

U. S. Department of Labor

Mine Safety and Health Administration
100 Bluestone Road
Mount Hope, WV 25880-1000



APR 14 2005

Mr. Bill Potter
President
Performance Coal Company
P. O. Box 69
Naoma, WV 25140

Dear Mr. Potter:

Subject: Approved Mine Ventilation Plan, Section 75.370(a)(1),
30 CFR 75, Upper Big Branch Mine - South, I.D.
No. 46-08436, Performance Coal Company, Montcoal,
Raleigh County, West Virginia

This will acknowledge receipt and approval of the subject plan, which covers minimum standards for ventilation in the subject mine. Your plan includes the mandatory requirements submitted pursuant to Section 75.371 and the informational map pursuant to Section 75.372.

The following items, which you have included on the map, are approved under Section 75.371: **Bleeder evaluation points shown on map.**

You are reminded that pursuant to Section 75.372, three copies of an up-to-date mine map shall be submitted to this office by **February 14, 2006.**

Should you have any questions concerning this matter, please contact William L. Ross at (304) 877-3900/Ext. 142.

Sincerely,

/s/ JESSE P. COLE

Jesse P. Cole
District Manager
Coal Mine Safety and Health, District 4

cc: Mt. Hope Field Office (3 encl.)
Files/dac

SUPERVISORY ACKNOWLEDGEMENT
Initials *JP* Date *4-13-05*
Initials *RLC* Date *4/14/05*

U. S. Department of Labor

Mine Safety and Health Administration
100 Bluestone Road
Mount Hope, WV 25880-1000



APR 14 2005

Mr. Bill Potter
President
Performance Coal Company
P. O. Box 69
Naoma, WV 25140

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30 CFR 75, Upper Big Branch Mine - South, I.D.
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Raleigh County, West Virginia

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Should you have any questions concerning this matter, please contact William L. Ross at (304) 877-3900/Ext. 142.

Sincerely,

A handwritten signature in cursive script, reading "Jesse Cole", is written over a horizontal line.

Jesse P. Cole
District Manager
Coal Mine Safety and Health, District 4

75.372 Annual Ventilation Map Checklist

Mine Name UPPER BIG BRANCH Company Name PERFORMANCE MSHA ID # 46-08436
 Annual map due date 1-20-05 Date annual map received 2-17-05
 Date map returned for corrections _____ Date annual map approved _____

- GEORGE T. LEVO WV # 15406
 Certified (sealed and signed) accurate by a registered engineer or registered land surveyor
- * Name of individual responsible for information on map not obtained by certifying engineer or surveyor - such as air quantities, qualities or direction commonly obtained by mine personnel
- The map or map legend must at least indicate the following:
- 1) the mine name, company name and MSHA identification number
 - 2) map scale - not less than 100 or more than 500 feet to the inch
 - 3) description of the map Retained map w/ corrections needed to G. Levo. 3/2/05 escapeways, mine fans, air flow, or any other item on the map design
- Direction and quantity of air flow in each set of belt entries and rooms, and 3) a) location of each belt split, 2) in the LOC of each set of line (including longwall and shortwall)
- Entry height, velocity and height and width of the belt point of each belt flight (where the belt enters the belt)
- All areas of the mine including dead-end areas
- Projections for at least 12 months or development showing proposed ventilation controls, bleeder systems, anticipated intake and return air courses, belt entries and escapeways
- The direction of air flow in all underground areas of the mine
- N/A Location and designation of air courses changed from intake to return for the purpose of ventilating structures, areas or installations required to be ventilated with return air and for the ventilation of seals
- Location of all permanent ventilation airlock doors, and any other door George Levo seals, undercasts, regulators, seals,
- Location of proposed seals for each 1:30 PM
- Location of all known mine workings Wed 3/2/05 of existing or projected works - more than 1"=2000'
- Location (and 4 digit MMU #) of all mine workings
- Location of all escapeways
- ? Locations of existing methane drainage systems
- ? Locations of all AMS (atmospheric monitoring system) sensors
- ? Location of all known overlying and underlying mine workings on the mine property (and the distance between them)
- Location of all known oil and gas wells and drill holes that penetrate the coalbed being mined
- Location and description of all main and back-up mine fans - specifications including size, type, model #, manufacturer, operating pressure, motor HP and RPM required
- Location of all surface openings and the direction and quantity of airflow at each
- The dimensions, depth and length of each shaft and slope
- Elevations provided at the following locations:
- 1) at the top and bottom of slopes and shafts
 - 2) elevation contour lines (whole numbers, max. of 10' intervals unless otherwise approved)
- Any other information used to depict and explain the requirements of the 75.372 plan contents

Note: Three (3) copies of an up-to-date map are required to be submitted to the District Manager at intervals not exceeding 12 months. The map required by 75.1200 may be used to satisfy the requirements for the 75.372 ventilation map, provided that all the information listed above is contained on the map.



Performance Coal Company

P.O. Box 69

Naoma, WV

25140

February 17, 2005

Mr. Jesse P. Cole
Acting District Manager
Mine Safety and Health Administration
100 Bluestone Road
Mt. Hope, West Virginia 25880-0112

RE: Performance Coal Company - Upper Big Branch Mine-South
Federal I.D. 46-08436, State I. D. U-3042-92 - Ventilation Plan

Dear Mr. Cole:

Performance Coal Company, Upper Big Branch Mine-South (ID 46-08436), as requested, has revised its mine ventilation plan to incorporate into a new base plan, all changes that have been made to date. Included also is an updated mine map.

If you have any questions, or require further information, please call me at (304) 854-1761.

Respectfully Submitted,

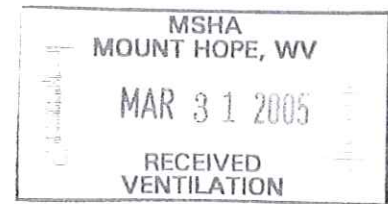
Performance Coal Co.
George T. Levo
Mining Engineer

*re-submitted new
letter w/ corrected
maps & base plan
rec'd on 3/10/05*

MSHA MOUNT HOPE, WV
FEB 17 2005
RECEIVED VENTILATION

March 31, 2005

Doris Chambers,



These are replacement maps for Upper Big Branch's annual map submittal with changes made after discussing with Bill Ross a few days ago.

46-08436

George Levo



Performance Coal Company

P.O. Box 69

Naoma, WV

25140

March 9, 2005

Mr. Jesse P. Cole
Acting District Manager
Mine Safety and Health Administration
100 Bluestone Road
Mt. Hope, West Virginia 25880-0112

RE: Performance Coal Company - Upper Big Branch Mine-South
Federal I.D. 46-08436, State I. D. U-3042-92 - Ventilation Plan

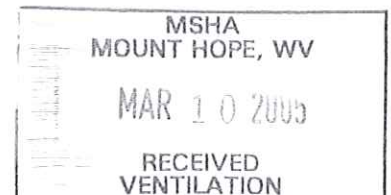
Dear Mr. Cole:

Performance Coal Company, Upper Big Branch Mine-South (ID 46-08436), submitted on February 17, 2005 annual maps and a new base ventilation plan. We are hereby submitting revised maps and plan per discussions with MSHA ventilation reviewers and supervisor.

If you have any questions, or require further information, please call me at (304) 854-1761.

Respectfully Submitted,

Performance Coal Co.
George T. Levo
Mining Engineer



PERFORMANCE COAL COMPANY
PO BOX 69
NAOMA, WEST VIRGINIA 25140

UPPER BIG BRANCH MINE

VENTILATION PLAN

The above named mine will be covered by this plan of a ventilation system with provisions for control of methane and dust.

A description of the plan is as follows:

I. GENERAL:

1. Company Name: Performance Coal Company
Mine Name: Upper Big Branch Mine
Post Office Address: Box 69
Town, County, State: Naoma, Raleigh, West Virginia
Telephone Number: (304) 854-1761
MSHA Identification Number: 46-08436
Operator's Name: Bill Potter
Operator's Title: President
Operator's Address: PO Box 69, Naoma, West Virginia 25140
Operator's Telephone Number: (304) 854-1761
Person submitting plan: George Levo
Planned main mine fan stoppages: None scheduled
2. The life of the mine is greater than one year.
3. Number of Employees:

Surface	11
Underground	180
TOTAL	191
4. Ventilating air currents will be coursed in such a manner as to prevent a no air-movement situation.
5. A crosscut will be provided at or near the face of each entry before the place is abandoned.
6. A minimum of 9,000 cfm will be provided to areas where mechanized mining equipment is being installed or removed.

Bleeder System & Gob Ventilation

The roof in the bleeder entries and at the bleeder evaluation points shall be supported in

accordance with the approved roof control plan. Accumulations of water will be controlled primarily by natural drainage supplemented by pumping to prevent accumulations of water from affecting the bleeder ventilation system. The effectiveness of the bleeder system shall be determined by the methane and oxygen content, the direction of air flow and quantity at the bleeder evaluation points located as shown typically on the drawings or as previously approved on the mine ventilation map submitted under 75.372.

Permanent stoppings up to, but not including, the third connecting crosscut outby the working face will be maintained. In order to insure that adequate ventilation is maintained, a minimum air quantity of 13,500 CFM in the last open crosscut will be provided when the last open crosscut is three breaks inby the permanent stopping. A minimum of 9,000 CFM will be maintained with one or two open crosscuts.

Bleeder system evaluation: The bleeder system is designed to maintain positive ventilating pressure against the gob while providing an adequate quantity and quality of air to the longwall face. This system will allow effective ventilation of gob areas to minimize methane accumulation. Methane content, oxygen content, direction and quantity of air flow at the evaluation points shall determine the effectiveness of the bleeder system. Evaluation points are located at strategic locations to allow a thorough review of the bleeder system. Intake air for Panel 19 will be supplied in the number 1 entry and will sweep across the longwall face as shown on the attached north area proposed bleeder system line diagram. Intake will be regulated at the mouth of Panel 19. All return air will exit the mine through the Jarrell's Branch Bleeder Shaft. To establish proper air flow at the air shaft, the maximum water level will be 802 feet elevation. The dewatering pumps in Jarrell's Branch are automated to turn on and off as necessary to maintain the water elevation at or below the 802 feet elevation level. During the mining of subsequent longwall panels, air will be injected into all mined out tailgates and the active longwall section. Evaluation points will be established at all points where air is injected into the system. During the mining of subsequent longwall panels, plans for longwall set-up, longwall recovery and longwall ventilation during mining will be submitted prior to the completion of the active panel.

Monitoring points (MP's) have been established on the headgate side of Panel 19 at 30, 50, 73 and 99 crosscuts. As each of these MP's become inby the face, they will be checked weekly for air direction and quality. These MP's will be maintained and checked until the completion of Panel 19.

Belt Air

The area on the North Mains near the mouth of Panel 18 is one of the "split point" for the belt air. Outby the split point, air on the belt will be going outby while the air inby the split point will be travelling inby. Airlock doors are installed in the track entry and box checks are installed on the belt line at the same crosscut locations. Inby the doors and box checks, a regulator between the intake and belt will allow intake air to enter the belt line and travel inby as intake to the face. The intaking belt air will be regulated to insure that the quantity on the belt is less than the quantity in the intake air course. This regulation is done so that any air leakage through the stoppings between the intake and belt will be going from the intake to the belt so as to maintain the integrity of the primary escapeway which is the intake. A second split point is located near HG 16.

Where intake air is regulated into the belt, it will have a CO monitor upwind on the intake side and another one will be installed both inby and outby in the belt air course. The regulator feeding the air from the intake into the belt air course will have the capability of being adjusted remotely from outby the regulator in the intake and also outby in the belt air course. This is considered a point feed.

The locations where 50% of the primary escapeway intake is measured as the minimum of the total intake to comply with 371 kk will be just outby the end of the permanent stopping line on sections where belt air is used as intake.

CO Monitors – Type and Settings

The CO monitors currently in use (and planned for use) at the subject mine are Pyott-Boone with both Models 980A and 1703 being used. Current settings are 5 PPM and 10 PPM, respectively, for alert and alarm levels. When the belt air is used as intake, the CO monitors will use the same alert and alarm levels as are currently being used. CO monitors to be installed in the future will be the same or equivalent to those currently being used.

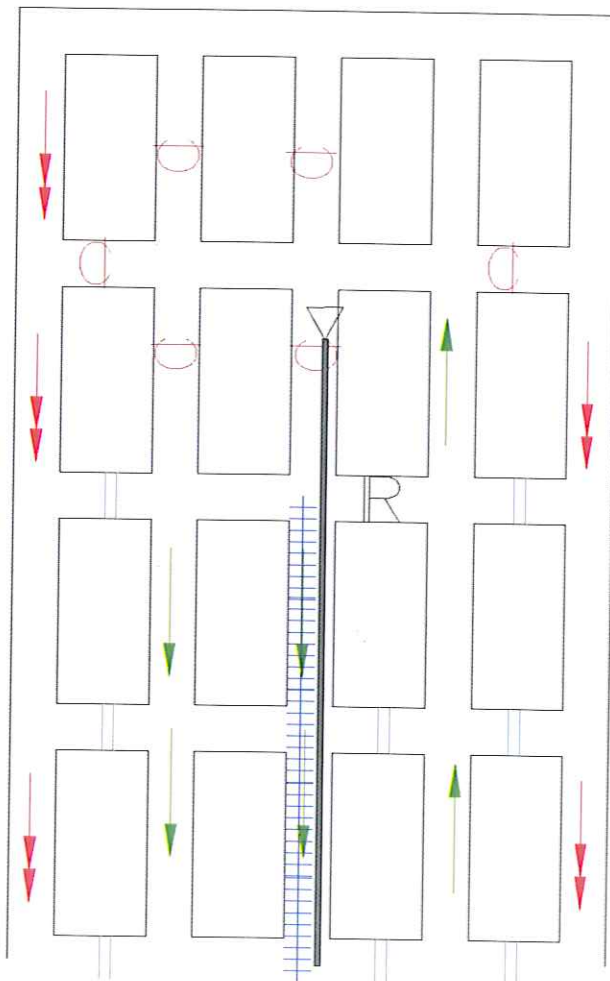
Barrier between Headgates 19 and 20 and sealed old works








An adequate barrier will be maintained between the sealed old works and Headgates 19 and 20. The water level in the old works will be kept down to a level as to not materially affect the integrity of the barrier between the old works and Headgates 19 and 20. The projected barrier width was measured at several locations between the old works and mine projections to determine what the maximum acceptable pool level can be in the old works. This barrier has to be a minimum of 100'.

TYPICAL DEVELOPMENT SYSTEM

NOTES:

- 1) Mirror Image Applies.
- 2) Number of Entries may vary.
- 3) Belt and Track configuration may vary.



INTAKE 
 RETURN 
 TRACK 
 BELT 
 PERMANENT STOPPING
 REGULATOR 
 CHECK CURTAIN 
 LINE BRATTICE
 BELT TAILPIECE
 TEMPORARY STOPPING
 DOOR 

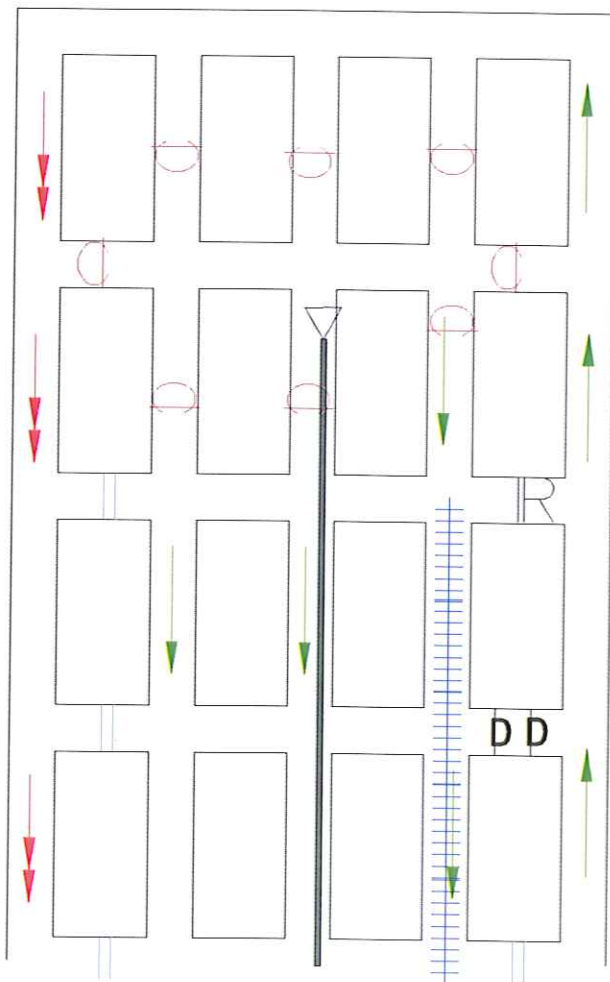
NOT TO SCALE












**PERFORMANCE
COAL COMPANY**

Upper Big Branch Mine - South

**MSHA ID: 46-08436
State ID: U-3042-92**

TYPICAL DEVELOPMENT SYSTEM



- INTAKE 
- RETURN 
- TRACK 
- BELT 
- PERMANENT STOPPING 
- REGULATOR 
- CHECK CURTAIN 
- LINE BRATTICE 
- BELT TAILPIECE 
- TEMPORARY STOPPING 
- DOOR 

NOT TO SCALE

NOTES:

- 1) Mirror Image Applies.
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- 3) Belt and Track configuration may vary.

5

**PERFORMANCE
COAL COMPANY**

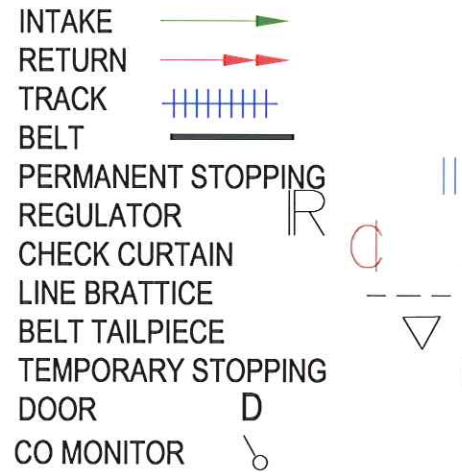
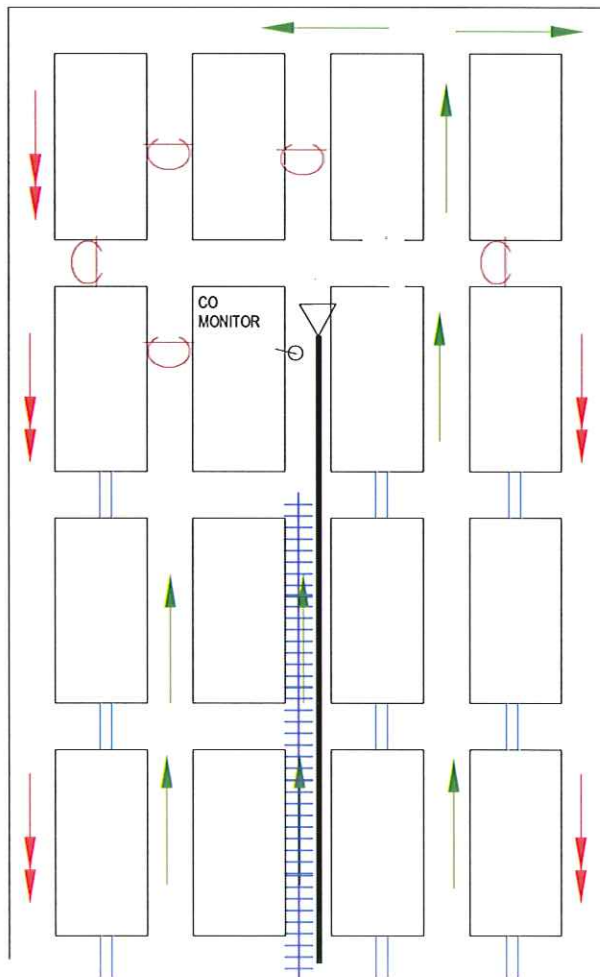
Upper Big Branch Mine - South

**MSHA ID: 46-08436
State ID: U-3042-92**

TYPICAL DEVELOPMENT SYSTEM

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NOT TO SCALE

**PERFORMANCE
COAL COMPANY**

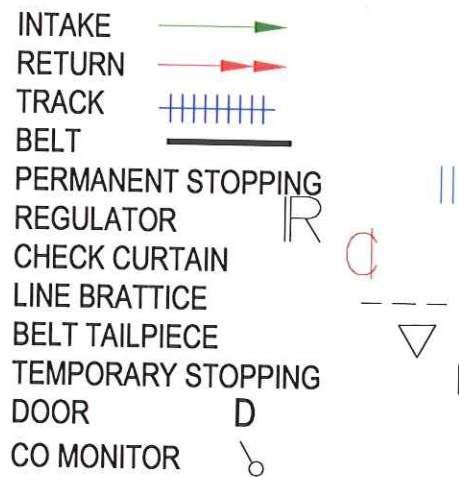
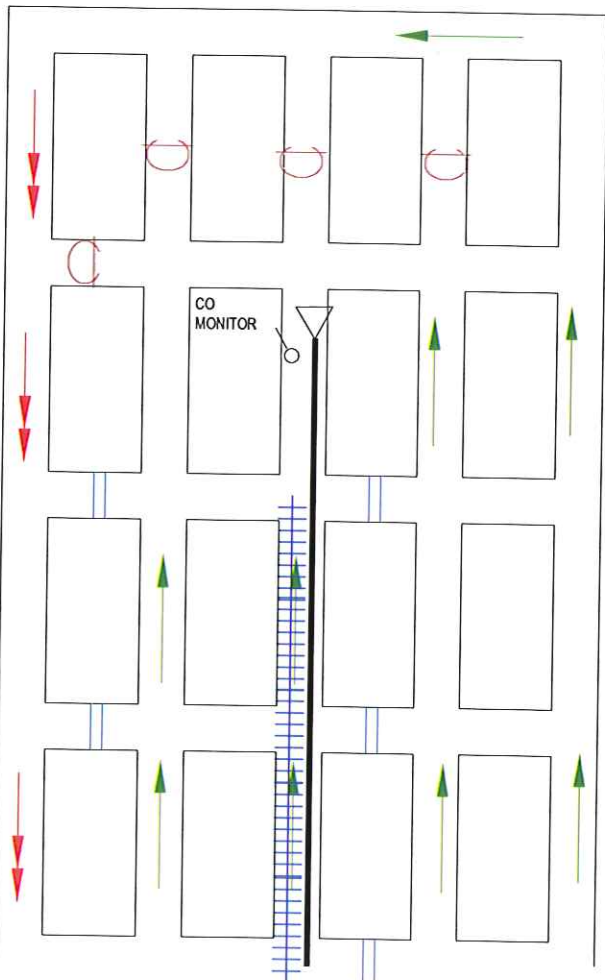
Upper Big Branch Mine - South

**MSHA ID: 46-08436
State ID: U-3042-92**

TYPICAL DEVELOPMENT SYSTEM

NOTES:

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- 2) Number of Entries may vary.
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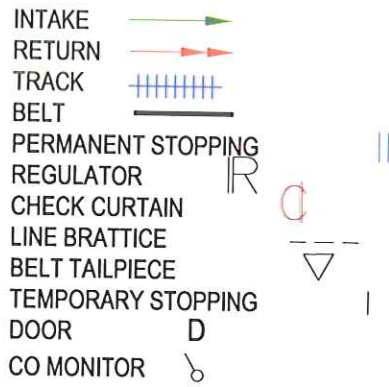
NOT TO SCALE

**PERFORMANCE
COAL COMPANY**

Upper Big Branch Mine - South

**MSHA ID: 46-08436
State ID: U-3042-92**

TYPICAL ROOM DEVELOPMENT LEFT



NOT TO SCALE



NOTES:

- 1) Mirror Image Applies.
- 2) Number of Entries may vary.
- 3) Belt and Track configuration may vary.

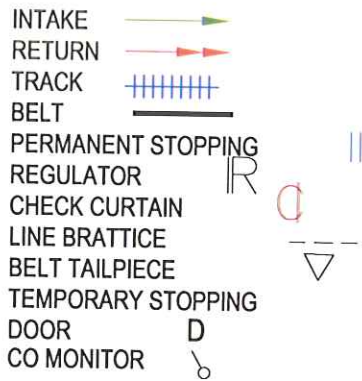
8

**PERFORMANCE
COAL COMPANY**

Upper Big Branch Mine - South

MSHA ID: 46-08436
State ID: U-3042-92

TYPICAL ROOM DEVELOPMENT RIGHT



NOT TO SCALE



NOTES:

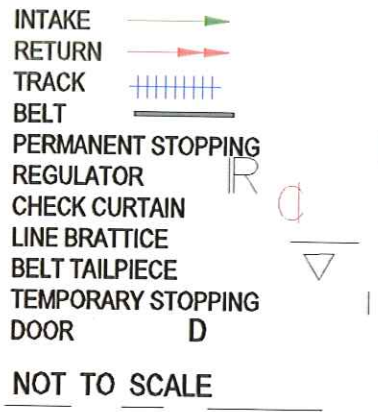
- 1) Mirror Image Applies.
- 2) Number of Entries may vary.
- 3) Belt and Track configuration may vary.

**PERFORMANCE
COAL COMPANY**

Upper Big Branch Mine - South

MSHA ID: 46-08436
State ID: U-3042-92

TYPICAL ROOM DEVELOPMENT LEFT



NOTES:

- 1) Mirror Image Applies.
- 2) Number of Entries may vary.
- 3) Belt and Track configuration may vary.

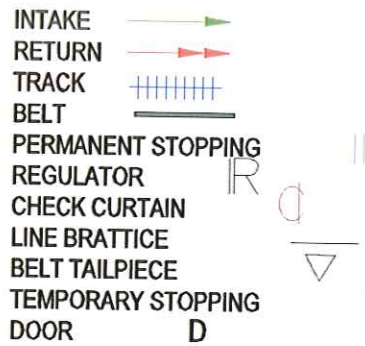
10

**PERFORMANCE
COAL COMPANY**

Upper Big Branch Mine - South

MSHA ID: 46-08436
State ID: U-3042-92

TYPICAL ROOM DEVELOPMENT RIGHT



NOT TO SCALE



NOTES:

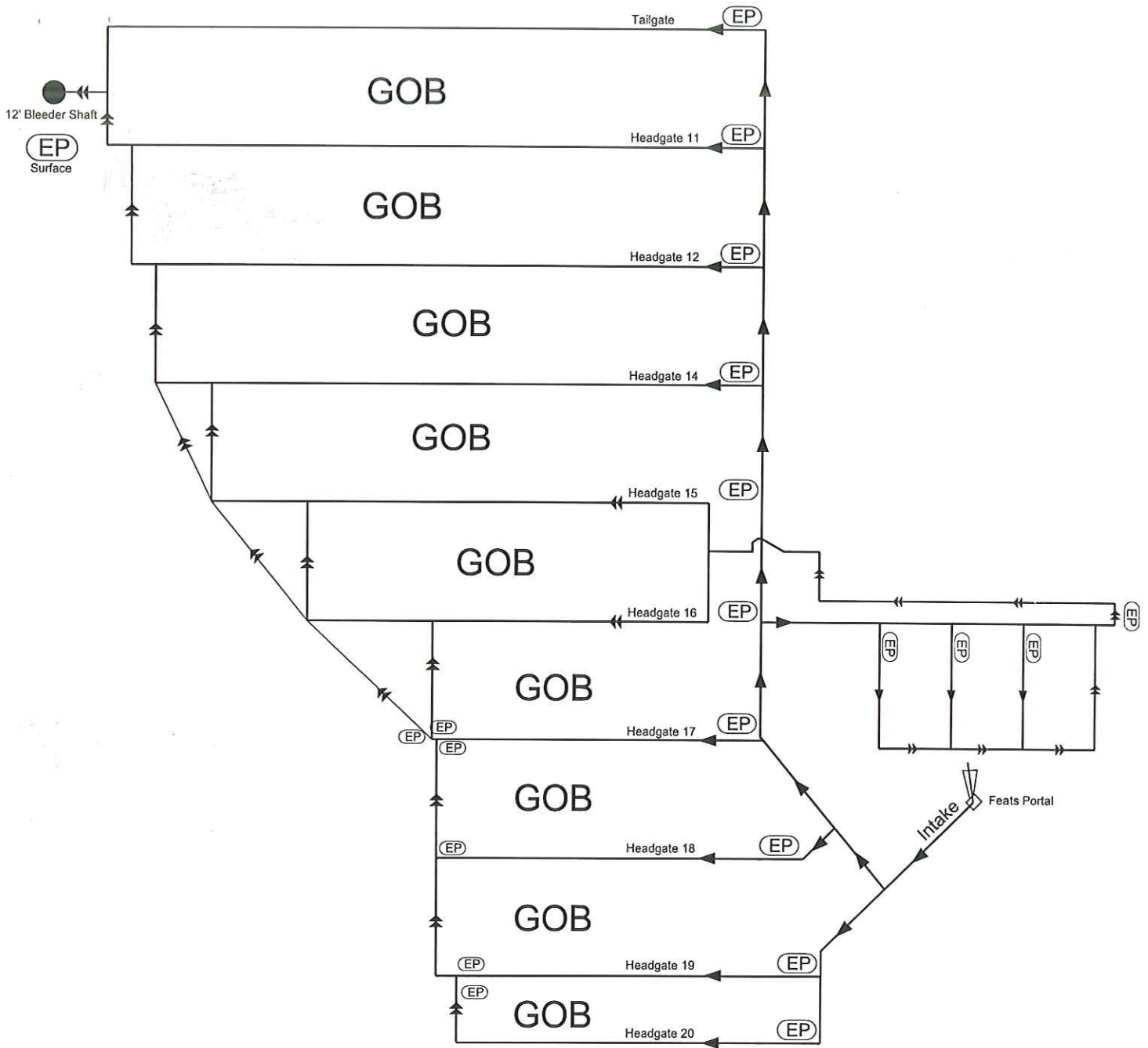
- 1) Mirror Image Applies.
- 2) Number of Entries may vary.
- 3) Belt and Track configuration may vary.

11

**PERFORMANCE
COAL COMPANY**

Upper Big Branch Mine - South

MSHA ID: 46-08436
State ID: U-3042-92



PERFORMANCE COAL COMPANY

P.O. BOX 69, NAOMA WV 25140

UPPER BIG BRANCH MINE - NORTH

PROPOSED BLEEDER SYSTEM

MSHA ID. NO. 46-08436

VENTILATION LINE MAP

NO SCALE

MSHA
MT. HOPE FIELD OFFICE

APR 13 2005

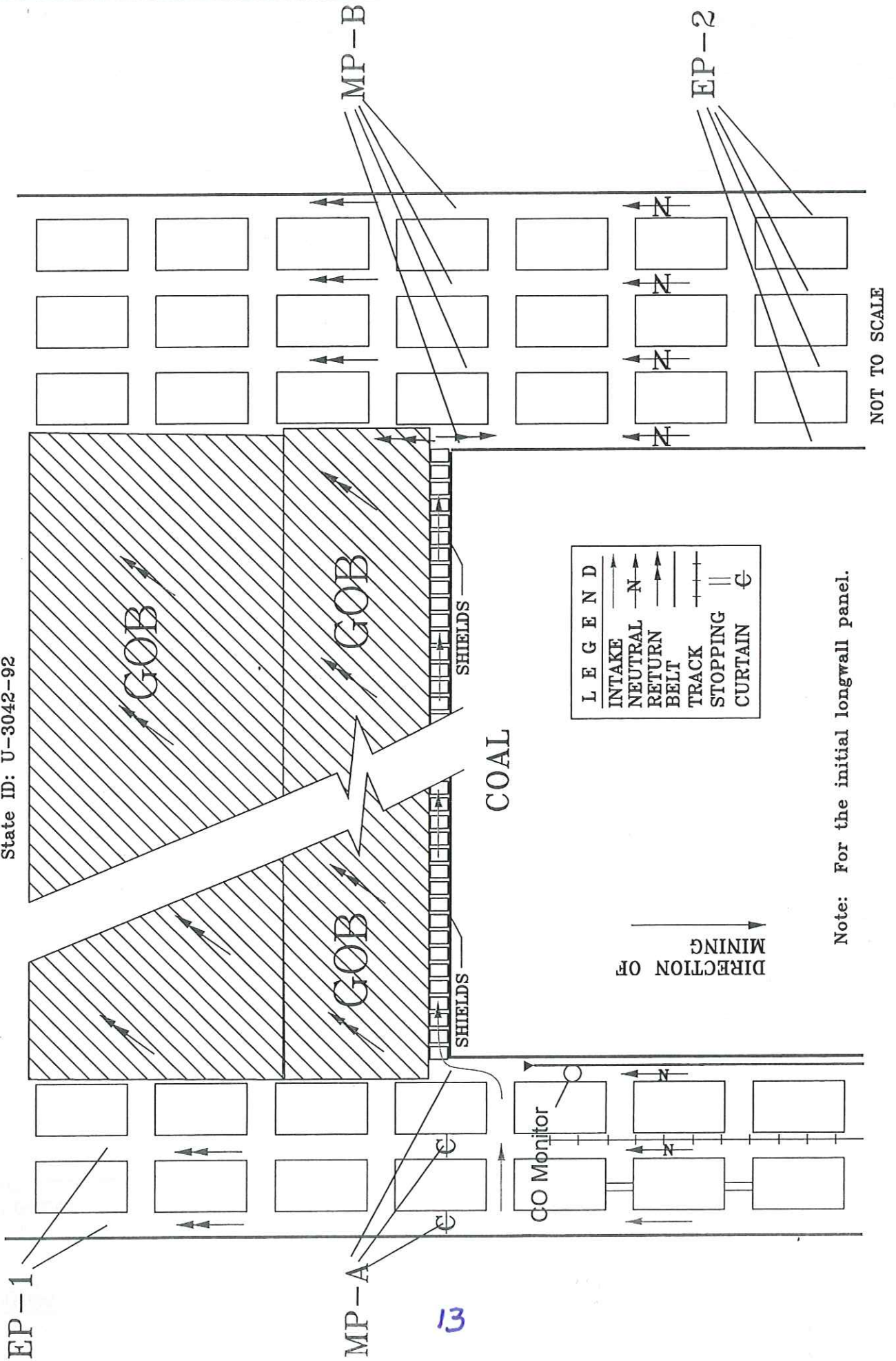
RECEIVED
VENTILATION

12

Dwg. Name: TLWFVb

TYPICAL LONGWALL FACE VENTILATION
PERFORMANCE COAL COMPANY

Upper Big Branch Mine
Active Longwall Face - Initial panel
MSHA ID: 46-08436
State ID: U-3042-92



LEGEND	
INTAKE	→
NEUTRAL	→N→
RETURN	→→
BELT	→→→
TRACK	→→→→
STOPPING	
CURTAIN	⊕

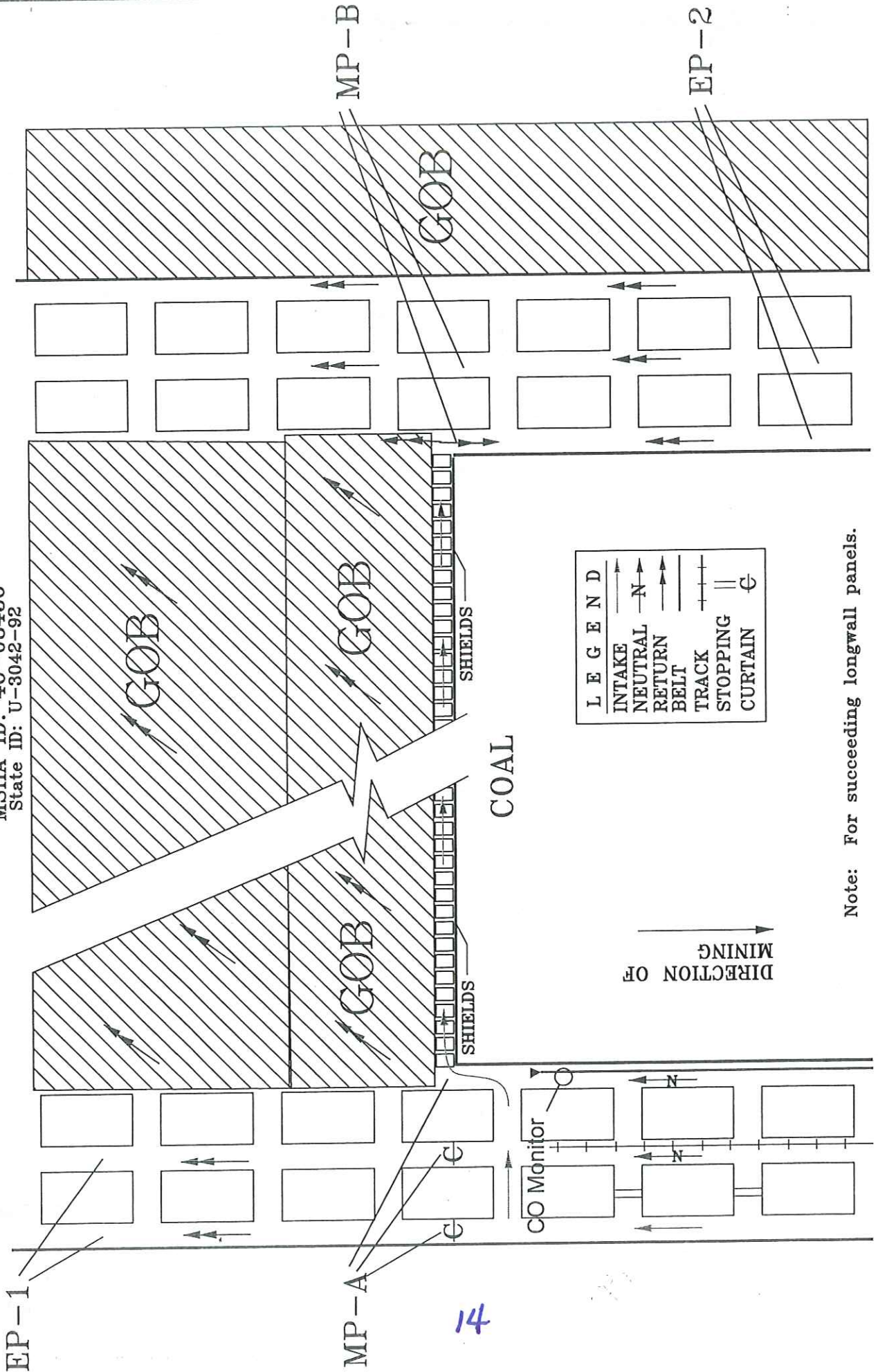
Note: For the initial longwall panel.

NOT TO SCALE

Dwg. Name: TLWFVb

TYPICAL LONGWALL FACE VENTILATION
PERFORMANCE COAL COMPANY

Upper Big Branch Mine
Active Longwall Face - subsequent panels
MSHA ID: 46-08436
State ID: U-3042-92



L E G E N D	
INTAKE	→
NEUTRAL	→ N →
RETURN	→
BELT	→
TRACK	—+—+—
STOPPING	
CURTAIN	⊕

Note: For succeeding longwall panels.

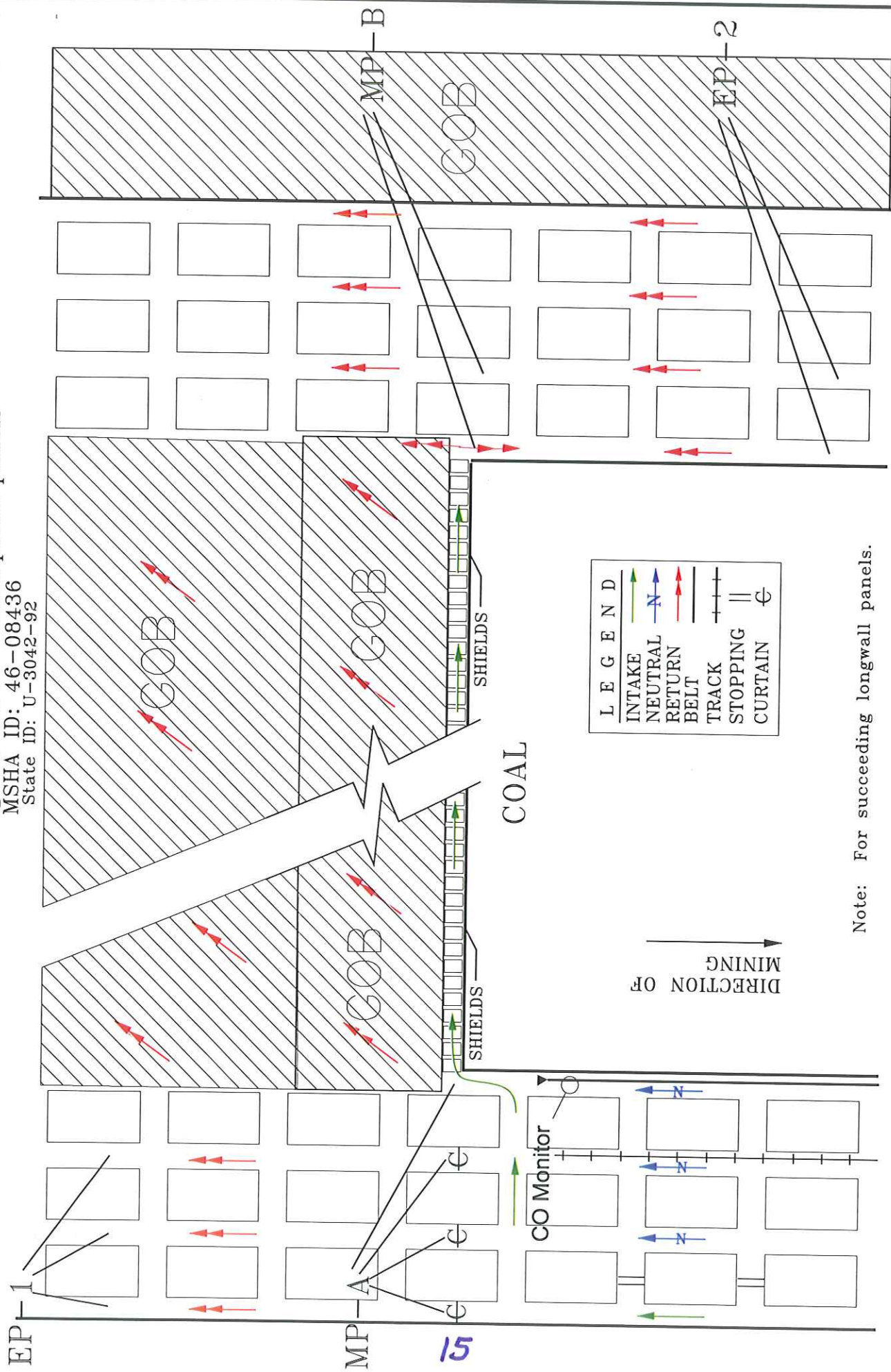
NOT TO SCALE

Dwg. Name: TLWFB

TYPICAL LONGWALL FACE VENTILATION
 PERFORMANCE COAL COMPANY

Upper Big Branch Mine
 Active Longwall Face - subsequent panels

MSHA ID: 46-08436
 State ID: U-3042-92



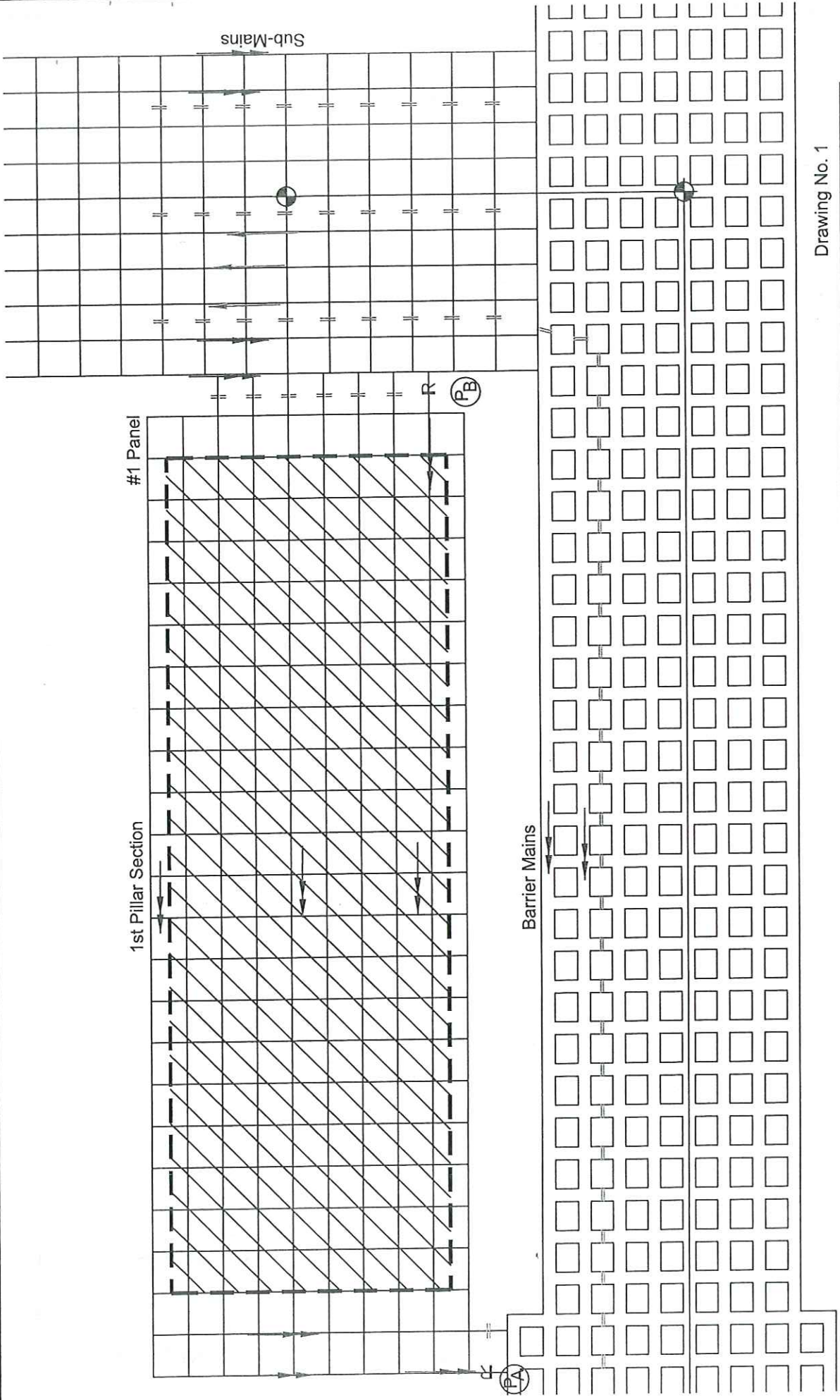
Note: For succeeding longwall panels.

NOT TO SCALE

30 CFR 75.371 (x) Bleeder Systems

DRAWING 1 External Bleeder System Utilizing Barriers for Initial Pillar Section

- Drawing 1 illustrates a typical bleeder system for the initial pillar section utilizing a cut through into the mains.
- The panel will be fully developed and at least two entries will be connected into the old mains to establish the bleeder prior to pillaring.
- The bleeder will be regulated as shown at P-A and two full rows of blocks will be left in the back of the panel.
- The bleeder will be evaluated at P-A and the pillar line while the initial panel is being pillared for the weekly evaluations.
- One half of a block will be left on the outside entries of the initial panel.
- Once the panel is completely pillared, the bleeder controls will be installed at the mouth of the section as shown typically at P-B on drawing 1.
- Upon completion of pillaring the initial panel, the bleeder will be evaluated at P-A and P-B.
- The section returns will be properly regulated to ensure positive pressure on the gob or pillar line.
- Any mining off a mains or sub-mains, whether it is rooms or a pillar section, is considered a panel.



Drawing No. 1

Performance Coal Co.	
Upper Big Branch	
P. O. Box 69 Naoma, WV 25140	
External Bleeder System Utilizing Barriers for Initial Pillar Section	
M.S.H.A. ID No. 46-08436	Permit No. U-3042-92
DATE: 9-10-03	SCALE: NTS
DRAWN BY: GTL	CHECKED BY: GTL
DWG. NAME:	

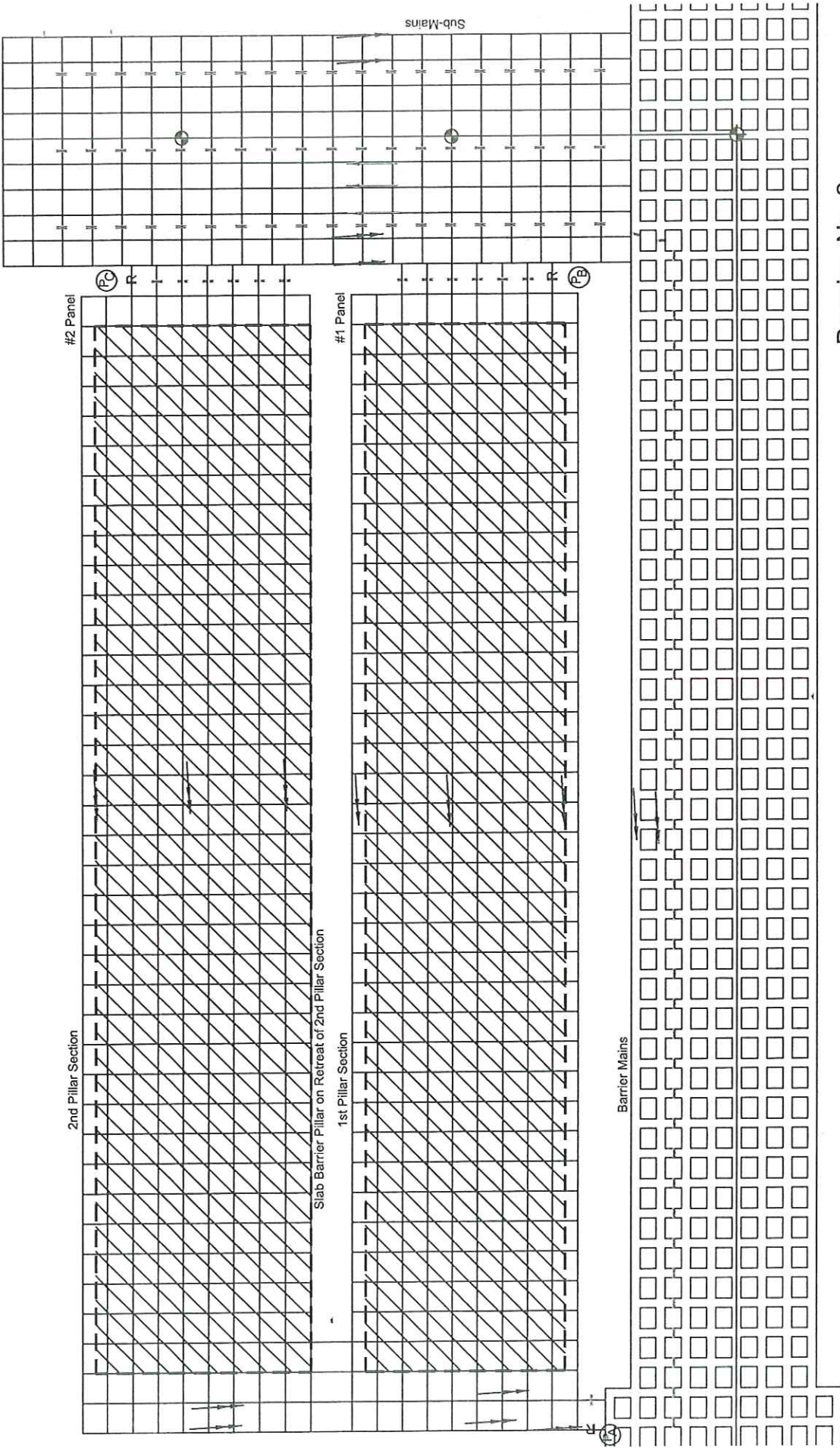
17

30 CFR 75.371 (x) Bleeder Systems

DRAWING 2

External Bleeder System Utilizing Barriers to Pillar Multiple Sections

- Drawing 2 illustrates a typical bleeder system to pillar multiple sections utilizing a cut through into the mains and a barrier system between panels.
- The second and successive panels will be developed and cut through into the previous panels as shown on the Drawing 2
- Adverse conditions may warrant stopping a panel short of the previous panels furthest extent. The bleeder can still be established by cutting through the barrier in the same manner as shown on Drawing 2.
- Two full rows of blocks will be left in the back of the panels and one half of a row of blocks left on the solid coal side.
- A barrier, minimum 25 feet, will be left between panels.
- Once the second panel connects into the bleeder, the evaluation point P-A can be eliminated if so desired.
- While the second panel is being pillared, the air will be checked at the pillar line, P-A and P-B.
- Upon completion of pillaring the second and each successive panel, the bleeder controls will be installed as shown and evaluated at P-A , P-B, and P-C and so forth.
- Prior to the next panel connecting into the bleeder system, the air will enter the last pillar section (typically) and exit all the others (typically). Example, air will enter P-C and exit P-B.
- In some occurrences, the return may be so regulated, to allow air to enter more than one old pillar section and exit more than one. In all cases, air will be so regulated to not allow air reversals and to insure air is entering the gob area at the panel being pillared.
- Any mining off a mains, or sub-mains, whether it is rooms or a pillar section, is considered a panel.



Drawing No. 2

Performance Coal Co.	
Upper Big Branch	
P. O. Box 69 Naoma, WV 25140	
External Bleeder System Utilizing Barriers to Pillar Multiple Sections	
M.S.H.A. ID No. 46-08436	Permit No. U-3042-92
DATE: 9-10-03	SCALE: NTS
DRAWN BY: GTL	CHECKED BY: GTL
DWG. NAME:	

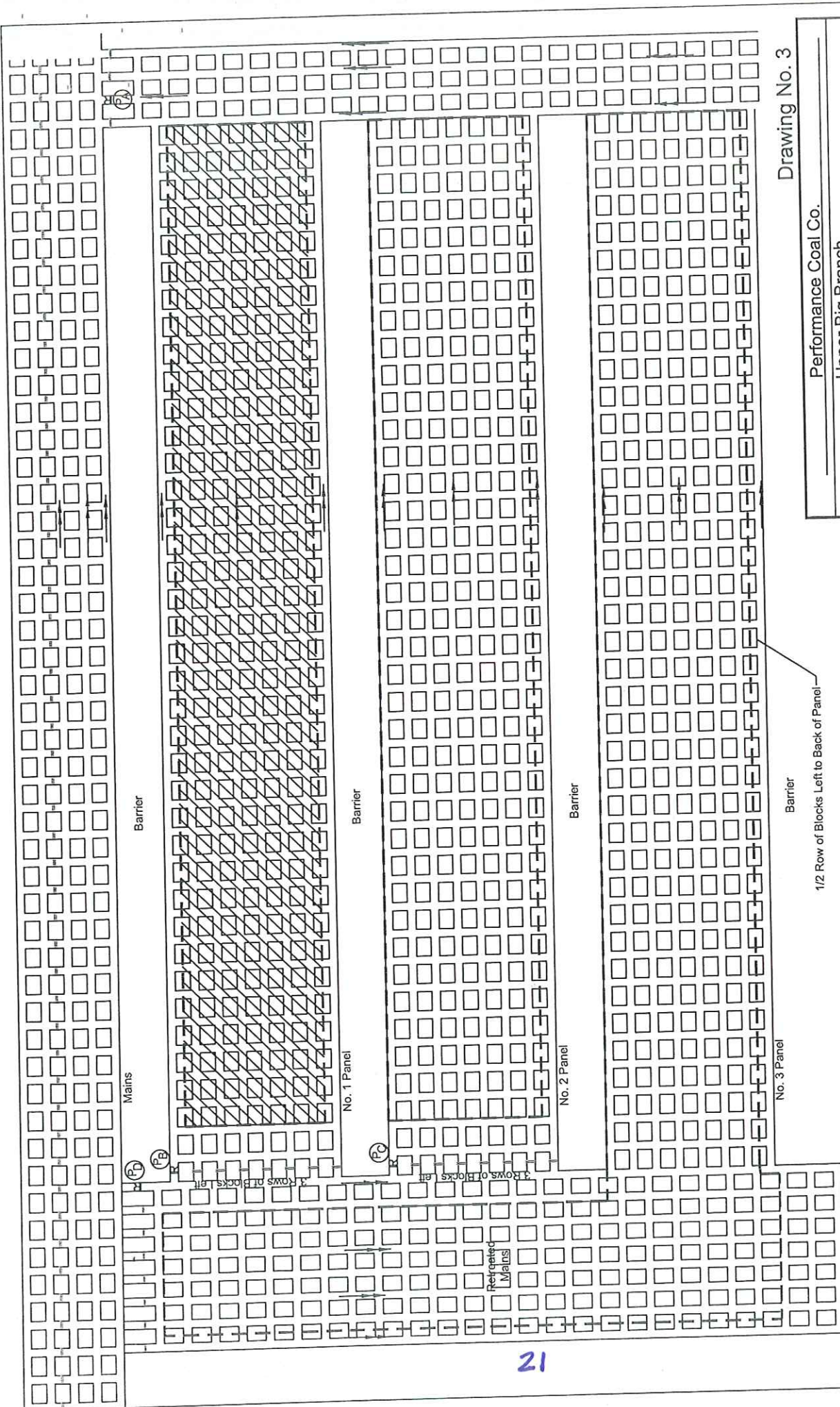
19

30 CFR 75.371 (x) Bleeder Systems

DRAWING 3 External Bleeder System Utilizing Barriers For Multiple Sections to Pillar Mains

- Drawing 3 illustrates the bleeder system to be utilized that will allow the mains to be pillared after all the panels in a bleeder system have been developed and pillared.
- Before pillaring the mains, the bleeder controls must be installed at the mouth of each of the old pillar sections, except the last panel pillared prior to pillaring the mains will have no controls installed.

- A barrier, minimum 25 feet, would have been left between panels already pillared off the mains and the bleeder established as shown.
- Prior to pillaring the mains P-A is to be re-activated (if inactive) and as the mains are pillared out by P-C and P-B, they will be abandoned.
- Three rows of blocks will be left at the mouth of each of the pillar sections to protect the bleeder controls.
- One half of a row of blocks will be left on the solid side of the last panel pillared prior to pillaring the mains.
- Two rows of blocks will be left in the back of the mains and tied into the one half row of blocks left in the last panel by a one half row of blocks to be left in the mains as shown in Drawing 3.
- One half row of blocks will be left on the solid side of the mains.
- The returns will be properly regulated to insure air entering the gob and the bleeder operating normally.
- Once the mains are completely pillared, as shown on Drawing 3, this area will be evaluated at P-D and P-A or sealed. If required by ventilation conditions, the bleeder direction can be reversed after mining.
- Any mining off a mains, or sub-mains, whether it is rooms or a pillar section, is considered a panel.



Drawing No. 3

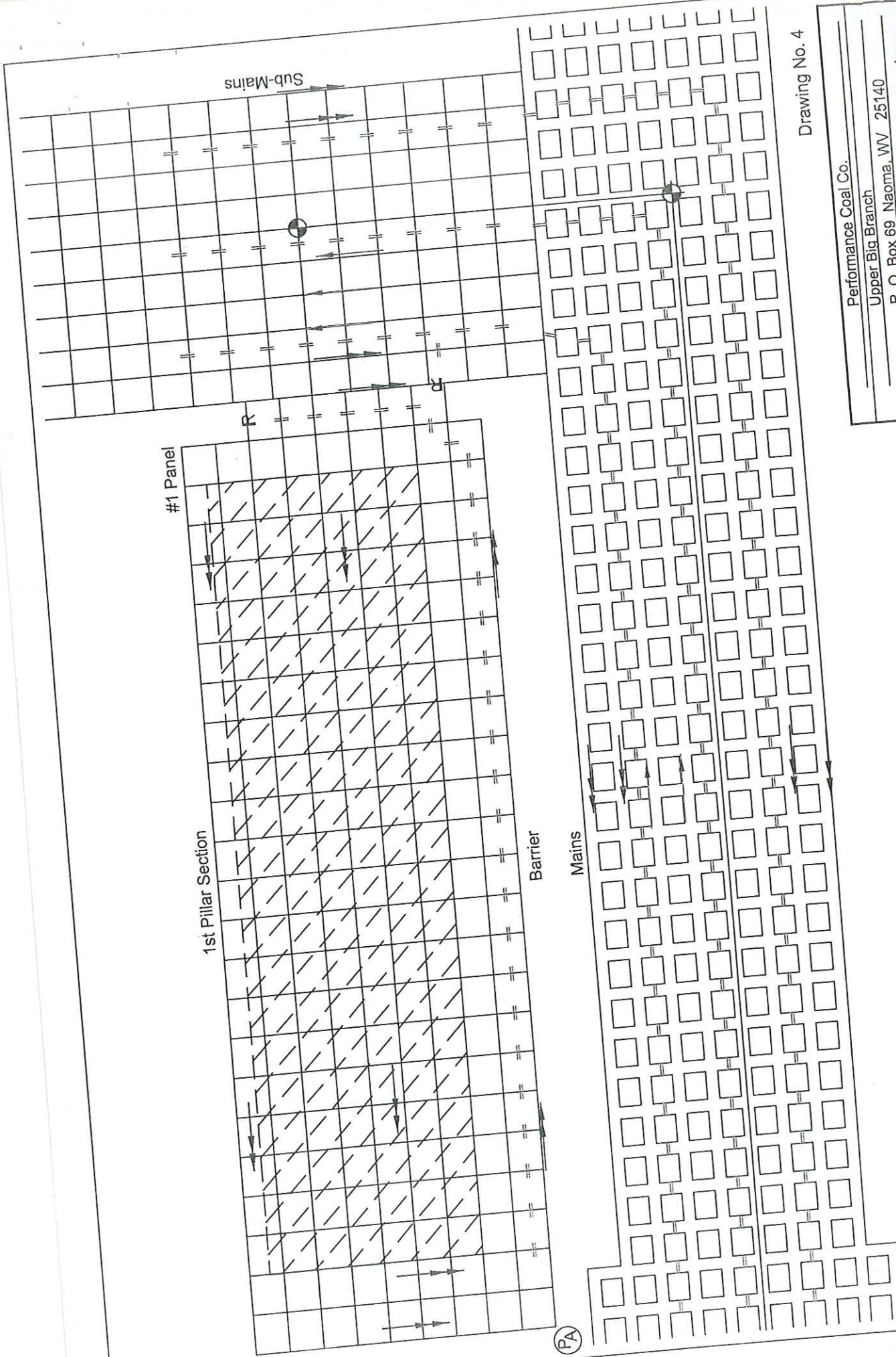
Performance Coal Co.	
Upper Big Branch	
P. O. Box 69 Naoma, WV 25140	
External Bleeder System Utilizing Barriers for Multiple Sections to Pillar Mains M.S.H.A. ID No. 46-08436 Permit No. U-3042-92	
DATE: 9-10-03	SCALE: NTS
DRAWN BY: GTL	CHECKED BY: GTL
DWG. NAME:	

30 CFR 75.371 (x) Bleeder Systems

DRAWING 4

Internal Bleeder System Utilizing Barriers for Initial Section

- Drawing 4 illustrates how an internal bleeder system will be established for the initial panel to be pillared.
- A stopping line will be installed in the first block on either side of the panel driven for bleeder controls.
- Evaluation point P-A will be established on the back of the panel as shown prior to pillaring.
- Two rows of blocks will be left in the back end of the bleeder and down the internal bleeder side to protect the bleeder stoppings.
- One half of a row of blocks will be left on the side of the panel opposite the bleeder blocks and stoppings to facilitate air flow in the bleeder.
- The returns will be regulated to insure air entering the gob and traveling to P-A and back down the panel behind the bleeder stopping line.
- Upon completion of pillaring this section, the bleeder controls at the mouth of the section will be installed as shown on Drawing 4.
- Until the next panel can be driven parallel to this section and connected into the back of this initial panel as shown on drawing 5, the bleeder will be evaluated at P-A, to determine its effectiveness weekly.
- This type of bleeder system will only be used in rare occurrences when an external bleeder system can not be practically installed.
- While pillaring this section, the bleeder will be evaluated weekly at the pillar line and P-A.
- Any mining off a mains or sub-mains, whether it is rooms or a pillar section, is considered a panel.



Drawing No. 4

Performance Coal Co.	
Upper Big Branch	
P. O. Box 69 Naoma, WV 25140	
Internal Bleeder System Utilizing Barriers	
for Initial Section	
M.S.H.A. ID No. 46-08436	Permit No. U-3042-92
DATE: 9-10-03	SCALE: NTS
DRAWN BY: GTL	CHECKED BY: GTL
DWG. NAME:	

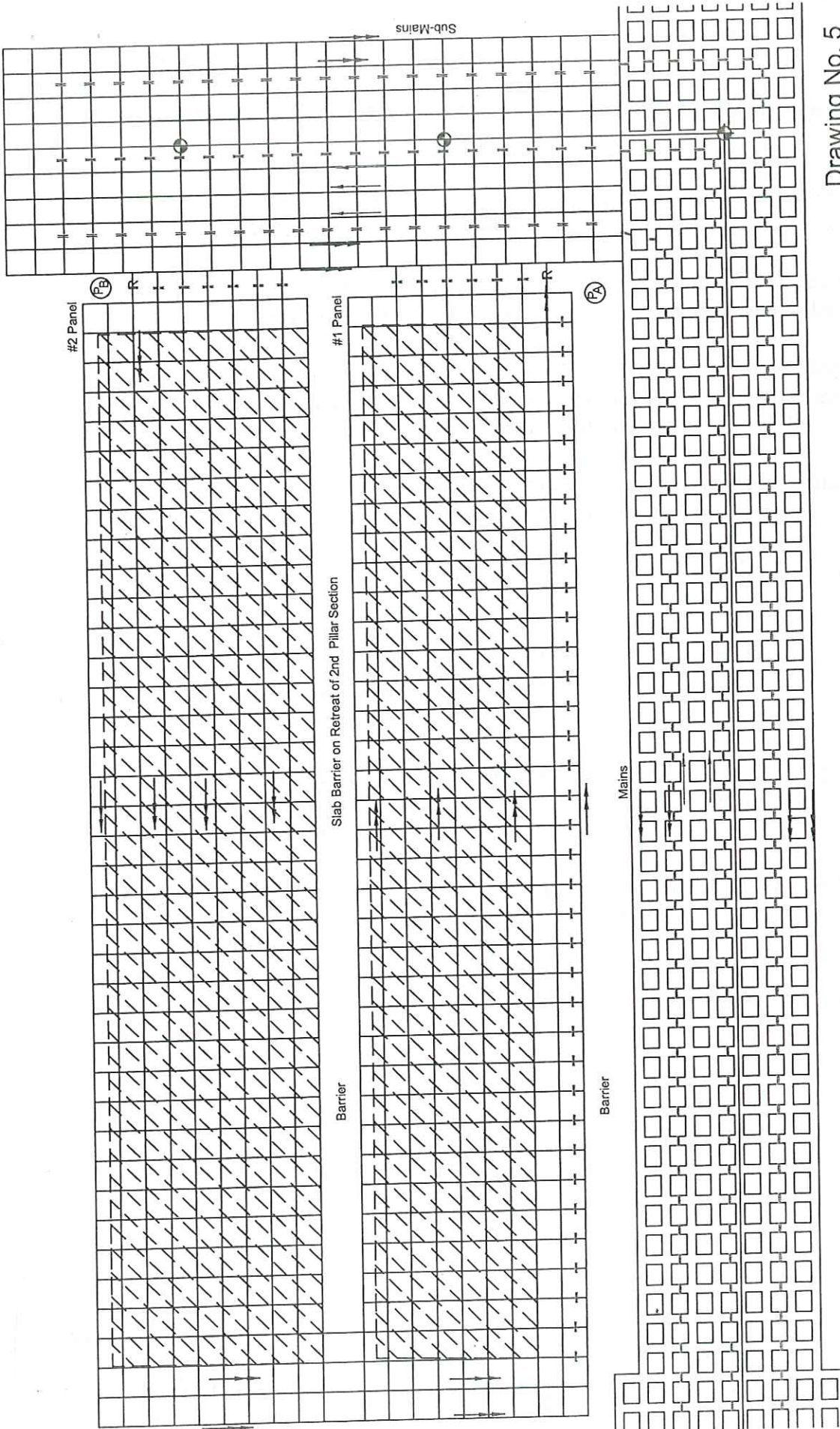
23

(PA)

30 CFR 75.371 (x) Bleeder Systems

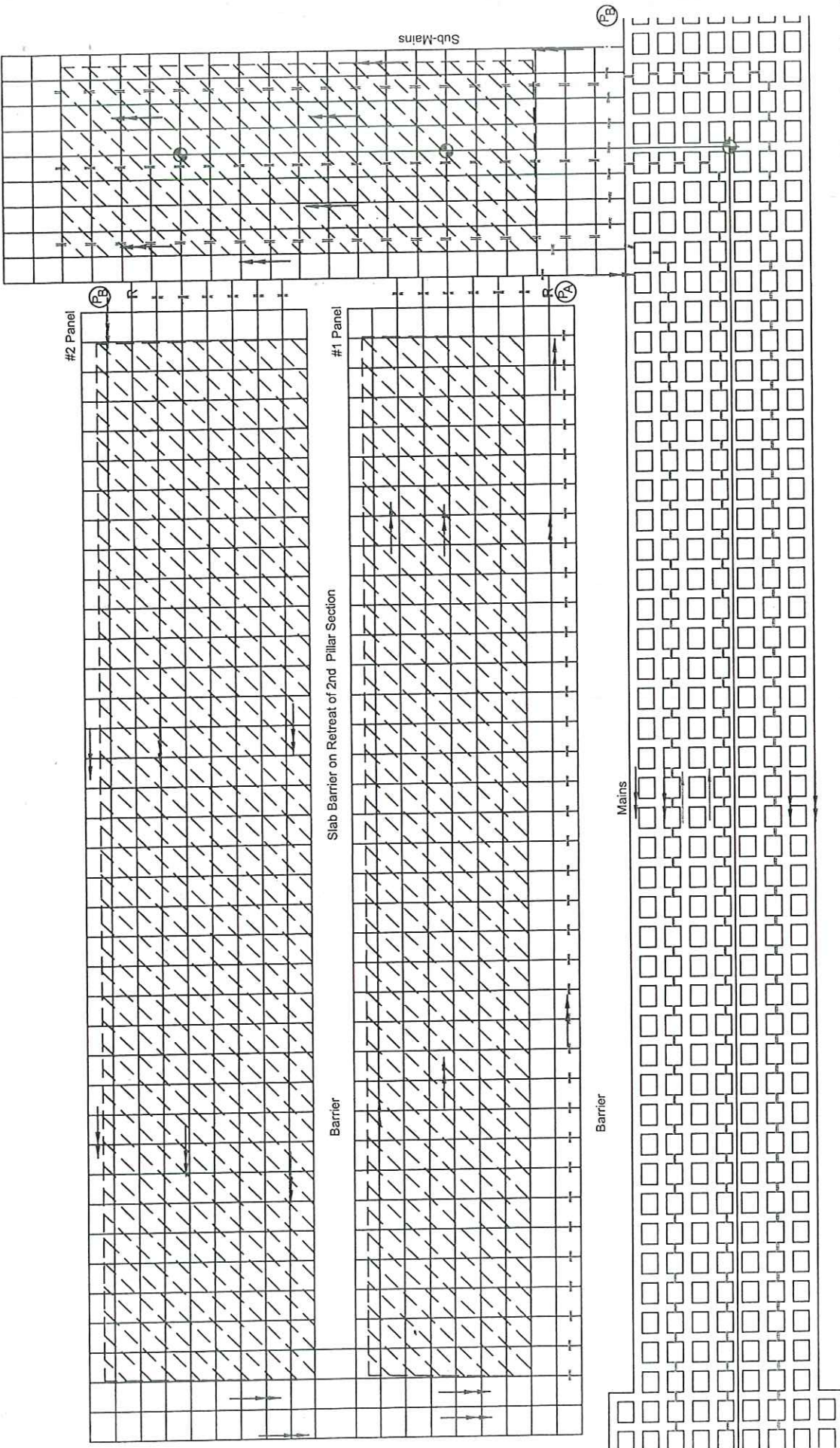
DRAWING 5 Internal Bleeder System Utilizing Barriers for Multiple Section

- Drawing 5 illustrates the bleeder system required to pillar the second and subsequent panels utilizing an internal bleeder system established in the first panel.
- Once the second panel connects into the back of the first panel, the evaluation point P-A will be moved from the back of the first panel, as shown on drawing 4, to the mouth of the first panel as shown on drawing 5.
- Two rows of blocks will be left as shown on the back of the second panel.
- The second panel will connect into the back of the first panel as shown, not necessarily where shown.
- A barrier, minimum 25 feet, will be left between each panel.
- One half of a row of blocks will be left on the solid coal side, in case the next panel cannot drive to its furthest extent because of adverse mining conditions.
- While the second and subsequent panels are being pillared, the bleeder will be evaluated weekly at the pillar line and at the mouths of the previous panels at P-A, P-B, etc..
- Once the second and each subsequent panel is finished the bleeder controls will be installed at the mouth of the section as shown on drawing 5. The evaluation points P-A, P-B, etc. will be evaluated weekly.
- The air will typically enter the last panel pillared and exit the previous panels. However, sometimes air may enter several of the panels and exit several. The return will be regulated to maintain positive air movement and prevent air reversals. The exact air directions in bleeders will be shown on the mine ventilation map submitted under 75.372.
- Any mining off a mains or sub-mains, whether it is rooms or a pillar section, is considered a panel.



Drawing No. 5

Performance Coal Co.	
Upper Big Branch	
P. O. Box 69 Naoma, WV 25140	
Internal Bleeder System Utilizing Barriers for Multiple Sections	
M.S.H.A. ID No. 46-08436	Permit No. U-3042-92
DATE: 9-10-03	SCALE: NTS
DRAWN BY: GTL	CHECKED BY: GTL
DWG. NAME:	



Drawing No. 6

Performance Coal Co.	
Upper Big Branch	
P. O. Box 69 Naoma, WV 25140	
Internal Bleeder System Utilizing Barriers to Pillar Sub-Mains	
Permit No. U-3042-92	
M.S.H.A. ID No. 46-08436	
DATE: 9-10-03	SCALE: NTS
DRAWN BY: GTL	CHECKED BY: GTL
DWG. NAME:	

30 CFR 75.371 (x) Bleeder Systems

DRAWING 7 External Bleeder System Utilizing Punch-outs or Vertical Boreholes For Initial Pillar Section

- Drawing 7 illustrates the bleeder system for the initial panel driven to a punchout or vertical borehole to establish a bleeder.
- The panel shall be fully developed and at least two entries (if practical) shall be driven outside or to the vertical borehole.
- The external bleeder (P-A) shall be regulated as shown on the drawing.

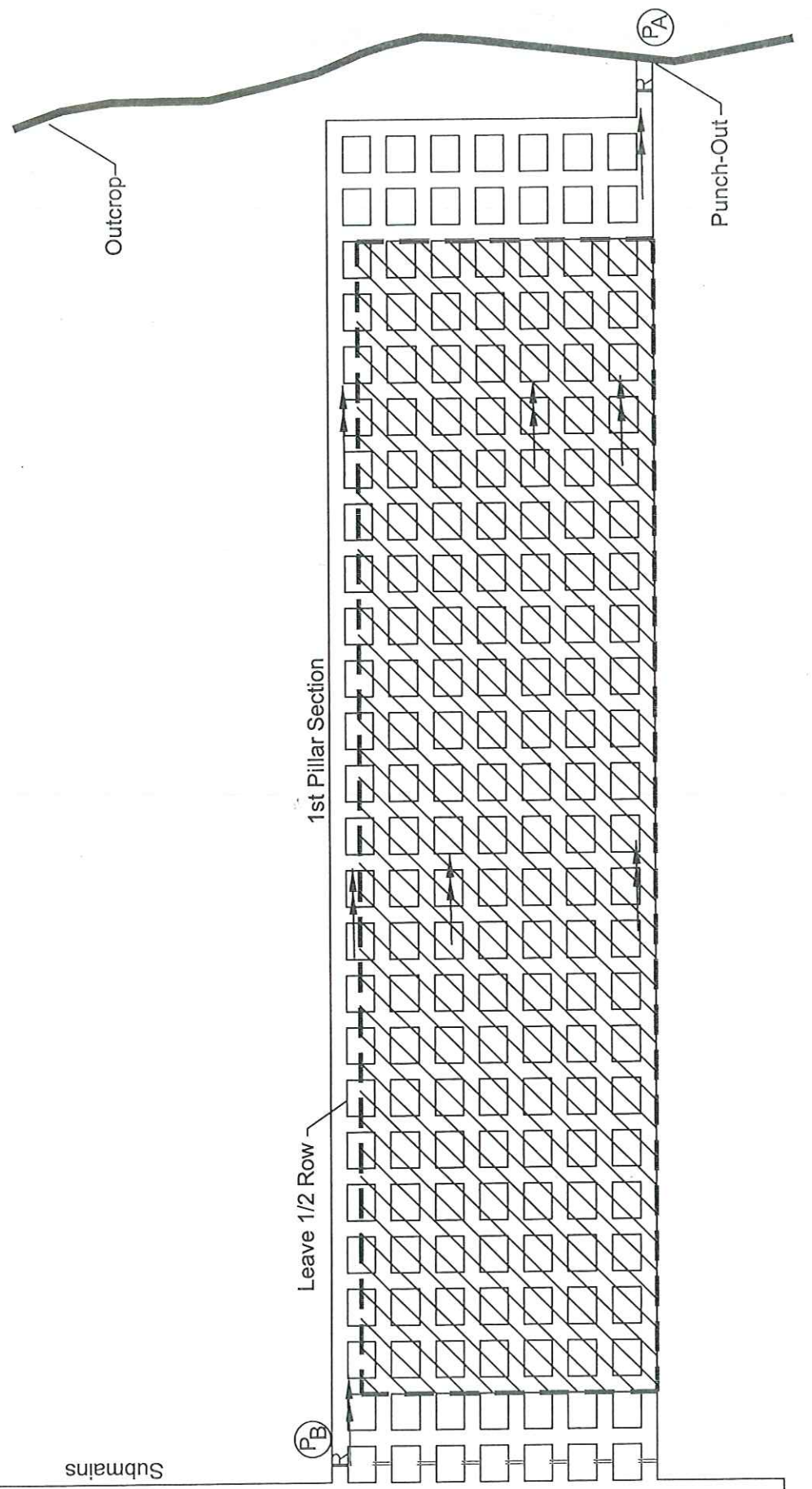
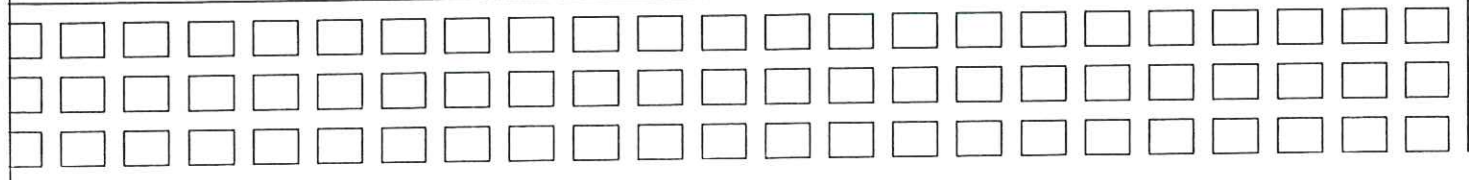
- Two rows of blocks will be left on the backside of the panel to protect the bleeder evaluation point and better facilitate airflow.
- One half of a row of blocks will be left on the side of the first panel adjacent to where the next panel will be driven. This will allow that panel to connect into the bleeder short of the back of the first panel, because the outcrop locations or adverse mining conditions.
- Prior to this panel being pillared, the returns will be regulated to insure the air will be entering the gob at the pillar line and exiting at P-A. This will be evaluated weekly.
- Once this section has been completely pillared, the bleeder controls at the mouth of the section will be built as typically shown on Drawing 7.
- The bleeder air will then enter P-B and exit P-A and will be evaluated at the locations weekly.
- Any mining off a mains, or sub-mains, whether it is rooms or a pillar section, is considered a panel.

Drawing No. 7

Performance Coal Co.	
Upper Big Branch	
P. O. Box 69 Naoma, WV 25140	
External Bleeder System Utilizing Punch-outs	
M.S.H.A. ID No. 46-08436	Permit No. U-3042-92
DATE: 9-10-03	SCALE: NTS
DRAWN BY: GTL	CHECKED BY: GTL
DWG. NAME:	

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Submains

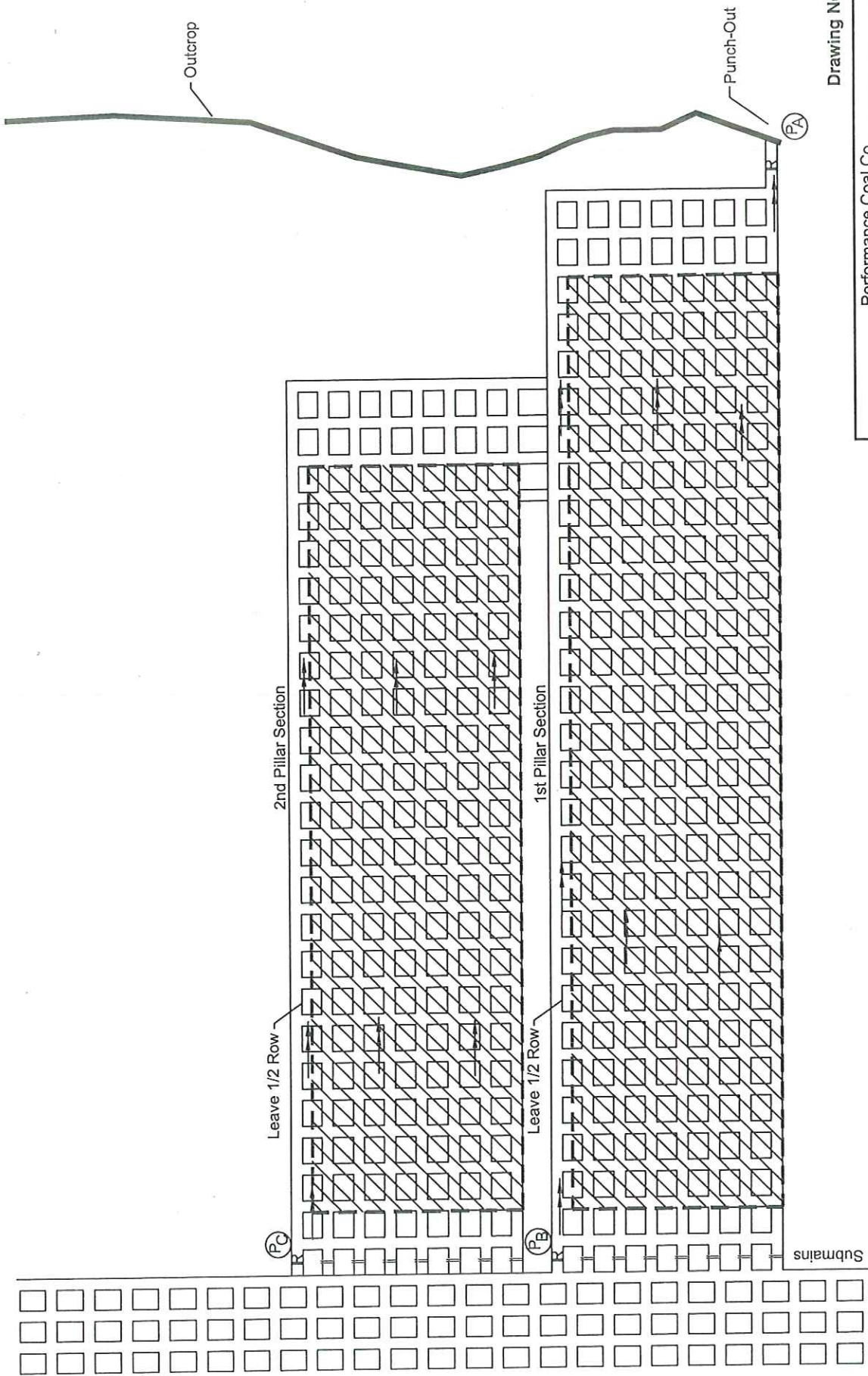


30 CFR 75.371 (x) Bleeder Systems

DRAWING 8

External Bleeder System Utilizing Punchouts or Vertical Boreholes For Multiple Pillar Sections Of Various Lengths

- Drawing 8 illustrates the bleeder system to be used for multiple pillar sections of various lengths to be connected on the rear of each panel as shown and connected to a punch-out or vertical borehole.
- The second panel shall be driven and connected into the first panel as typically shown on drawing 8.
- Two rows of blocks will be left on the back of the second and each subsequent panel.
- One half row of blocks will be left on the solid side of the panel to allow the next panel to connect into the bleeder. This connection through the barrier should be made only because of adverse mining conditions.
- A barrier, minimum 25 feet, will be left between each of the panels.
- While the bleeder is being pillared, the bleeder will be evaluated weekly at the pillar line and at P-A and P-B. Air typically will enter the pillar line and exit P-A and P-B.
- However, due to ventilation requirements, air may also enter the gob of the second panel (P-C) and exit the first panel at P-B with P-A being abandoned. Air could also enter the second panel at P-C, enter the first panel at P-B and exit the mine at P-A. The exact air directions of the old panels will be shown on the ventilation map submitted under 30 CFR 75.372. Positive ventilation pressure will be maintained to eliminate the possibility of air reversal.
- Upon completion of pillaring this panel, bleeder controls will be installed as typically shown on Drawing 8.
- Any mining off a mains, or sub-mains, whether it is rooms or a pillar section, is considered a panel.



Drawing No. 8

Performance Coal Co.	
Upper Big Branch	
P. O. Box 69 Naoma, WV 25140	
Multiple Pillar Sections of Various Lengths External Bleeder System Utilizing Punch-Outs	
M.S.H.A. ID No. 46-08436 Permit No. U-3042-92	
DATE: 9-10-03	SCALE: NTS
DRAWN BY: GTL	CHECKED BY: GTL
DWG. NAME:	

**List of Construction Materials and General Construction Methods
for Permanent Ventilation Seals**

1. Plan for Tekseal Cementitious Foam Seal:

General Construction

- A.) The seal shall be located where coal ribs are solid and unaffected by long exposure of excessive weight and overlying strata.
- B.) Loose material will be removed from the roof, ribs and floor in the immediate construction area.
- C.) The formwork for the containment of the Tekseal Cementitious Foam will consist of two walls. The back wall will be constructed as follows: Wooden posts with dimensions of 4" x 4" will be set vertically on four (4) foot centers and wooden boards with dimensions of 1" x 6" will be nailed horizontally upon the vertical posts. The spacing between each of the horizontal boards will be on 18" (inch) centers.
- D.) Brattice cloth will then be nailed on the interior side of the wall. The brattice cloth will cover the entire form and approximately 4 inches will flap over the ribs, roof and floor. The flaps will be secured to the perimeter of the seal by nails or spads.
- E.) The front wall will be constructed in the same manner as the back wall and will consist of the same materials. However, three holes will be drilled in the top horizontal member to allow foam to be pumped into the seal to "top" off the seal. One of the holes will be in the center of the form and one on each side of the form approximately 3-4 feet from the rib. This will allow the cementitious foam to be distributed more uniformly (see attached drawings).
- F.) The thickness of the seal will be half the height of the seal (i.e.- 5 ft. thick for 10 ft. in height) but no less than four (4) feet in thickness. The compressive strength of the cementitious foam will be a minimum of 200 psi.
- G.) The forms used to contain the cementitious foam and the interior brattice cloth shall be left in place for the duration of the seal life.
- H.) The company who constructs the seals shall collect samples of the foam slurry materials used in the seals. These samples will be taken in standard cylinders (or molds). The samples

will be used to determine, through independent laboratory analysis, the effects of aging on the seals strength.

I.) There will be no impoundment of water behind the seals.

J.) The seals shall be erected in an approved sequence.

2. Plan for Aquablend Cementitious Foam Seal:

General Construction

- A.) The seal shall be located where coal ribs are solid and unaffected by long exposure of excessive weight and overlying strata.
- B.) Loose material will be removed from the roof, ribs and floor in the immediate construction area.
- C.) The thickness of the seal will be half the height of the seal (i.e.- 5 ft. thick for 10 ft. in height) but no less than four (4) feet in thickness. The compressive strength of the cementitious foam will be a minimum of 200 psi.
- D.) Three injection ports will be incorporated in the timber-brattice forms for the purpose of uniformly controlling the distribution of the foam within the form. These ports will be located along the top of the seal.
- E.) The forms used to contain the cementitious foam and the interior brattice cloth shall be left in place for the duration of the seal life.
- F.) The company who constructs the seals shall collect nine samples of the foam material. Three samples will be taken from the bottom, three from the middle and three from the top. These samples will be taken in standard cylinders (or molds). The samples will be used to determine, through independent laboratory analysis, the effects of aging on the seals strength.
- G.) There will be no impoundment of water behind the seals.
- H.) The seals shall be erected in an approved sequence.

3. Construction Techniques To Be Used For The Installation Of The MICON 550 Permanent Ventilation Seal

Construction Technique

The MICON 550® Permanent Ventilation Seal consists of two surface bonded, dry-stacked concrete stopping walls and a special polymer and aggregate inner core.

I. SEAL PLACEMENT

- A. It is the responsibility of the mine to determine the location of the seal. Placement must be according to MSHA and the applicable state guidelines.
- B. Ideally, the seal shall be placed in an area with competent and uniform roof, rib and bottom conditions.

II. SITE PREPARATION

- A. **Hitching is not required** in the construction of the MICON 550® Permanent Ventilation Seal.
- B. Sound and scale down any loose material from roof and rib. Shovel and pick down bottom to a solid base where possible. The overall seal site width will range approximately thirty inches (30") to thirty-six inches (36").

III. BLOCK WALL CONSTRUCTION

- A. **All walls are dry stacked.**
- B. The block walls as constructed for the MICON 550® Permanent Ventilation Seal are "dry" block stoppings.
- C. Erecting the Block Walls

The back wall is constructed first. Establish the first row on solid bottom, using a sight string or similar method to keep the construction level. Using a mason's hammer, tap the blocks together to close in the sides. Tap in each subsequent block as close to the other blocks as possible.

After the first row is constructed, the remaining rows are installed. All blocks are stacked in place without mortar.

After the last block of each row is in place, drive a wedge between the block and rib to firmly tighten the blocks in

place. Fill all notches and holes with block fragments and wedge in place.

The backside of the back wall must be plastered with an MSHA approved sealant.

When constructing the last seal in a series, a manhole shall be left open to facilitate plastering the backside of the wall. After plastering the backside of the wall, the manhole shall be closed by individually hand plastering the blocks into place. The very last block will be wet laid using the sealant.

After completing the back wall, measure and mark the core thickness of the seal, then begin constructing the front wall. Establish the first row on solid bottom, using a sight string or similar method to keep the construction level. Square and tighten blocks together as they are stacked in place.

After the first row is laid, the front wall is initially constructed to a height of two to three feet (dependent on seal height). All blocks are stacked in place without mortar. After the last block of each row is in place, drive a wedge between the block and rib to firmly tighten the blocks in place. Fill all notches and holes with block fragments and wedge in place.

Construction of the front wall is continued by pyramiding the block to the roof so that one or two blocks are in contact with the roof. After the top blocks are in place, drive a wedge between the block and roof to hold the block in place.

Begin installation of the inner core. As the inner core is installed construction of the front wall continues to completion.

The front side of the front wall must be plastered with an MSHA approved sealant.

In mines experiencing roof convergence and/or floor heave, one row of cement block can be substituted with wood. The wood must be the same height and width of the cement block which it is replacing.

IV. INSTALLATION OF THE INNER CORE

A. The inner core of the seal is defined as that part of

the seal between the two block walls consisting of a polymer grout and aggregate. Its thickness is determined according to the overall height of the seal.

B. Use the following table to determine the thickness of the inner core:

<u>Seal height</u>	<u>Inner Core Thickness</u>
Less than 8.00'	16"
8.01' - 9.00'	17"
9.01' - 10.00'	18"
10.01' - 11.00'	19"
11.01' - 12.00'	20"
12.01' - 13.00'	21"
13.01' - 14.00'	22"
14.01' - 15.00'	23"

C. Materials required:

MPG-550 Polymer binder

Two components (A and B) make up the MPG-550; each component is packaged in 55 gallon drums. The two components are pumped and mixed together at a 1:1 ratio.

- Aggregate
The aggregate is packaged in fifty pound (50#) bags which are palletized and shrink wrapped.

D. Tools and equipment required:

- Two component polymer grout pump
- Power source for pump (air or hydraulic)

E. Inner Core Construction

The initial step in the construction of the inner core is to coat the floor, the interface between the block walls and floor, and the block walls and ribs within the core area with the polymer grout. Then, while the polymer is in its liquid state, apply a layer (approximately two to four inches in thickness) of aggregate onto the reacting polymer. Within several minutes, the polymer will react and rise within the aggregate.

After establishing the core base, installation proceeds as follows:

- 1 Place a layer of aggregate (four inches in depth) on the

lift.

2. After placing aggregate, thoroughly coat it with polymer grout. The polymer will react and rise (along with the aggregate) to a height of approximately fourteen inches. Within five minutes, the core material is solidified and hardened.

3. Repeat Steps 1 through 2 to roof to complete seal.

V. COMPLETING SEAL CONSTRUCTION

- A. After completing installation of the seal, inspect the seal for air leakage using the smoke tube.
- B. If there is any leakage, seal it by injecting MPG-550 polymer or using MICON's Foam Pak, a portable, reusable polyurethane foam system specifically designed for patching and sealing.

VI. WATER TRAPS/SAMPLING PIPES

- A. There will be no impoundment of water behind the seals. A water trap will be installed in the seal at the lowest elevation of the seal site.
- B. A sampling pipe with a shut off valve will be installed in the seal at the highest elevation of the seal site.

General Plan

- 1. Refer to the attached maps.
- 2. New seals will be constructed at locations identified on the mine maps.

Safety Precautions

- 1. Polyurethane grout will be utilized in accordance with the following provisions:

Storage Underground

- (1) Any designated underground storage area shall be of non combustible construction.
- (2) Any designated underground storage area shall be vented to the return.

- (3) Any designated underground storage area shall not contain more than one week's supply of chemicals.
- (4) Transportation of chemicals shall not constitute storage.
 - (5) A maximum of a 24-hour supply of chemicals may be maintained at the injection site and not constitute an underground storage facility.
 - (6) Fire protection should be provided in accordance with 30 CFR, Sections 75.1100-2(f) and 77.1109.3 in the underground storage area.

Surface

- (1) If the ambient temperature of an enclosed storage area is 80° F or above, there must be forced ventilation.
- (2) If drums are ruptured in a storage area that is 80° F or above causing a large spill, persons involved with the cleanup shall be provided with adequate respiratory protection. Call the supplier for instructions on the proper recommended cleanup procedures (MICON 412-664-9330).

Transportation (surface and underground)

- (1) Transportation of polyurethane containers shall be by such a means and/or packaging as to guard against spills and dislodging on the haulage ways.

Training

- (1) Any persons involved in the handling and/or transportation of the polyurethane will be instructed in safe handling procedures and shall be equipped with all necessary safety equipment.

Handling

- (1) During application of polyurethane grout, any person within 25 feet of the injection equipment shall wear goggles or glasses with side shields.
- (2) Any person handling the chemicals shall wear long sleeved clothing and chemical resistant

gloves.

- (3) If at any time a leak develops in the equipment during application, work shall cease, and repairs shall be made prior to resuming application.

General

- (1) A potable water supply sufficient for use as eyewash and skin flushing shall be maintained at the injection site.
 - (2) Fire protection shall be provided in accordance with 30 CFR, Sections 75.1100-2(f) and 77.1109.3
 - (3) The application and pump site will be within a distance that can be signaled by a cap lamp or telephone communication will be used.
 - (4) No burning or welding will be performed within 500 feet while polyurethane grout is being injected.
 - (5) The recommendations referred to on the Material Safety Data Sheets as listed in Appendix C will be adhered to.
3. Following are guidelines for the use of polyurethane binders for strata consolidation in underground mines where the ambient temperature is less than 80° F.

I. Introduction

These guidelines are provided to assist a District Manager, MSHA, in specifying conditions for the use of polyurethane binders for strata consolidation in mines by mechanical injection and by insertion of cartridges into drill holes.

The guidelines do not include the spraying of polyurethane, nor the use of other types of chemicals, and presumes the use of a two-component system formulated specifically for underground use.

II. Chemicals

The chemical components, including cleaning liquids, if used, should be accepted under the Interim Fire and Toxicity Criteria for Acceptance of Products Taken Into

Underground Mines, Approval and Certification Center (ASCC). However, pending acceptance by ASCC, the mine operator should certify that the chemical components and equipment conform to the following minimum specifications:

- A. The isocyanate is a polyisocyanate such as polymethylene polyphenyl isocyanate, or one having a lower vapor pressure, and that the isocyanate contains no more than 0.05 percent by weight of other isocyanates having a higher vapor pressure than the polymeric polyisocyanate.
- B. The polyol resin does not contain more than 1 percent of hazardous substance listed in the current edition of the NIOSH Registry of Toxic Effects of Chemical Substances having a lethal dose (LD₅₀) of 50 mg/kg or less.
- C. The flash points of the liquid ingredients are higher than 200° F (ASTM DE6-70, or ASTM D93-72).
- D. The maximum curing temperature of the binder, when mixed in any proportion, is less than 150° C (302° F) when 200 ml at 15 ± 1° C is mechanically stirred to a uniform mixture within 10 seconds in a cardboard or similar container, approximately 8 cm diameter, 10 cm height, and with a thermocouple (or equivalent temperature measuring method) in the geometric center.
- E. The isocyanate is kept in metal containers labeled with the following minimum information:

Polymeric Isocyanate

- 1. Danger--harmful if inhaled or ingested--may cause skin or respiratory reaction.
- 2. Do not get in eyes, on skin or clothing. Keep container closed. Use adequate ventilation. Wash thoroughly after handling.
- 3. Do not apply by spraying.
- 4. First Aid: In case of contact, immediate flush eyes or skin with large amounts of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before re-use. Discard contaminated

shoes. If breathing is difficult, remove to fresh air.

- F. The polyol resin is kept in metal containers labeled with the following minimum information:

Polyol Resin

1. Keep container closed. Harmful if ingested. Wash thoroughly after handling. Name of manufacturer.

III. Equipment

The mine operator should certify that the equipment meets the following minimum specifications:

- A. The injection equipment has been specifically engineered to pump polyurethane chemicals and meets the safety standards of the chemical manufacturer and supplier.
- B. The hoses, fittings, valves, couplings, in the pressurized system should be pressure rated for use with the pumping equipment per the manufacturer's recommendations.
- C. The hose cover meets the flammability requirements of 30 CFR 18.65.
- D. The borehole packer is designed, constructed, and maintained to hold within the borehole when the liquid supply pressure is three times higher than that of the pressure release protective device.

IV. Operational Procedures

The mine operator shall develop a plan to provide the following practices:

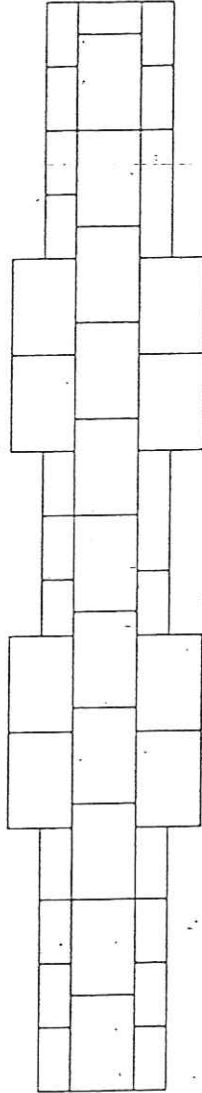
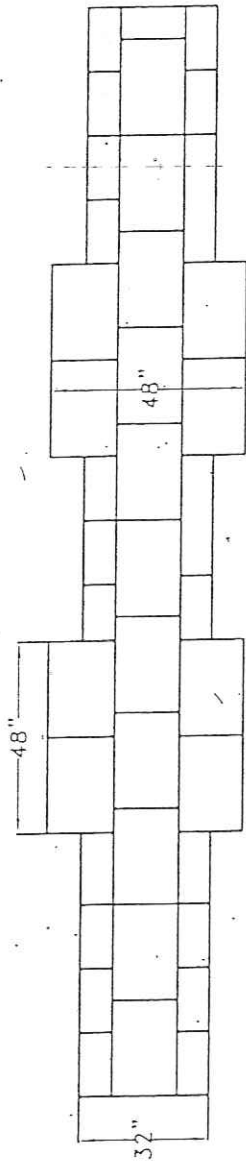
- A. The liquid shall be stored and handled in accordance with Sections 75.1104 and 77.1109.3 30 CFR. The maximum quantity underground shall be limited to one week's supply and the maximum quantity at the application site shall be limited to one day's supply.

NOTE: The chemical components are combustible liquids when heated to high temperatures. Flash point of component A is 425° F (218° C);

component B, 200° F (93.3° C).

- B. Underground storage areas where the chemicals are stored shall be ventilated.
- C. Surface storage depots, where the liquids may be exposed or where the ambient temperatures may exceed 80° F, shall be provided with forced ventilation as a precaution in case of large spills occurring.
- D. If 5 gallon pails are used, the isocyanate containers shall be covered, except during transfer from one container to another. This does not apply to the use of 55 gallon drums. Isocyanate spills (underground and surface) shall be immediately neutralized and cleaned up and placed into open containers. All empty containers shall be removed from the mine. Covering spills with rock dust and water will neutralize ISO spills.
- E. The application of the binder shall be assigned to a responsible person who is thoroughly familiar with the mechanics of the system as well as the fire and toxicity hazards. The responsible person shall be trained by the chemical and equipment manufacturers. Miners on the section where application is being made shall receive hazard recognition training from a qualified person.
- F. Persons within 25 feet of the pressurized system shall wear goggles or safety glasses with side shields, and be clothed with long sleeves, and those persons handling the chemical components shall, in addition, wear chemically resistance gloves.
- G. Blasting in consolidated (bound) strata where combustible dusts or flammable gases may be present shall be done with permissible explosives.
- H. Telephone or a similar communication system shall be used where the distance between the application and pump sites is too great or where other factors make voice communication difficult.
- I. Potable water for eye wash and water for flushing skin shall be available at the application site as required by Section II.E.

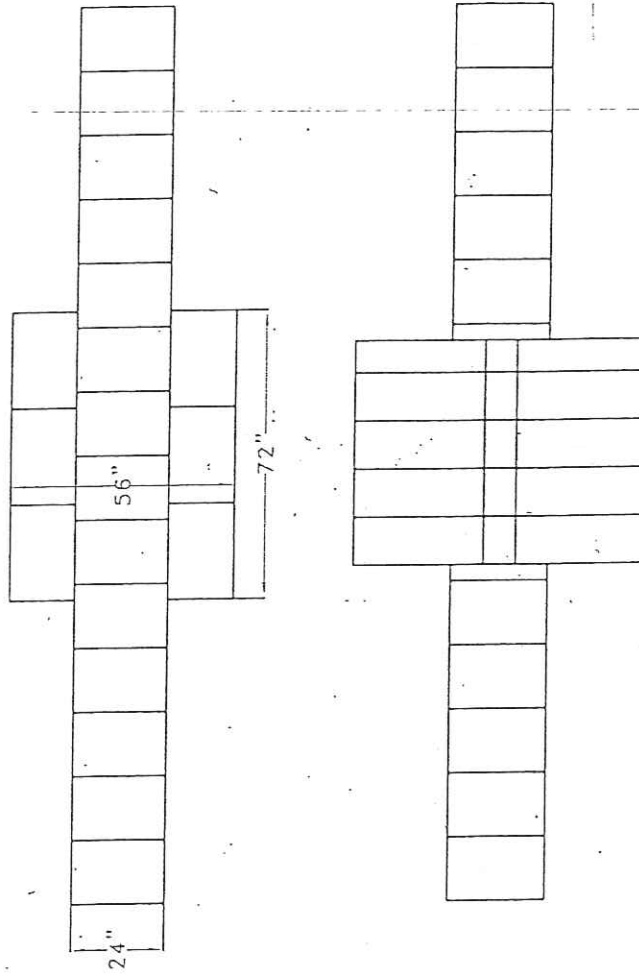
Alternative Method for Seal Construction			
Omega 384 Block			
Mine Seal Parameters	Plan #1	Plan #2	Plan #3
Seal Thickness (Inches)	32 Inches	24 Inches	24 Inches
Number of Pilasters	Two (2)	One (1)	One (1)
Pilaster Thickness (Inches)	48 Inches	56 Inches	48 Inches
Pilaster Width (Inches)	48 Inches	72 Inches	48 Inches
Keying Floor (Inches)	6 Inches	6 Inches	6 Inches
Keying Ribs (Inches)	6 Inches	6 Inches	6 Inches
Joint Pattern	Staggered	Staggered	Staggered
Bonding Agent Application	All joints, inby face and outby face with approved bonding agent.	All joints, inby face and outby face with approved bonding agent.	All joints, inby face and outby face with approved bonding agent.
Bond Thickness (Inches)	1/4 Inch (Minimum)	1/4 Inch (Minimum)	1/4 Inch (Minimum)
Wedging Thickness and Materials	Approximately six (6) inches to twelve (12) inches on top of seal using wooden planks and wedges.	Approximately six (6) inches to twelve (12) inches on top of seal using wooden planks and wedges.	Approximately six (6) inches to twelve (12) inches on top of seal using wooden planks and wedges.



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Note: Wet laid and plaster
(1/4") both sides
Burrell Bond

PERFORMANCE COAL COMPANY			
Map Showing Omega 384 Block Seal Alternating Courses Plan No. 1			
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Scale: 1/4"=1'-0"	Drawn By: sdt	Date: 10/5/00	

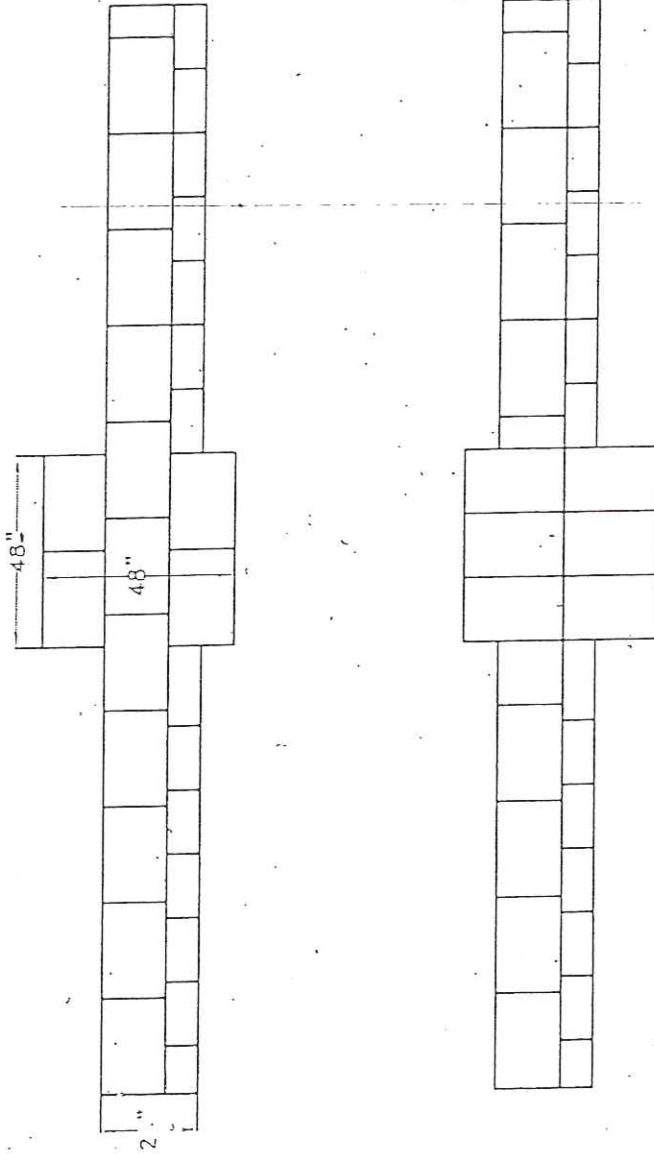


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Note: Wet laid and plaster
(1/4") both sides
Burrell Bond

PERFORMANCE COAL COMPANY		
Map Showing Omega 384 Block Seal Alternating Courses Plan No. 2		
Filename: L:\Engineering\Cad_misc\Omega_pln2.dwg		
Scale: 1/4"=1'-0"	Drawn By: sdt	Date: 10/5/00

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Note: Wet laid and plaster
(1/4") both sides
Burrell Bond

PERFORMANCE COAL COMPANY

Map Showing
Omega 384 Block Seal
Alternating Courses Plan No. 3

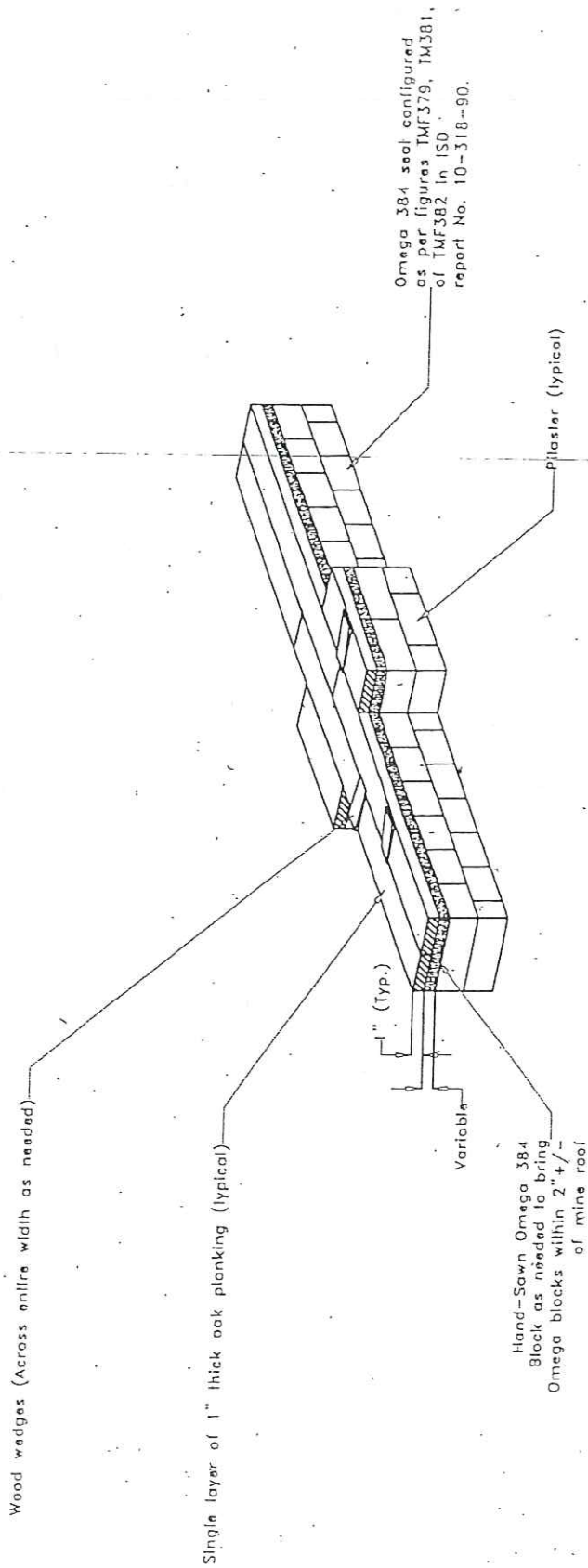
Filename: L:\Engineering\Cad_misc\Omega_pln3.dwg

Scale: 1/4"=1'-0"

Drawn By: sdt

Date: 10/5/00

Note: Seal with a sealant passing ASTM E162-87 (See ISD report No. 07-183-93)



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PERFORMANCE COAL COMPANY

Figure 1
Schematic of Typical Method to
Wedge Omega 384 Seals

Filename: L:\Engineering\Cad_misc\Omega_pln13d.dwg

Scale: 1/4"=1'-0" Drawn By: sdt Date: 10/5/00

PRE-LOADED BLOCK SEAL

1. A block seal, as per 30 CFR Part 75.335 constructed without hitching. The seal will be constructed using cross coursed solid tongue and groove concrete blocks laid in a transverse pattern with mortar between all joints. A pilaster at least 16" x 32" shall be interlocked neat the center of the seal. A minimum spacing of 2" and no greater than 8" will be left between the seal wall and roof and ribs. No hitching is required.
2. Seal Packsetter bags will be placed around the perimeter of the seal wall. Bags will be centered on the seal wall and overlap 6" of each bag and under the lower corners of the seal wall.
3. All Packsetter bags will be pumped with Packsetter grout to a minimum of 250 kPA and a maximum of 300kPA as read on the in-line pressure gage on the hose of the Packsetter grout pump.
4. Sample and water pipes will be installed as required by 30 CFR Part 75.335.

INSTALLATION PROCEDURES FOR USE OF STRATA PRODUCTS (USA) INC. PACKSETTER SYSTEM TO PRELOAD STANDARD BLOCK TYPE MINE SEALS

Seal Packsetter bags size are 85 cm x 155 cm. (Part number 85X155)

Spacer Packsetter bags are 85 cm x 40 cm. (Part number 85X40)

Type of Seal:

Type of seal: Solid tongue and groove block mine seal as prescribed in 30 CFR Part 75.335 without hitching. Use of the Packsetter system is a replacement and substitution for hitching.

The seal wall must be constructed as close to roof and ribs as possible. A minimum two (2) inches is needed to allow the Packsetter bags to fill and exert preload on the roof and ribs.

If the distance between the seal wall and roof or ribs becomes greater than eight (8) inches because of small undulations in the roof or ribs, a Spacer Packsetter bag should be used.

Placement of Packsetter Bags:

All Packsetter bags are to be centered on the seal wall

All seal Packsetter bags are to be overlapped by a minimum of six (6) inches.

Place bottom left and right corner seal Packsetter bags a minimum of six (6) inches under the first row of blocks (between floor and block).

As construction of the seal progresses up, place seal Packsetter bags between rib and seal. (see diagram 1)

The top left and right corner seal Packsetter bags must be placed with half the bag down the rib side and half the bag across the roof side. (see diagram 1)

Place seal Packsetter bags between the seal wall and roof.

If Spacer Packsetter bags are needed, place the Spacer Packsetter bags between the seal Packsetter bag and the seal wall.

Mixing the Packsetter Grout:

Fill mixing tank of the Packsetter grout pump with clean water to the tabs on the mixing paddles (14.5 gal.)

While mixing crank is being turned slowly, add one (1) bag of Packsetter grout. After entire bag of Packsetter grout is emptied, mix for one minute.

Flush clear water out of Packsetter pump hose before connecting to Packsetter bag.

Insert Packsetter pump hose into Packsetter bag filling port.

Flush Packsetter pump with clear water after every eight bags of grout is mixed.

After each seal is pumped, flush packsetter pump completely with one full tank of clear water.

Safety glasses should be worn during the mixing and pumping procedures.

Pumping Sequence for Seal Packsetter Bags:

All seal Packsetter bags are to be pumped to 250 to 300 kPA. This is read on the in-line pressure gage on the hose of the Packsetter grout pump.

The following is the pumping sequence:

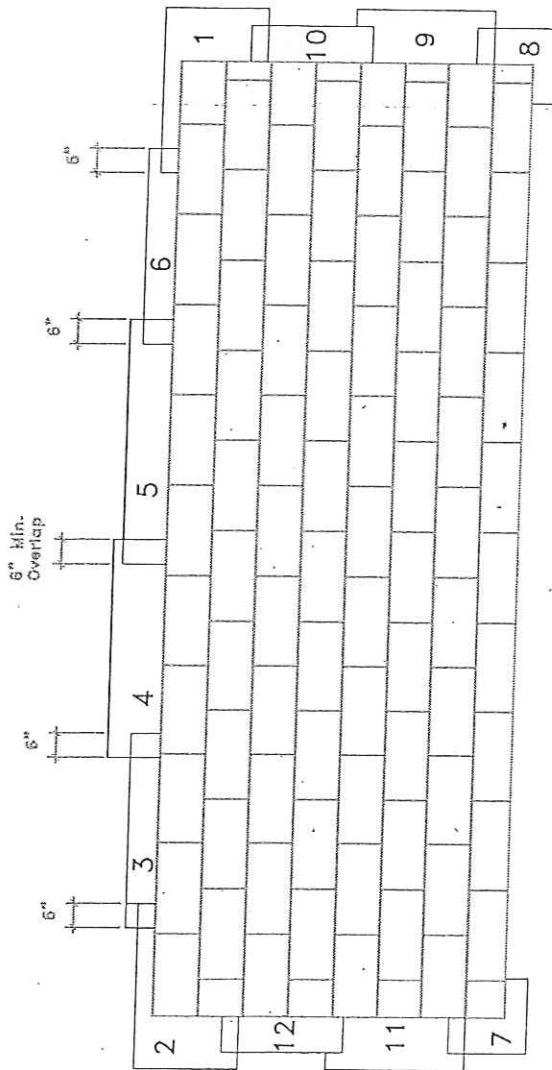
1. Pump either the right or left top corner seal Packsetter bag first.
2. Pump the remaining top corner seal Packsetter bag.
3. Pump the remaining top seal Packsetter bags.
4. Pump either the left or right bottom corner seal Packsetter bag.
5. Pump the remaining bottom corner seal Packsetter bag.
6. Pump the seal Packsetter bags up the rib starting at the bottom and working up.
7. Pump the remaining side starting at the bottom.

If Spacer Packsetter bags were used, they are to be pumped before the seal Packsetter bag that they are installed behind. These spacer bags are only to be pumped half full of grout. This will allow them to be pushed into the void they are to fill.

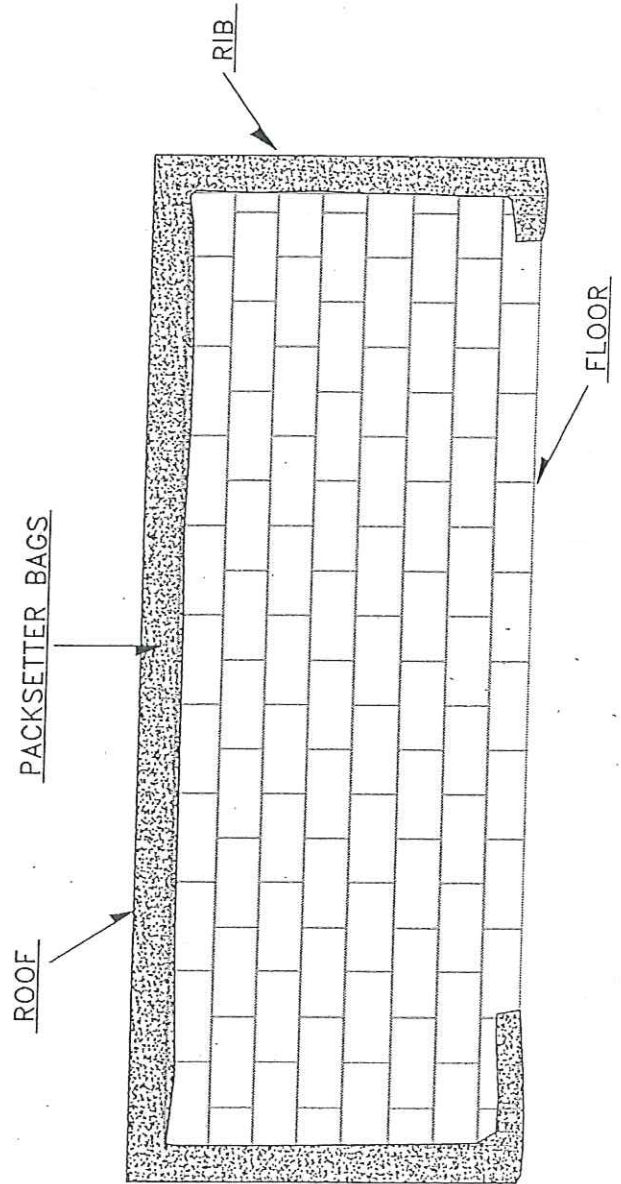
The entire seal wall from rib to rib and roof to floor including Packsetter bags are to be plastered using mortar or approved sealant.

Caution must be taken not to pump air into Packsetter bags as the level of grout gets low in the Packsetter pump.

Safety glasses should be worn during the mixing and pumping procedures.



PERFORMANCE COAL COMPANY			
Diagram # 1			
Packsetter Bag Pumping Sequence For Preloaded - Block Seal			
Filename: I:\Engineering\Gcd_misc\pkstbagblockseq.dwg			
Scale: Not to Scale	Drawn By: sdt	Date: 01-08-03	



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PERFORMANCE COAL COMPANY	
Diagram # 2	
Preloaded - Block Seal	
Filename: L:\Engineering\Cad_misc\pkstbaggblockseal.dwg	
Scale: Not to Scale	Drawn By: sdt
Date: 01-08-03	

75.372 Annual Ventilation Map Checklist

Mine Name UPPER BIG BRANCH Company Name PERFORMANCE MSHA ID # 46-08436
 Annual map due date 1-20-05 Date annual map received 2-17-05
 Date map returned for corrections _____ Date annual map approved _____

GEORGE T. LEVO WV # 15406
 Certified (sealed and signed) accurate by a registered engineer or registered land surveyor

* Name of individual responsible for information on map not obtained by certifying engineer or surveyor - such as air quantities, qualities or direction commonly obtained by mine personnel

The map or map legend must at least indicate the following:

- 1) the mine name, company name and MSHA identification number
- 2) map scale - not less than 100 or more than 500 feet to the inch
- 3) description of the map symbols used to identify escapeways, mine fans, air flow, or any other item on the map designated by a symbol

Direction and quantity of air: 1) entering and leaving each split, 2) in the LOC of each set of entries and rooms, and 3) at the intake end of each pillar line (including longwall and shortwall)

Entry height, velocity and air direction at or near the midpoint of each belt flight (where the height and width of the belt entry is representative)

All areas of the mine including sealed and unsealed worked-out areas

Projections for at least 12 months of development showing proposed ventilation controls, bleeder systems, anticipated intake and return air courses, belt entries and escapeways

The direction of air flow in all underground areas of the mine

N/A Location and designation of air courses changed from intake to return for the purpose of ventilating structures, areas or installations required to be ventilated with return air and for the ventilation of seals

Location of all permanent ventilation controls - stoppings, overcasts, undercasts, regulators, seals, airlock doors, and any other door

Location of proposed seals for each worked-out area

Location of all known mine works (same coalbed) within 1000' of existing or projected works - this may be shown on a separate mine map with a scale no greater than 1"=1000'

Location (and 4 digit MMU #) of all active working sections

Location of all escapeways

? Locations of existing methane drainage systems

Locations of all AMS (atmospheric monitoring system) sensors

? Location of all known overlying and underlying mine workings on the mine property (and the distance between them)

Location of all known oil and gas wells and drill holes that penetrate the coalbed being mined

Location and description of all main and back-up mine fans - specifications including size, type, model #, manufacturer, operating pressure, motor HP and RPM required

Location of all surface openings and the direction and quantity of airflow at each

The dimensions, depth and length of each shaft and slope

Elevations provided at the following locations:

1) at the top and bottom of slopes and shafts

2) elevation contour lines (whole numbers, max. of 10' intervals unless otherwise approved)

Any other information used to depict and explain the requirements of the 75.372 plan contents

Note Three (3) copies of an up-to-date map are required to be submitted to the District Manager at intervals not exceeding 12 months. The map required by 75.1206 may be used to satisfy the requirements for the 75.372 ventilation map, provided that all the information listed above is contained on the map.