME FARMLAND)

APPLICANT BENNOC, INC.

This attachment is to be completed and submitted with the permit application if the applicant is demonstrating that the permit area or a portion of the permit area is not prime farmland. Check (X) the appropriate item numbers and attach the documents used to make the demonstration.

X 1. Lands within the proposed permit area have not been historically used for cropland.

____ 2. The slope of the land within the proposed area is greater than eight percent.

____ 3. On the basis of a second order soil survey meeting the standards of the National Cooperative Soil Survey, there are no soil map units within the proposed permit area that have been designated prime farmland by the U.S. Soil Conservation Service.

____ 4. On the basis of a first order soil survey commissioned by the applicant and meeting the standard of the National Cooperative Soil Survey, there were found to be no prime farmland map units as designated by the S.C.S. within the proposed permit area (See Attachment 15, item 2 for 1st order survey criteria).

ORIGINAL

ADDENDUM TO ATTACHMENT 16, BENNOC, INC.

MAP SYMBOL	NAME	SLOPE
BsD	BROOKSIDE SILTY CLAY LOAM	15 TO 25%
Bse	BROOKSIDE SILTY CLAY LOAM	25 TO 40%
Cg	CHAGRIN SILT LOAM, OCCASIONALLY FLOODED	- - - -
Ds	DUMPS, MINE	
ElB	ELKINSVILLE SILT LOAM	3 TO 8%
LeB	LOWELL SILT LOAM	3 TO 8%
LeC	LOWELL SILT LOAM	8 TO 15%
LeD	LOWELL SILT LOAM	15 TO 25%
LoC	LOWELL-WESTMORELAND SILT LOAMS	8 TO 15%
LoD	LOWELL-WESTMORELAND SILT LOAM	40 TO 70%
LoE	LOWELL-WESTMORELAND SILT LOAM	15 TO 25%
LoF	LOWELL-WESTMORELAND SILT LOAM	25 TO 40%
OtC	OTWELL SILT LOAM	8 TO 15%
RcE	RICHLAND MODERATELY STONY LOAM	25 TO 40
Ud	UDORTHENTS-URBAN LAND COMPLEX	- - - -
WhB	WELLSTON SILT LOAM	3 TO 8%
WkB	WESTMORE SILT LOAM	3 TO 8%
WkC	WESTMORE SILT LOAM	8 TO 15%
WmB	WESTMORELAND SILT LOAM	3 TO 8%
WoC	WESTMORELAND-UPSHUR COMPLEX	8 TO 15%

ORIGINAL

ADDENDUM TO ATTACHMENT 16, BENNOC INC.

AFFIDAVIT

State of OHIO, HARRISON county, ss ROBERT L. JONES, being first duly sworn, says that the following information explained below is correct.

The land designated as prime farmland by the SCS, which is within the permit limits of this proposed operation was initially acquired by the Youghiogheny and Ohio Coal Company on July-November 1966 for use as a surface facility for underground mining operation in the Pittsburgh #8 seam. The land was not acquired at that time for surface mining of the #11 and #12 coal seams since these seams were not marketable. On November 10, 1992, a Certificate of Amendment was filed with the Secretary of State to change the name of the Youghiogheny and Ohio Coal Company to Wyoming Pocahontas Land Co. This amendment was filed and recorded in the Records of Incorporation and Miscellaneous Filings by Secretary of State Certificate 16244 dated December 10, 1992.

The #11 and #12 coal was leased by Wyoming Pocahontas Land Company to American Energy Corp. and subsequently subleased to Bennoc, Inc. on 2/5/94 in order for Bennoc, Inc. to remove the #11 and #12 coal seams by the surface mining method.

Wyoming Pocahontas Land Company does not operate surface mines and therefore the date of the initial coal lease for mining the #11 and #12 coal seams will be 2/5/94 when the lease was granted to Bennoc, Inc.

For the period 2/6/84 thru 2/5/94 that portion of the area designated prime farmland by the SCS as shown on the attached map, was in an undeveloped condition and was not used for the production of cultivated crops for more than five years out the ten year period.

The area is situated in Sections 3 and 4, Township 6, Range 5, Wayne Township, Belmont County, Ohio and is that area outlined in green on the attached map.

Signature: [signature]

Title: [signature]
Wyoming Pocahontas Land Co.

7/22/97
Date

Sworn to before me and subscribed in my presence this 22nd day of July, 1997.

[signature]
Notary Public

JUDY A. GREENLEE Notary Public
State of Ohio
My Commission Expires Sept. 30, 2001

ORIGINAL

1363

AEC 19446

DENOTES AREA WHERE A NEGATIVE PRIME FARMLAND DETERMINATION IS REQUESTED.

LOCATED IN SECTIONS 3 & 4, T-6, R-5, SAINE TOWNSHIP, BELMONT CO., OHIO

NOT TO SCALE

ORIGINAL

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

ATTACHMENT 17
(OPERATOR OWNERSHIP AND CONTROL INFORMATION)

This attachment is to be completed and submitted with the permit application if an entity other than the permittee will remove overburden or coal from a coal mining and reclamation operation.

1. Operator's name VALLEY MINING, INC.
Address 4412 PLEASANT VALLEY ROAD, SE
City DENNISON State OHIO Zip 44621
Telephone 614 - 922 - 3942
Employer Identification No. (EIN) _____
Social Security No. (SSN), (Optional) NOT APPLICABLE

2. Indicate business structure of operator and additional information:

_____ Single proprietorship,
_____ Partnership (registration no. and date obtained) _____,
XX Corporation (charter no. and date incorporated) 447542 12/18/73,
_____ Association, _____ Other, specify _____

3. If the operator is a single proprietorship, provide the following: NOT APPLICABLE

Owner's name _____
Address _____
City _____ State _____ Zip _____
Telephone _____-_____-_____
EIN _____, SSN (Optional) _____
Beginning date of ownership _____

4. If the operator is other than a single proprietorship, provide the following for the operator's statutory agent for service of process:

Agent's name MARY J. BROWN
Address 4412 PLEASANT VALLEY ROAD, SE
City DENNISON State OHIO Zip 44621
Telephone 614 - 922 - 3942
EIN _____, SSN (Optional) _____

ORIGINAL

PP- 1368

5. If the ope tor is other than a sing. proprietorship, provide the following for all officers, partners, directors, stockholders owning ten percent or more of any class of voting stock or other instruments of ownership, and any other person performing a function similar to a director. If any person listed is a business entity and not an individual, also complete item 7. for that person.

Name MARY J. BROWN
Address 4412 PLEASANT VALLEY ROAD, SE
City DENNISON State OHIO Zip 44621
Telephone 614 - 922 - 3942
EIN _____, SSN (Optional) _____
Title of position PRESIDENT
Date position assumed/ended (if applicable) 10/20/89 / --
Percent of ownership 51% Date of ownership 12/18/73
Location in organizational structure NOT APPLICABLE

Name WILLIAM C. AUBIEL
Address 4412 PLEASANT VALLEY ROAD, SE
City DENNISON State OHIO Zip 44621
Telephone 614 - 922 - 3942
EIN NOT APPLICABLE, SSN (Optional) 285-44-7702
Title of position SENIOR VICE-PRESIDENT/SECRETARY/TREASURER
Date position assumed/ended (if applicable) SEE BELOW* / --
Percent of ownership 49% Date of ownership 12/18/73
Location in organizational structure NOT APPLICABLE

Name JAMES D. KLINGLER
Address 4412 PLEASANT VALLEY ROAD, SE
City DENNISON State OHIO Zip 44621
Telephone 614 - 922 - 3942
EIN NOT APPLICABLE, SSN (Optional) _____
Title of position VICE-PRESIDENT OF FINANCE AND ADMINISTRATION
Date position assumed/ended (if applicable) 12/10/84 / --
Percent of ownership N/A Date of ownership N/A
Location in organizational structure NOT APPLICABLE

Name _____
Address _____
City _____ State _____ Zip _____
Telephone _____-_____-_____
EIN _____, SSN (Optional) _____
Title of position _____
Date position assumed/ended (if applicable) _____/_____
Percent of ownership _____ Date of ownership _____
Location in organizational structure _____

Submit and identify additional pages necessary to complete response.

*WILLIAM C. AUBIEL ASSUMED THE POSITION OF VICE-PRESIDENT/TREASURER ON 12/18/73.
WILLIAM C. AUBIEL ASSUMED THE POSITION OF SECRETARY ON 10/20/89.

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6. Provide the following for all persons having the authority or ability to commit the financial, real property assets, or working resources of the operator who are not otherwise identified as officers, directors, or owners of the operator. If none, check box: [XX]. If any person listed is a business entity and not an individual, also complete item 7. for that person.

Name _____

Address _____

City _____ State _____ Zip _____

Telephone _____-_____-_____

EIN _____, SSN (Optional) _____

O&C relationship to operator _____

Date O&C relationship began/ended (if applicable)

_____/_____

Name _____

Address _____

City _____ State _____ Zip _____

Telephone _____-_____-_____

EIN _____, SSN (Optional) _____

O&C relationship to operator _____

Date O&C relationship began/ended (if applicable)

_____/_____

Name _____

Address _____

City _____ State _____ Zip _____

Telephone _____-_____-_____

EIN _____, SSN (Optional) _____

O&C relationship to operator _____

Date O&C relationship began/ended (if applicable)

_____/_____

Submit and identify additional pages necessary to complete response.

ORIGINAL

7. Complete th item whenever a busines intity, rather than an individual, is listed in items 5, 6, or 7. Check the box corresponding to the item number in which the entity is found:

NOT APPLICABLE

5. [ ], 6. [ ], 7. [ ].

Name of entity _____

Provide the following for owners and controllers of this entity. If any person listed is a business entity and not an individual, also complete item 7. for that person.

Name _____
Address _____
City _____ State _____ Zip _____
Telephone _____-_____-_____
EIN _____, SSN (Optional) _____
Title of position _____
Date position assumed/ended (if applicable) _____/_____
Percent of ownership _____ Date of ownership _____
Location in organizational structure _____

Name _____
Address _____
City _____ State _____ Zip _____
Telephone _____-_____-_____
EIN _____, SSN (Optional) _____
Title of position _____
Date position assumed/ended (if applicable) _____/_____
Percent of ownership _____ Date of ownership _____
Location in organizational structure _____

Name _____
Address _____
City _____ State _____ Zip _____
Telephone _____-_____-_____
EIN _____, SSN (Optional) _____
Title of position _____
Date position assumed/ended (if applicable) _____/_____
Percent of ownership _____ Date of ownership _____
Location in organizational structure _____

Name _____
Address _____
City _____ State _____ Zip _____
Telephone _____-_____-_____
EIN _____, SSN (Optional) _____
Title of position _____
Date position assumed/ended (if applicable) _____/_____
Percent of ownership _____ Date of ownership _____
Location in organizational structure _____

Submit and identify additional pages necessary to complete response.

ORIGINAL

8. List all U.S. coal mining permits issued to the operator and/or any person or entity identified in items 5, 6, or 7 within the five years preceding submittal of the application.

Permit holder's name VALLEY MINING, INC.
Address 4412 PLEASANT VALLEY ROAD, SE
City DENNISON State OHIO Zip 44621
Telephone (614) 922-3942
EIN _____ SSN (optional) NOT APPLICABLE

Permit No.	State	Regulatory Authority	MSHA No. and Date Issued	
D-0473	Ohio	ODNR	33-03816	5/22/80
D-0516	Ohio	ODNR	33-02763	11/09/79
D-0604	Ohio	ODNR	33-02763	11/09/79
D-0690	Ohio	ODNR	33-02763	11/09/79
D-0738	Ohio	ODNR	33-02763	11/09/79
D-0740	Ohio	ODNR	33-03816	5/22/80
D-0769	Ohio	ODNR	33-02763	11/09/79
D-0822	Ohio	ODNR	33-02763	11/09/79

CONTINUED BELOW . . .

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Permit No.	State	Regulatory Authority	MSHA No. and Date Issued	
D-0868	Ohio	ODNR	33-02763	11/09/79
D-0901	Ohio	ODNR	33-03758	7/17/79
D-0090	Ohio	ODNR	33-03816	5/22/80
D-1025	Ohio	ODNR	33-03816	7/19/93

Permit holder's name OLUTOWN COAL COMPANY
Address 4412 PLEASANT VALLEY ROAD, SE
City DENNISON State OHIO Zip 44621
Telephone (614) 922-3942
EIN _____ SSN (optional) NOT APPLICABLE

Permit No.	State	Regulatory Authority	MSHA No. and Date Issued	
D-0912	Ohio	ODNR	33-02763	5/22/80

Submit and identify additional pages necessary to complete response.

ORIGINAL

9. List all U coal mining application pending for the operator and/or any person or entity identified in items 5, 6, or 7.

Entity with pending application Valley Mining, Inc.

Application No.	State	Regulatory Authority
0779	Ohio	ODNR
1055	Ohio	ODNR
1208	Ohio	ODNR
1318	Ohio	ODNR
1326	Ohio	ODNR

Entity with pending application Oldtown Coal Company

Application No.	State	Regulatory Authority
1328	Ohio	ODNR

Entity with pending application _____

Application No.	State	Regulatory Authority

Submit and identify additional pages necessary to complete response.

ORIGINAL

Compliance Information

10. Has the operator, any subsidiary, affiliate, or persons controlled by or under common control with the operator:

(a) Had a federal or state coal mining permit suspended or revoked in the five years preceding the date of submission of the application? _____ Yes, __XX__ No. If "yes," provide the following:

Name of entity suspended/revoked _____

Permit no. _____ Date permit issued _____

State and regulatory authority _____

Reasons for action _____

Current status of permit _____

(If administrative or judicial proceedings initiated, provide the following:)

Date _____ Location _____

Type _____

Current status of proceedings _____

Submit and identify additional pages necessary to complete response.

(b) Forfeited a mining bond or similar security deposited in lieu of bond? _____ Yes, __XX__ No. If "yes," provide the following:

Name of entity forfeited _____

Permit no. _____ Date permit issued _____

State and regulatory authority _____

Reasons for action _____

Current status of bond or security _____

(If administrative or judicial proceedings initiated, provide the following:)

Date _____ Location _____

Type _____

Current status of proceedings _____

Submit and identify additional pages necessary to complete response.

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11. Have any u[illegible]ated state or federal c[illegible]ation orders (CO) and unabated a[illegible] and water quality notices of violation (NOV) been received prior to the submission of the application by any coal mining and reclamation operation owned or controlled by the operator or any person identified in items 5, 6, or 7? _____ Yes, __XX__ No. If "yes," provide the following:

Name to whom CO/NOV was issued _____
Permit no. _____ CO/NOV I.D. no. _____
State and regulatory authority _____
Date CO/NOV issued _____
Description of alleged CO/NOV _____
Abatement actions taken _____
Date of abatement actions _____
Current status of CO/NOV _____
(If administrative/judicial proceedings initiated, provide the following:)
Date _____ Location _____
Type _____
Current status of proceedings _____

Name to whom CO/NOV was issued _____
Permit no. _____ CO/NOV I.D. no. _____
State and regulatory authority _____
Date CO/NOV issued _____
Description of alleged CO/NOV _____
Abatement actions taken _____
Date of abatement actions _____
Current status of CO/NOV _____
(If administrative/judicial proceedings initiated, provide the following:)
Date _____ Location _____
Type _____
Current status of proceedings _____

Name to whom CO/NOV was issued _____
Permit no. _____ CO/NOV I.D. no. _____
State and regulatory authority _____
Date CO/NOV issued _____
Description of alleged CO/NOV _____
Abatement actions taken _____
Date of abatement actions _____
Current status of CO/NOV _____
(If administrative/judicial proceedings initiated, provide the following:)
Date _____ Location _____
Type _____
Current status of proceedings _____

Submit and identify additional pages necessary to complete response.

ORIGINAL

12. I, the undersigned, a responsible official of the operator, do hereby verify the information contained in this attachment is true and correct to the best of my knowledge and belief.

Printed Name JAMES D. KLINGLER, Title VICE-PRESIDENT OF FINANCE AND ADMINISTRATI

Signature [signature], Date 12/31/93

Sworn before me and subscribed in my presence this 30th day of December, 1993.

[signature]
Notary Public

JANE M. KELLAR, Notary Public
State of Ohio
My Commission Expires 7-8-97

I hereby certify that this is a true copy of the original.

[signature]

Arlene Werner
Notary Public, State of Ohio
My Commission Expires 7-21-97

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OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINES AND RECLAMATION

ATTACHMENT 18
(AUGER MINING)

Applicant's Name BENNOC, INC.

1. Upon completion of this proposed mining operation will the coal reserves be depleted or limited in thickness or extent so that it will not be practicable to recover the remaining coal reserves by future underground mining activities?
_____ Yes, __X__ No.

2. If "yes" to item 1 above, submit an addendum providing technical evidence to substantiate the claim that future underground mining activities will not be practicable.

N/A

3. If "no" to item 1 above, submit an addendum describing the plan for leaving areas of undisturbed coal to provide access for future underground mining operations.

THERE ARE NUMEROUS AREAS OF UNDISTURBED #11 AND #12 COAL WITHIN THIS GEOGRAPHIC AREA WHICH COULD PROVIDE ACCESS FOR FUTURE UNDERGROUND MINING.

4. Will any auger hole be within five hundred feet in horizontal distance of any abandoned or active underground mine workings?
_____ Yes, __X__ No.

If "yes," compliance with rule 1501:13-9-08 of the Administrative Code is required.

5. Submit an addendum describing the plans for plugging and backfilling of the auger holes. The plan shall include a time schedule and the type of material to be used for plugging.

PRIOR TO BACKFILLING, THE EXPOSED AUGER HOLES WILL BE SEALED BY FORCING A NON-COMBUSTIBLE, NON-TOXIC, IMPERVIOUS MATERIAL INTO THE HOLES. IF THE AUGER HOLE IS DISCHARGING WATER IT SHALL BE PLUGGED WITHIN 72 HOURS AFTER COMPLETION OF AUGERING. IF SEALING IS NOT POSSIBLE WITHIN SEVENTY-TWO HOURS, THE DISCHARGE WILL BE TREATED WITH SODA ASH COMMENCING WITHIN SEVENTY TWO HOURS AFTER COMPLETION TO MEET APPLICABLE EFFLUENT LIMITATIONS AND WATER QUALITY STANDARDS UNTIL THE HOLES ARE SEALED.

6. Will auger mining be completed within 180 days of the removal of coal from the pit? __X__ Yes, _____ No. If "no," submit an addendum describing is detail why additional time is needed to conduct the augering.

7. Will the proposed auger operation utilize a coal removal method other than a conventional auger machine, such as, but not limited to, a highwall miner or thin seam miner?
_____ Yes, __X__ No. If "yes," submit an addendum demonstrating that the proposed auger operation will comply with the requirements of paragraph (D) of rule 1501:13-13-02 of the Administrative Code.

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OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINES & RECLAMATION

COPY

ATTACHMENT 22
(CERTIFICATE OF LIABILITY INSURANCE)

Name of Insured **Bennoc, Inc.**

This is to certify that the policy of insurance listed below has been issued to the above named insured and is in force at this time. The policy provides bodily injury and property damage insurance for all coal mining and reclamation operations of the insured in the State of Ohio as required by paragraph (B) of rule 1501:13-7-07 of the Administrative Code stated below.

Name of Insurer **Federal Insurance Co.**
Policy Number **3710-25-72**
Policy Period **06/01/97** to **06/01/98**
Name of Underwriting Agent **STEELE INSURANCE ASSOC., INC.**
Address of Underwriting Agent **107 Plaza Drive**
St. Clairsville, OH 43950-8735
Telephone No. of Underwriting Agent **614-695-8200**

In the event of cancellation or non-renewal of this policy, including non-payment of policy premiums, the insurer agrees to promptly notify: The Division of Mines & Reclamation, Fountain Square, Columbus, Ohio 43224.

6-4-97 — Carole L. Brown
Date — Signature of Underwriting Agent

This certificate is issued as a matter of information only and confers no rights upon the Division of Mines & Reclamation. This certificate does not amend, extend, or alter the coverage afforded by the policy listed above.

1501:13-7-07(B) THE PUBLIC LIABILITY INSURANCE POLICY SHALL:

(1) BE IN EFFECT DURING THE TERM OF THE PERMIT OR ANY RENEWAL INCLUDING THE LENGTH OF ALL RECLAMATION OPERATIONS;

(2) PROVIDE FOR PERSONAL INJURY AND PROPERTY DAMAGE PROTECTION IN AMOUNTS NOT LESS THAN THE FOLLOWING:

(a) THREE HUNDRED THOUSAND DOLLARS FOR ALL DAMAGES BECAUSE OF BODILY INJURY SUSTAINED BY ONE PERSON AS THE RESULT OF ANY OCCURRENCE, AND FIVE HUNDRED THOUSAND DOLLARS FOR ALL DAMAGES BECAUSE OF BODILY INJURY SUSTAINED BY TWO OR MORE PERSONS AS THE RESULT OF ANY ONE OCCURRENCE; AND

(b) THREE HUNDRED THOUSAND DOLLARS FOR ALL CLAIMS ARISING OUT OF DAMAGE TO PROPERTY AS THE RESULT OF ANY ONE OCCURRENCE INCLUDING COMPLETED OPERATIONS, WITH AN AGGREGATE LIMIT OF FIVE HUNDRED THOUSAND DOLLARS FOR ALL PROPERTY DAMAGE TO WHICH THE POLICY APPLIES.

(3) INCLUDE A RIDER REQUIRING THAT THE INSURER NOTIFY THE CHIEF WHENEVER SUBSTANTIVE CHANGES ARE MADE IN THE POLICY, INCLUDING ANY TERMINATION OR FAILURE TO RENEW.

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OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF RECLAMATION

SURFACE MINING OPERATIONS
ATTACHMENT 27
(HISTORIC AND PREHISTORIC PROPERTIES)

1. Applicant's Name: BENNOC, INC.

   Address P.O. BOX 208

   City MORRISTOWN State OHIO Zip 43759

2. Contact Person JACK A. HAMILTON Phone 614-968-4947
   BOX 471, 342 HIGH ST., FLUSHING, OHIO 43977

3. Location and Acreage Information

   County BELMONT Township WAYNE

   Section(s) 3 & 4 T- 6 R- 5

   USGS Quadrangle HUNTER Acreage 267.0

4. Application Map Attached: (area described in 3. above is to be outlined on the map)

5. Previous Disturbance:

   X present; _____ absent within permit area only
   (Note: previous disturbance is any type of natural or human made disturbance to the topsoil and subsoil in the permit area prior to permit application. Examples include but are not limited to, slides, severe erosion, previous mining activities, clear cut logging, recreational activities, etc., but not agricultural plowing and disking.)

   If previous disturbance is present, list below and clearly delineate the extent of each type of disturbance on the application map to be sent to the SHPO by the Division. Attach addendum, if necessary.

Type of Disturbance	Date Occurred	Percent of Permit Area	Map Symbol
SURFACE FACILITIES FOR UG MINE OPERATIONS	10-22-84	9.6%	TTTTT

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6. Current Land Use: (describe land use and percent of land in that use)

Agricultural: CROPLAND 6.4%

Residential:

Mining: 9.6% (DISTURBED BY UNDERGROUND MINE SURFACE FACILITIES)

Pasture:

Secondary Forest Growth:

Has area been clear cut logged? Yes _____, No __X__.
If "yes", indicate approximate date(s) of logging _____.

Other: UNDEVELOPED 84%

7. Historic and Prehistoric Structures:

Definitions

A historic or prehistoric structure is a work made up of interdependent and interrelated parts in a definite pattern of organization. Constructed by humans, and 50 years or older, it is usually an engineering project.

Types

Historic structures include, but are not limited to dwellings, buildings, barns, farmstead outbuildings, bridges, culverts, churches, schools, halls, iron furnaces (and associated buildings), canals, forts, abandoned coal mine buildings, mine entrances, tipples and related structures, etc.

Prehistoric structures include, but are not limited to, earthworks, mounds, rockshelters, etc.

List all known historic and prehistoric structures below and locate each one on the application map to be sent to the SHPO including corresponding labeled black and white, front and rear photographs of each structure. Attach addendum, if necessary.

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Structure Type	Construction Date	Map Reference	Photo # Front	Photo # Rear
NONE				

8. Previous Historic and/or Archeological Surveys: (describe any surveys known to applicant on the permit or adjacent areas)

Permit area: NONE

Adjacent areas: NONE

9. SHPO please send this form to:

Dr. Jeffrey C. Reichwein
Division of Reclamation
Fountain Square, B-3
Columbus, Ohio 43224

FOR USE BY THE STATE HISTORIC PRESERVATION OFFICE ONLY

A. (check the appropriate space)

_____ This is a recommendation for an archeological survey of the proposed permit area based on the following reasons (attach addendum, if necessary):

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A SHPO review of the area shown on the application map has provided a listing below of all known historic and prehistoric properties listed and eligible for listing on the " National Register of Historic Places" and known historic and prehistoric sites on the permit and adjacent areas (in a 1.5 mile radius). The listing includes, when appropriate, those historic and prehistoric structures identified by the applicant in items 7. and 8. above.

Listed and Eligible National Register Sites

Site Name (#)	Type	Proposed Area	Adjacent Area

Known Historic and Prehistoric Sites

Site Name (#)	Type	Proposed Area	Adjacent Area
33-BL-52	Raven Rocks		✓
Several house	structures	are shown in	project area.

B. _____ A SHPO review of the area shown on the application map and information contained in this attachment finds that the proposed mining does not have a reasonable probability of affecting any properties listed or eligible for listing on the "National Register of Historic Places." Therefore, no further coordination will be necessary with this office unless the scope of the proposed application area changes.

State Historic Preservation Officer Martha J. Pagano

SHPO # 942240

Date 8/9/94