

□ ROOF BOLT

● TIMBER

Timber shall be installed (on either side of the belt) within 48 hours after belt line is advanced.

EXHIBIT "C" - FIG. 3

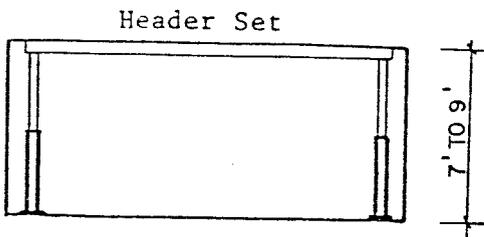
# EMERY MINING CORP.

HUNTINGTON, UTAH 84528

## FULL BOLTING PLAN COMBINATION BELT-TRACK - BELT INSTALLED

MARK	REVISIONS	DATE	DRAWN BY:	APPROVED BY:	DRAWING NO.
			B.L.P.		GENU-423A SHT. 5
			SCALE:	DATE:	
			1" = 10'	DEC. 28, 1979	

Typical set capable of supporting 20,000 lbs. (hydraulic jacks or timber may be used).



Maximum distance of face ahead of temporary supports will be 10 feet.

Maximum advance ahead of bolts with header sets shall be 110 feet.

Miner cab will not advance inby last header set.

Crosscuts cannot be turned or completed until intersections are bolted.

First row of bolts installed 3-4 feet inby previous row of bolts adjacent to header set. Header set is removed and next row of bolts installed on normal pattern. This cycle will continue until area is bolted.

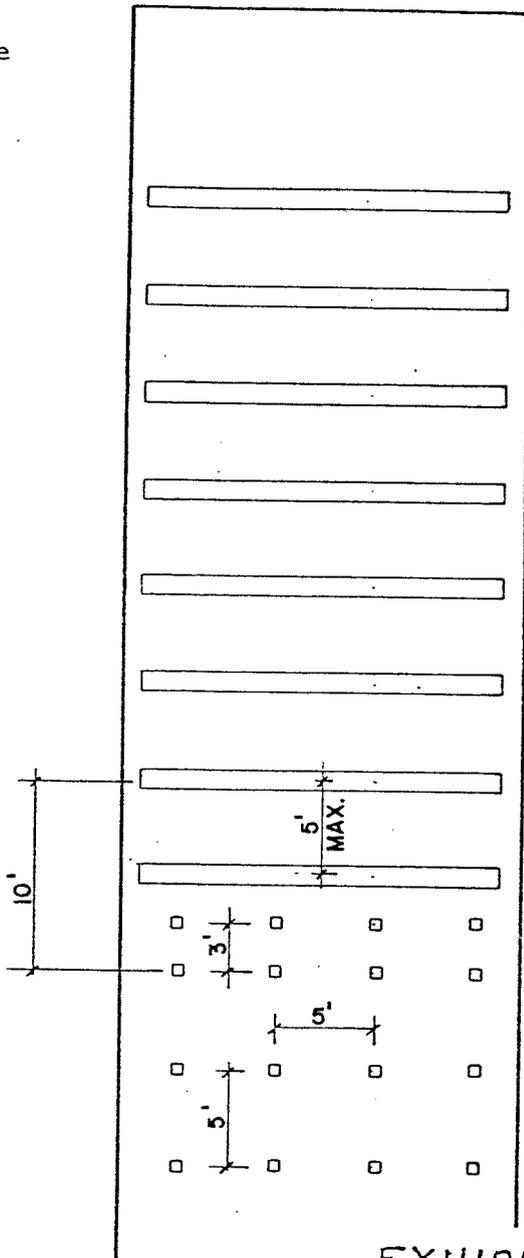


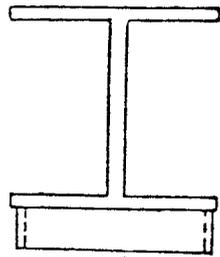
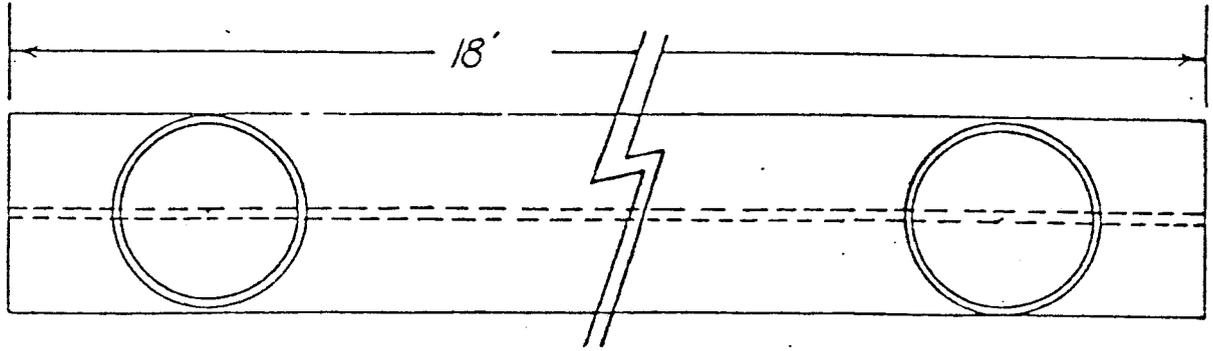
EXHIBIT "D" - FIG. 1

# EMERY MINING CORP.

HUNTINGTON, UTAH 84528

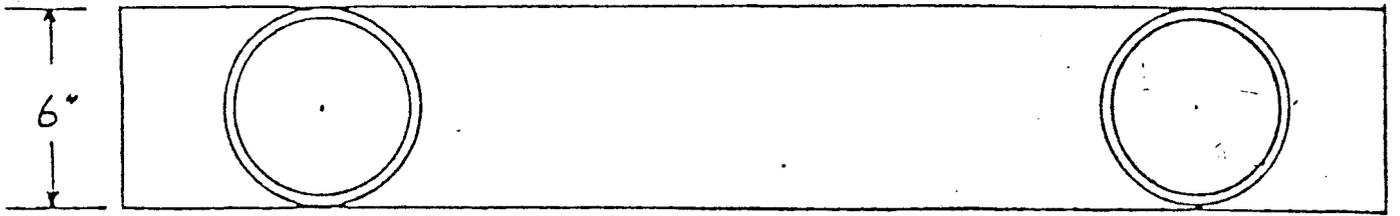
PROCEDURE FOR ADVANCE WITH  
HYDRAULIC JACKS OR TIMBER AND CROSSBARS

MARK	REVISIONS	DATE	DRAWN BY:	APPROVED BY:	DRAWING NO.
			B.L.P.		<b>GENU-423 A</b>
			SCALE: 1" = 10'	DATE: FEB. 5, 1979	



6" I D Steel Pipe  
Welded to I Beam

EXHIBIT "D"  
Figure 1(a)



4" x 6" ALUMINUM

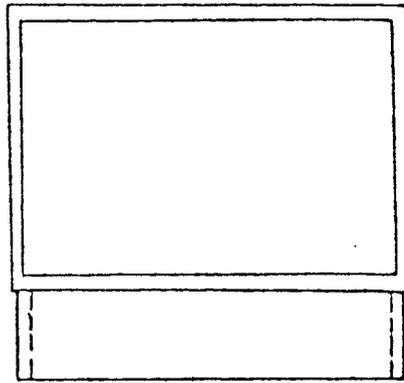


EXHIBIT "D"  
Figure 1(b)

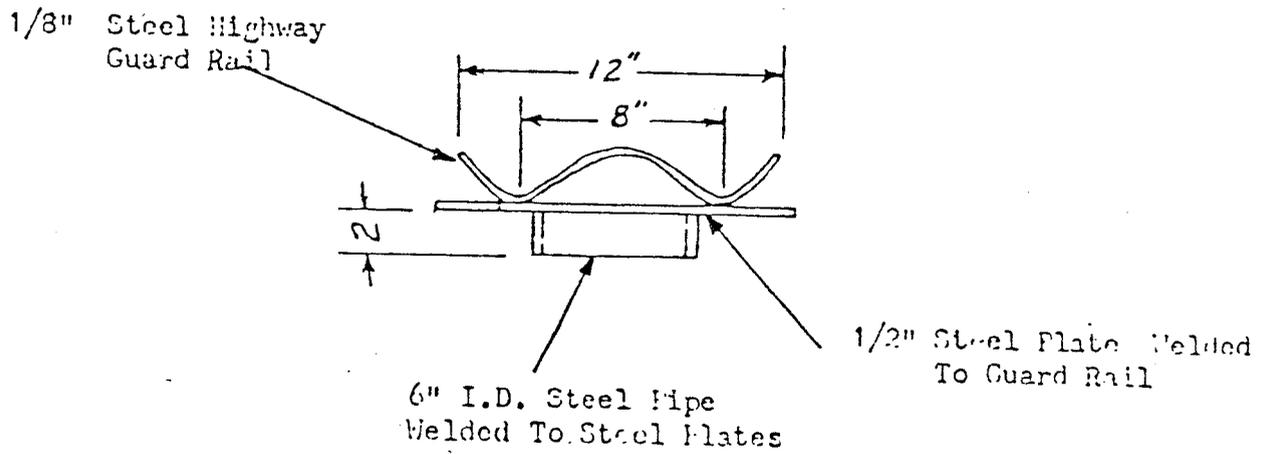
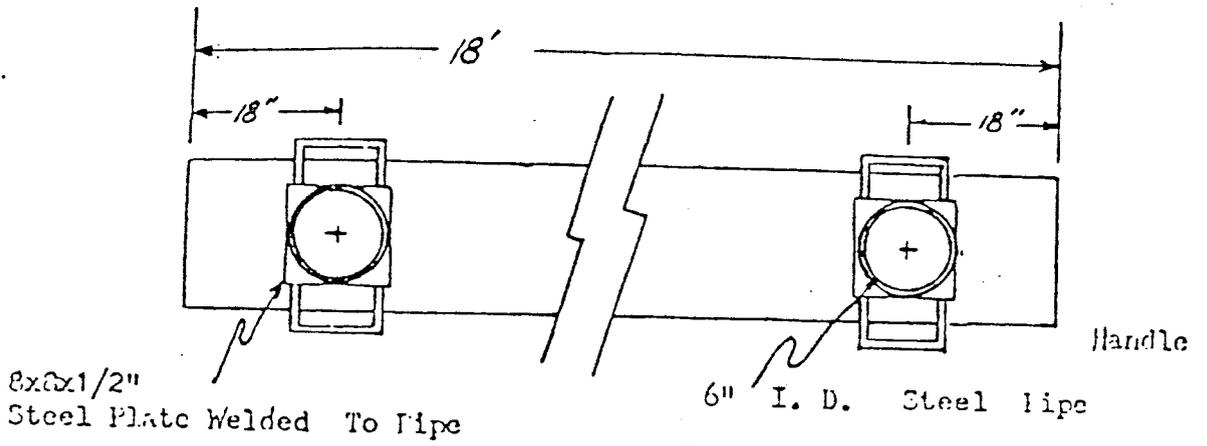
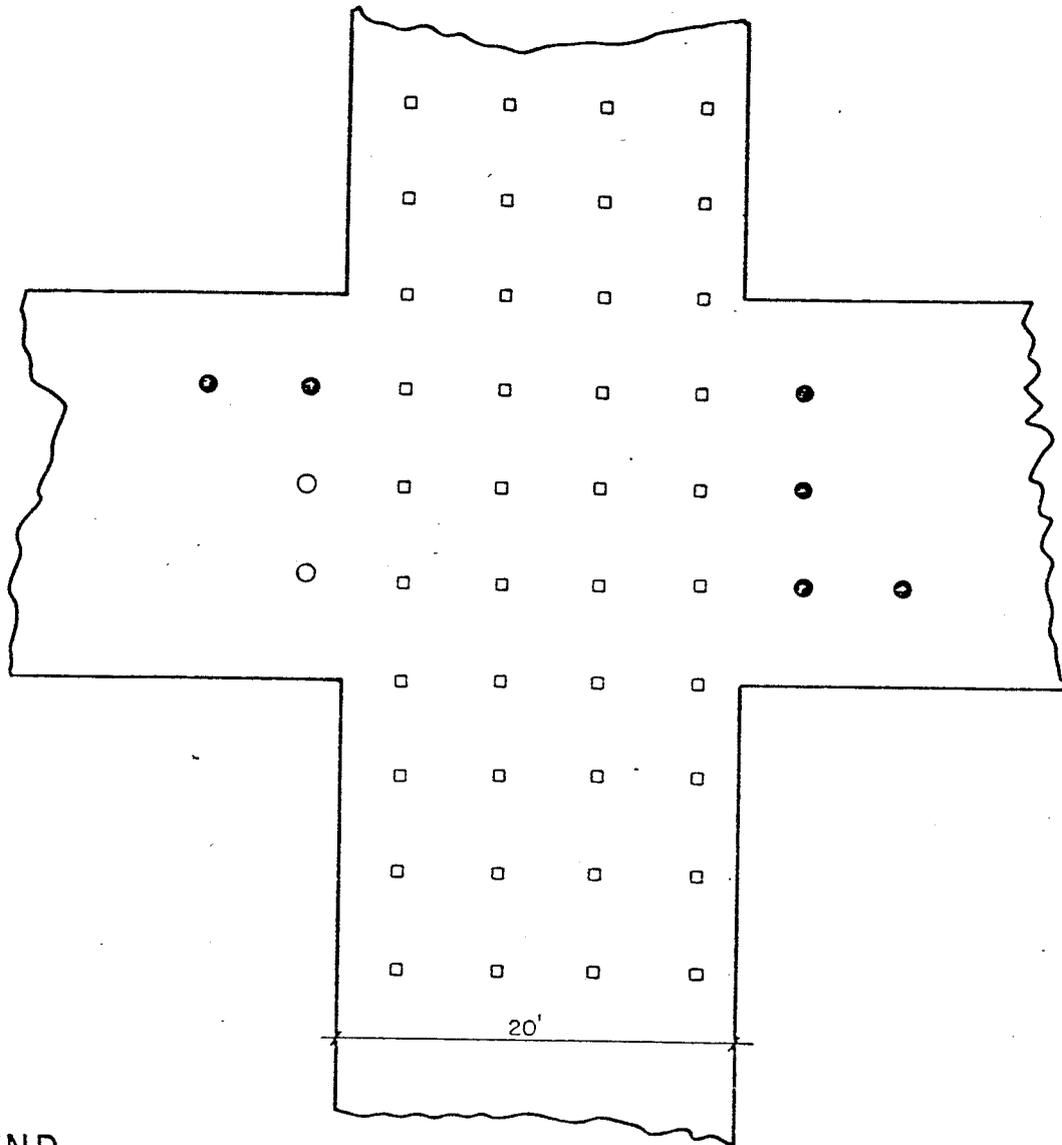


EXHIBIT "D"  
Figure 1(c)



**LEGEND**

- Roof bolt
- Temporary support installed prior to sequence 2
- Temporary supports installed during the mining cycle

**EXHIBIT "D" FIG. 2**

**EMERY MINING CORP.**

HUNTINGTON, UTAH 84528

**SEQUENCE FOR TURNING CROSSCUTS**

MARK	REVISIONS	DATE

DRAWN BY:  
B.L.P.

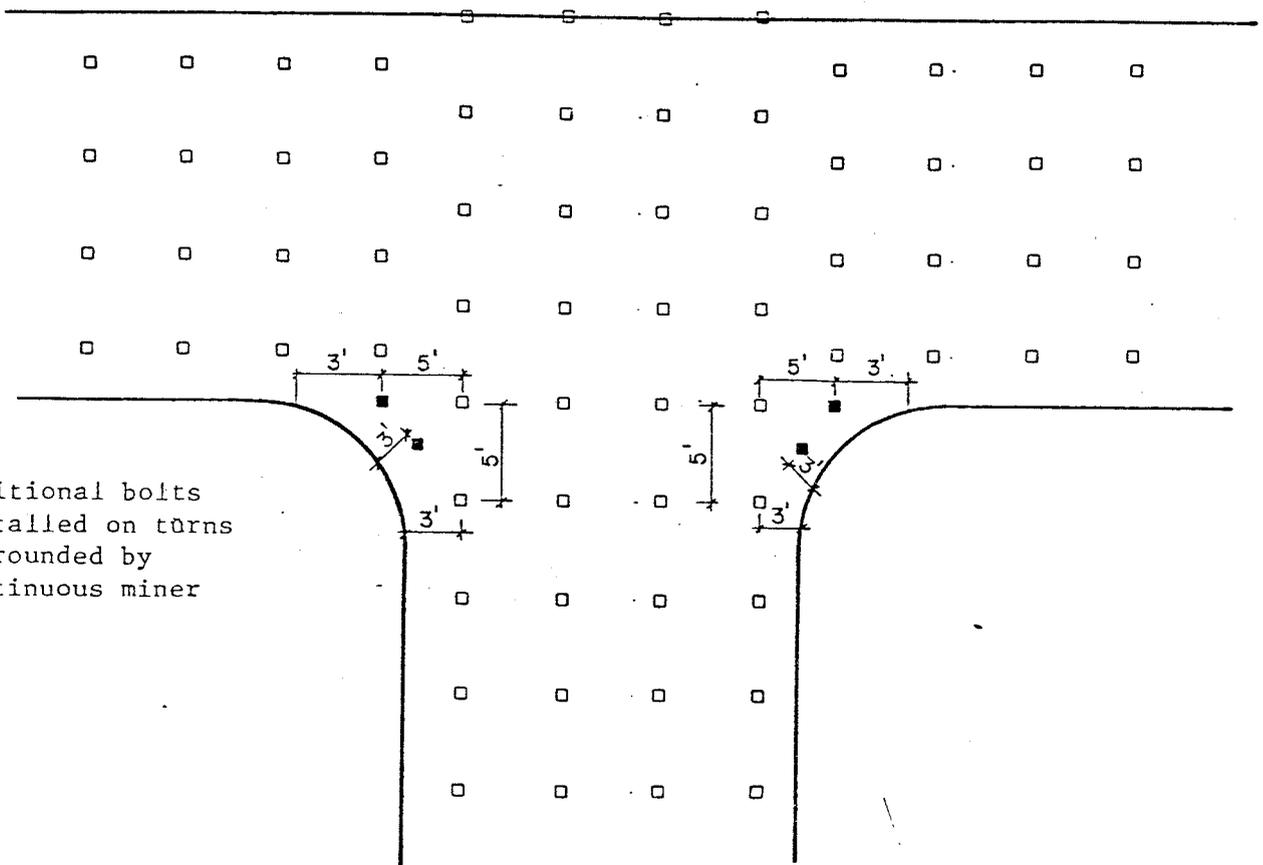
SCALE:  
1" = 10'

APPROVED BY:

DATE:  
FEB. 5, 1979

DRAWING NO.  
**GENU-423A**

SHT. 2



■ Additional bolts  
 installed on turns  
 if rounded by  
 continuous miner

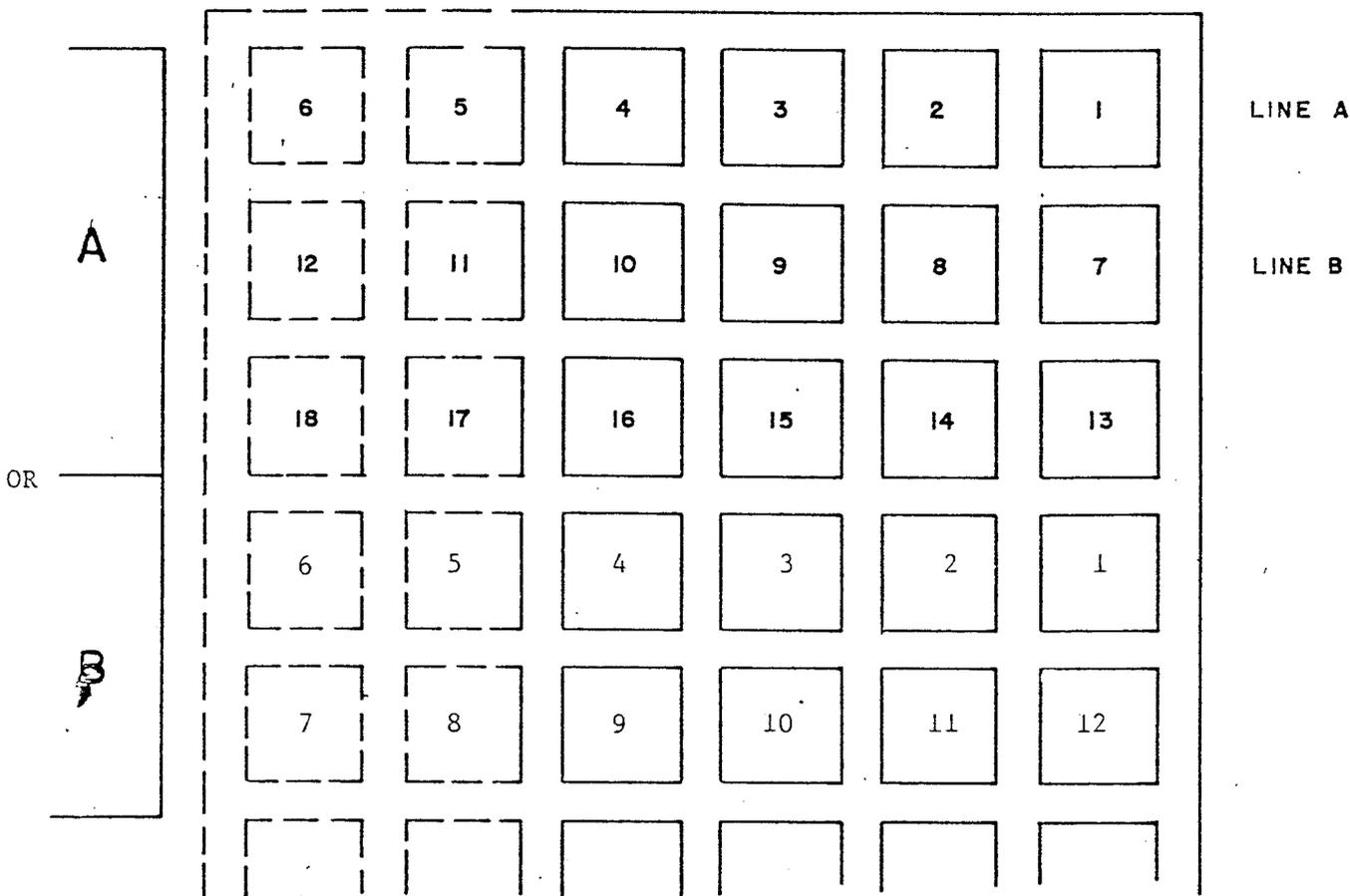
EXHIBIT "D" FIG. 3

**EMERY MINING CORP.**

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SEQUENCE FOR ROUNDING CORNERS

MARK	REVISIONS	DATE	DRAWN BY:	APPROVED BY:	DRAWING NO.
			B.L.P.		GENU-423A
			SCALE:	DATE:	
			1" = 10'	FEB. 5, 1979	- SHT. 3 -



Sequence A or B may be used.

EXHIBIT H - FIG. 1

**EMERY MINING CORP.**

HUNTINGTON, UTAH 84528

SEQUENCE OF PILLAR RECOVERY

MARK	REVISIONS	DATE	DRAWN BY:	APPROVED BY:	DRAWING NO.
			B. L. P.		GENU-417A SHT. 1
			SCALE: 1" = 100'	DATE: FEB. 5, 1979	

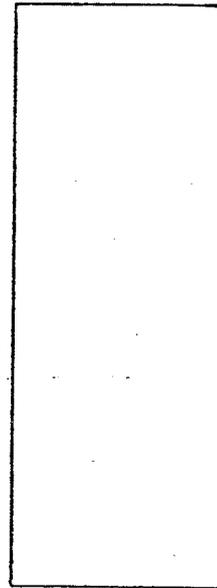
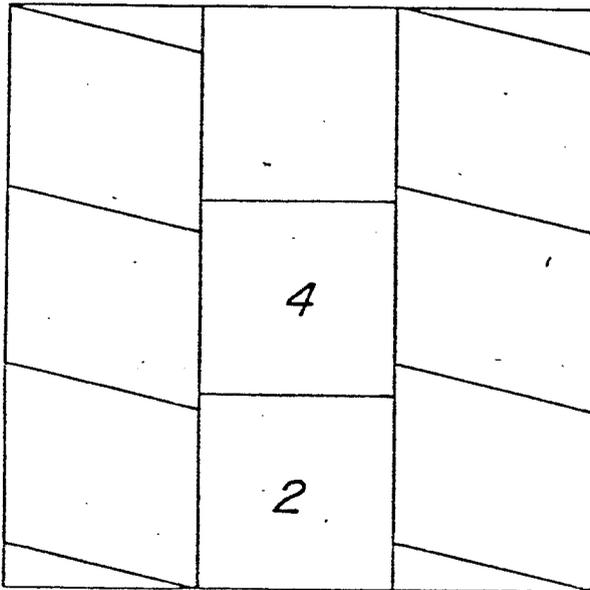
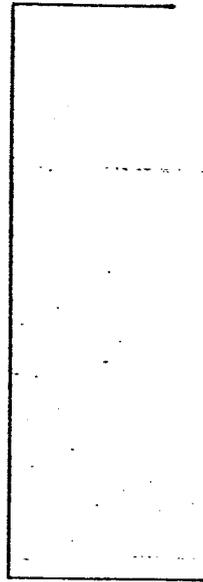
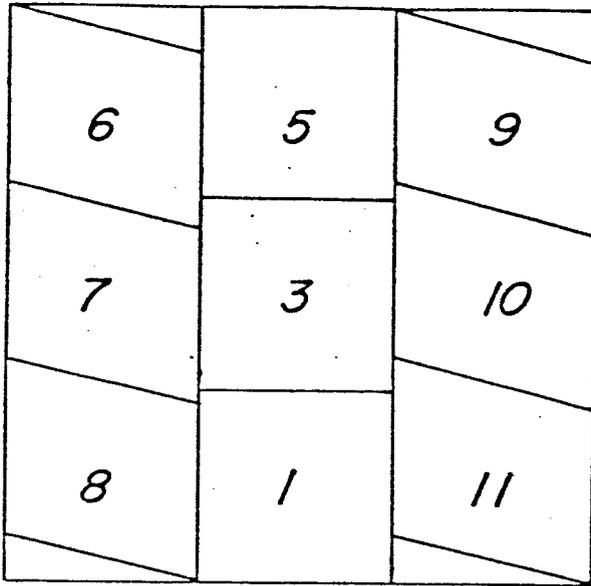


EXHIBIT "H" FIG. 1-A

**EMERY MINING CORP.**

HUNTINGTON, UTAH 84528

TYPICAL PILLAR EXTRACTION SEQUENCE

MARK	REVISIONS	DATE

DRAWN BY: <i>B.L.P.</i>	APPROVED BY:
SCALE: <i>NONE</i>	DATE: <i>MARCH 1, 1979</i>

DRAWING NO. <i>GENU-417A</i>
<i>SHT. 2</i>

○ Timbers set on 4' centers for whatever it takes to break through, not to exceed 12' from last row of bolts. Miner cab not to exceed last timber.

All rooms and crosscuts are roof bolted as shown in Exhibit "B".

10' wide lifts may be left if roof conditions warrant.

Turn timber on 4' centers are typical for each lift.

Shaded areas indicate fenders to be left.

○ Breaker rows and turn rows installed on 4-foot centers

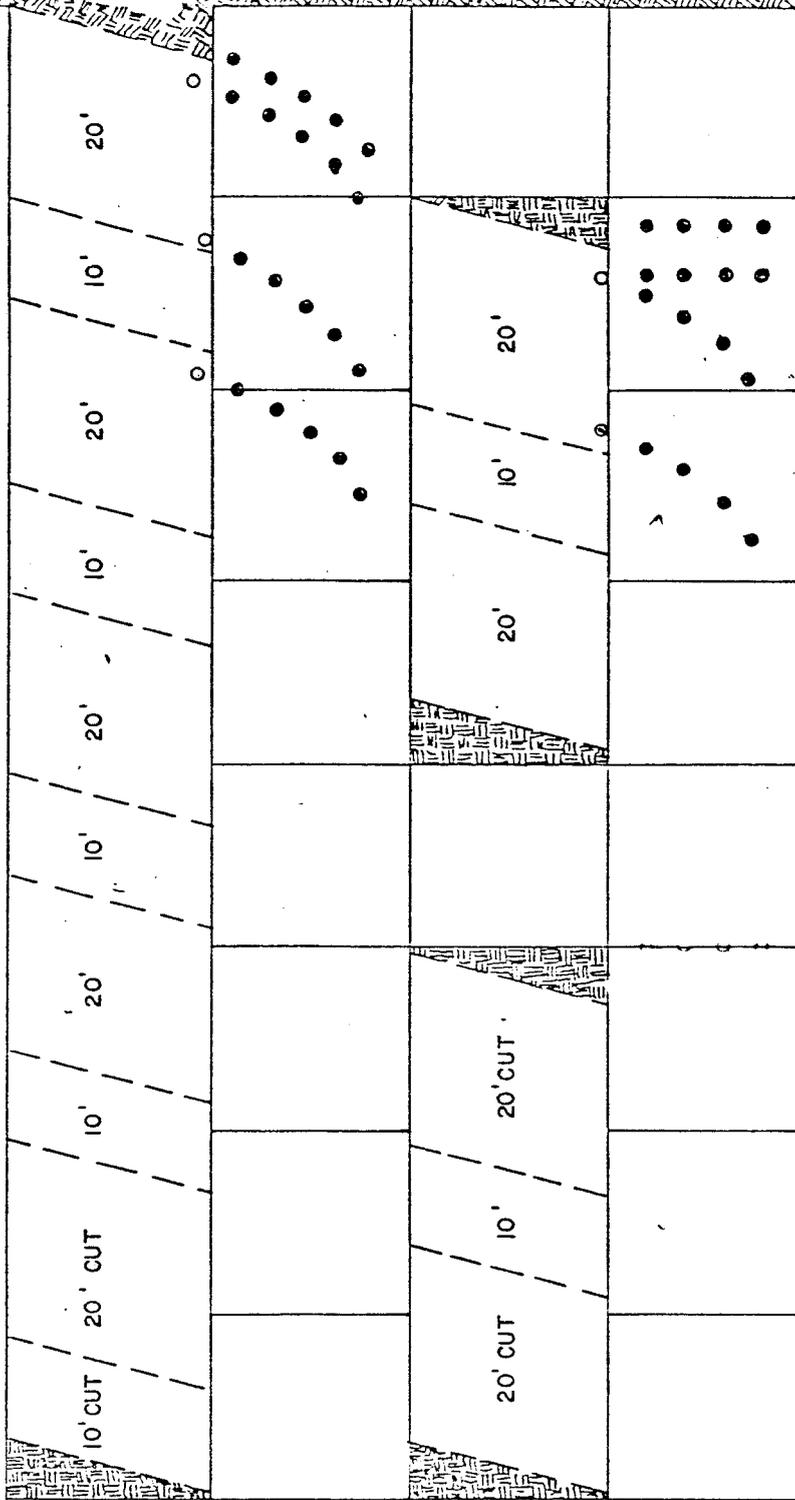


EXHIBIT H-FIG. 2

**EMERY MINING CORP.**

HUNTINGTON, UTAH 84528

**TIMBER PLAN  
FOR  
PILLAR RECOVERY IN ROOMS**

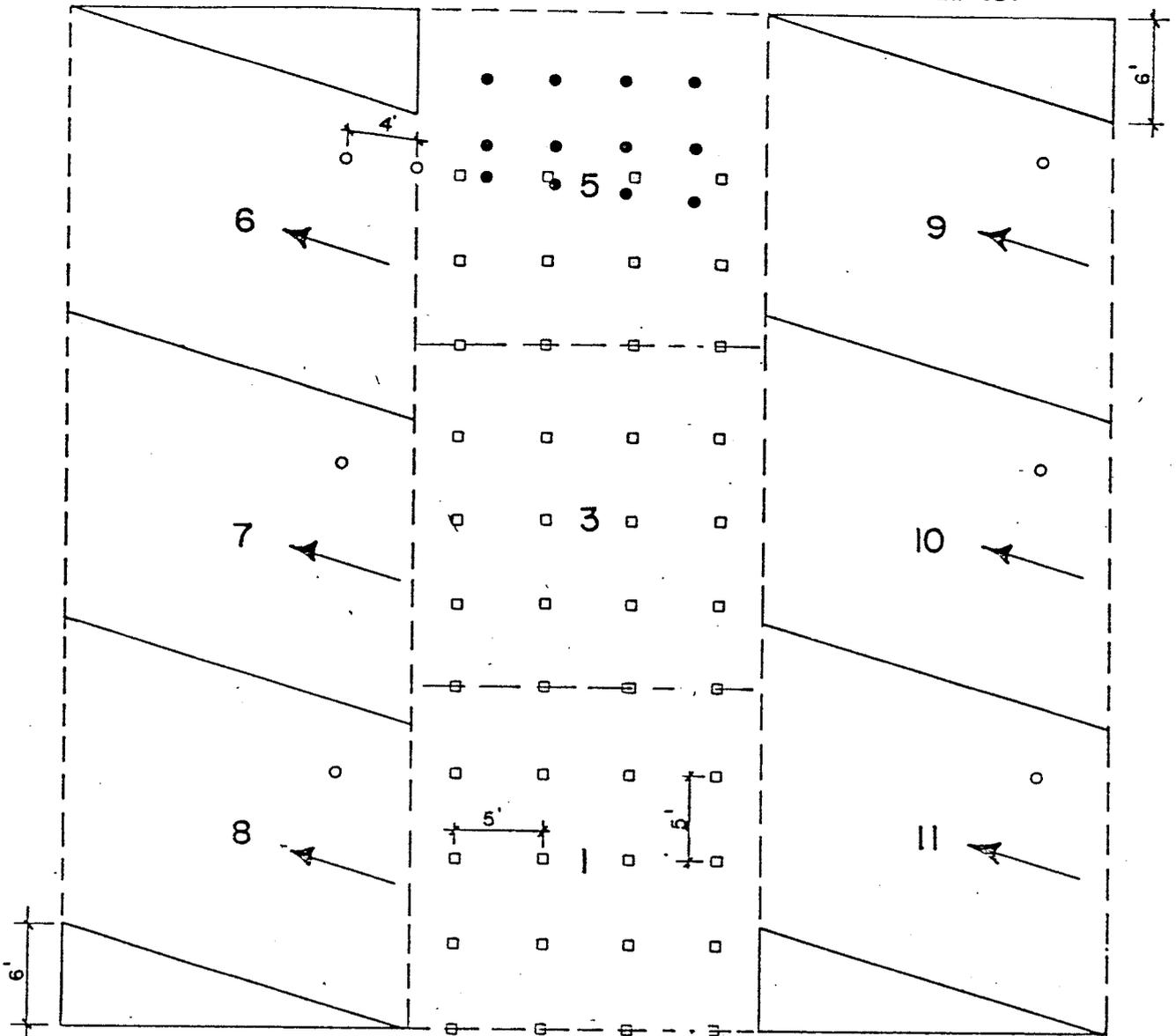
MARK	REVISIONS	DATE

DRAWN BY: B.L.P.
SCALE: NO SCALE

APPROVED BY:
DATE: JAN. 2, 1979

DRAWING NO. GENU-417 A - SHT. 3
---------------------------------------

The last 10 feet of the last cut in the split need not be bolted.  
 Turn timber on 4-ft. centers shall be installed for all lifts.



- Roof bolt
- Turn and breaker row timbers installed prior to starting lifts.
- Timber set on 4' centers not to exceed 12' from last row of bolts. Miner cab not to exceed timber.

EXHIBIT "H" FIG. 3

**EMERY MINING CORP.**

HUNTINGTON, UTAH 84528

TYPICAL PILLAR EXTRACTION SEQUENCE

MARK	REVISIONS	DATE	DRAWN BY:	APPROVED BY:	DRAWING NO.
			B.L.P.		GENU-417A
			SCALE:	DATE:	
			1" = 10'	DEC. 29, 1978	SHT. 4

Supports for lifts 6, 8 and 10 are shown on Exhibit "H", Fig. 3.

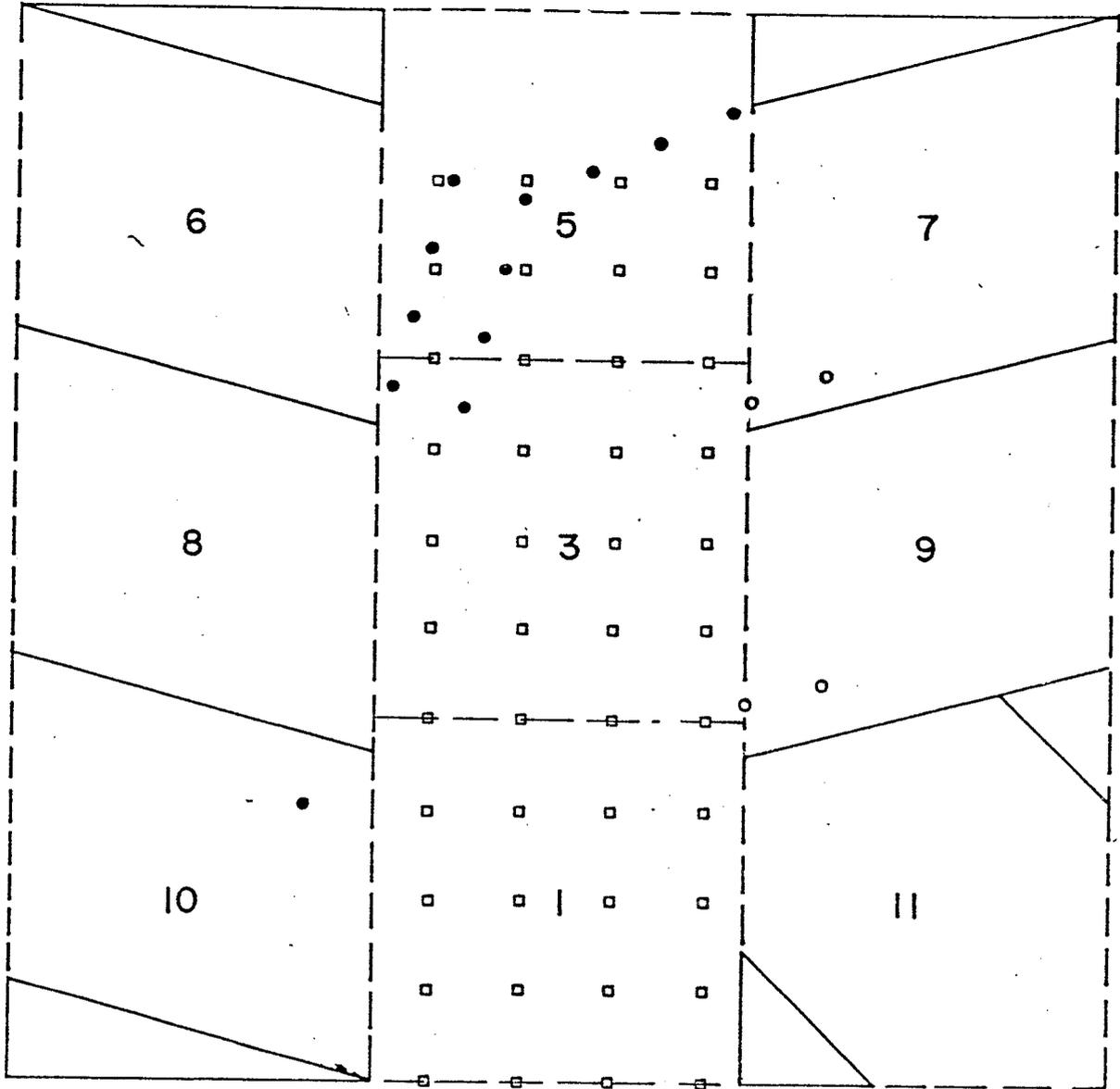


EXHIBIT H-FIG.4

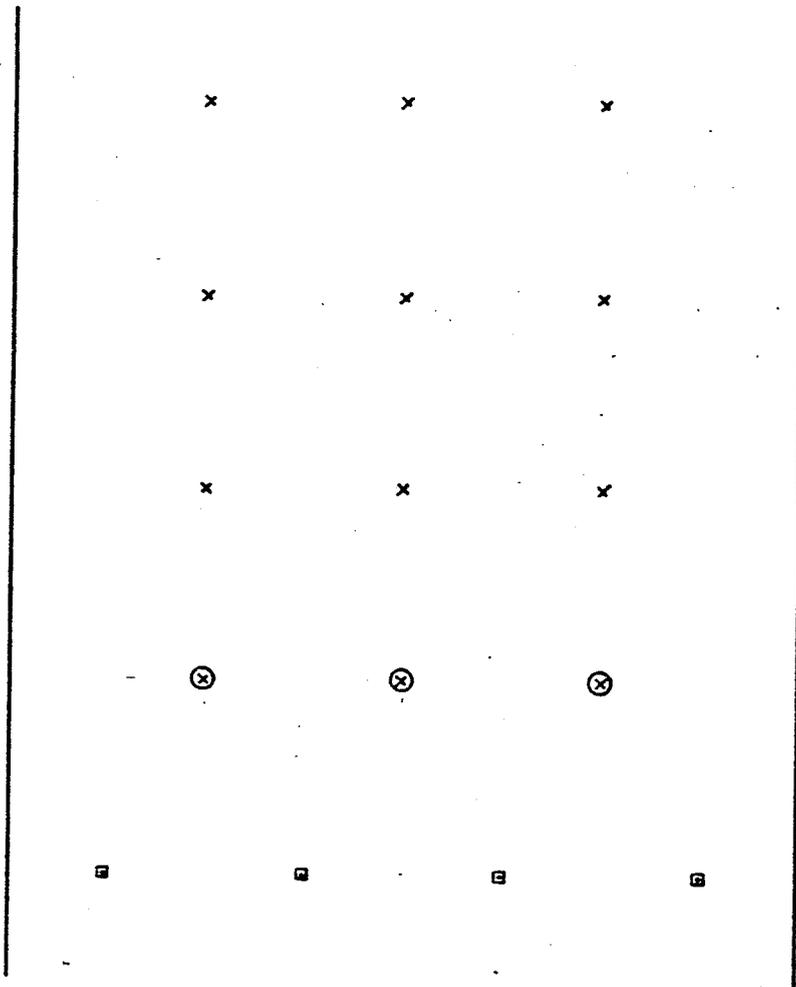
- Roof bolts
- Turn and breaker row timbers installed prior to starting lifts.
- Timbers set on 4' centers not to exceed 12' from last row of bolts. Miner cab not to exceed timber.

# EMERY MINING CORP

HUNTINGTON, UTAH 84528

OPTIONAL PILLAR EXTRACTION SEQUENCE  
FOR EXTRACTING LEFT AND RIGHT

MARK	REVISIONS	DATE	DRAWN BY: B.L.P.	APPROVED BY:	DRAWING NO.
			SCALE: 1" = 10'	DATE: FEB. 6, 1979	GENU-417A SHT. 5



- Roof bolt
- ⊗ Temporary support
- × Future temporary support

*EXHIBIT "J"*

**EMERY MINING CORP.**

HUNTINGTON, UTAH 84528

**SEQUENCE FOR INSTALLING  
TEMPORARY SUPPORTS**

MARK	REVISIONS	DATE	DRAWN BY:	APPROVED BY:	DRAWING NO.
			B.L.P.		GENU-423 A
			SCALE:	DATE:	— SHT. 6 —
			NO SCALE	MARCH 2, 1979	

LONGWALL ROOF CONTROL

DEER CREEK MINE

EQUIPMENT:

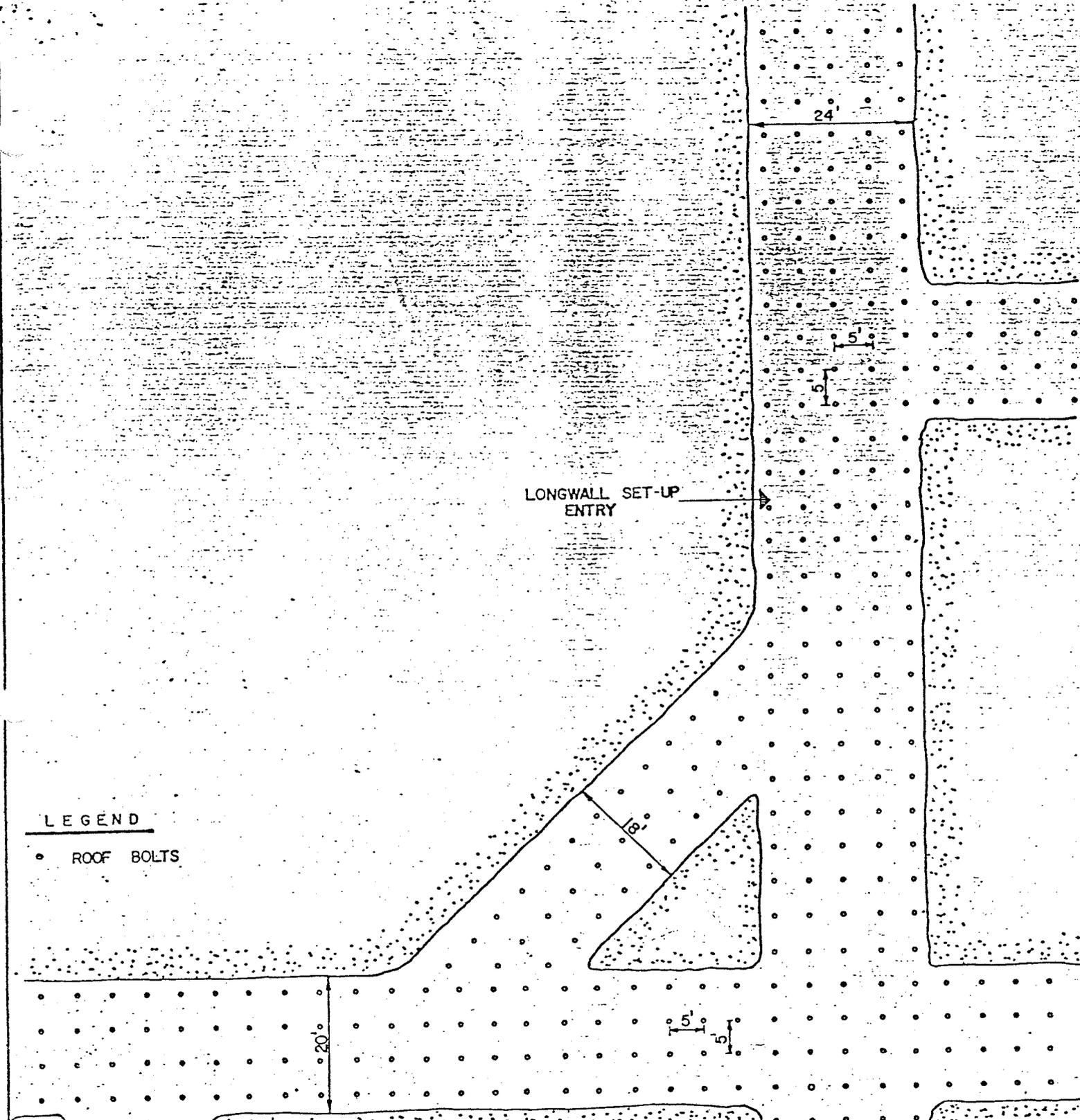
- A. The longwall face will be supported by a two-leg shield developed by Hemschiedt American Corporation.

Open Height	11.5 ft.
Closed Height	5 ft.
Setting Load	370 tons
Yeild Load	465 tons
Weight Each	16 tons

- B. The shields are equipped with a fore pole support to catch the roof as the shear cuts by, before the shields are pulled to the face. This allows for minimum distance between the face and the shield tips at all times.
- C. The shear used will be a EDW 300 -L- Eickhoff with a 32' web.
- D. The stageloader will be an Eickhoff EKF-3.
- E. The face conveyor will be an Eickhoff DMK F4 with EBS- 300 L drives.
- F. The crusher will be Klockner Feromatic SV-63.

CUTTING METHOD:

- A. The cutting method used will be the one web-back system or the pseudo - one web back system.
- B. The face lengths will be from 450' - 700'.



**LEGEND**

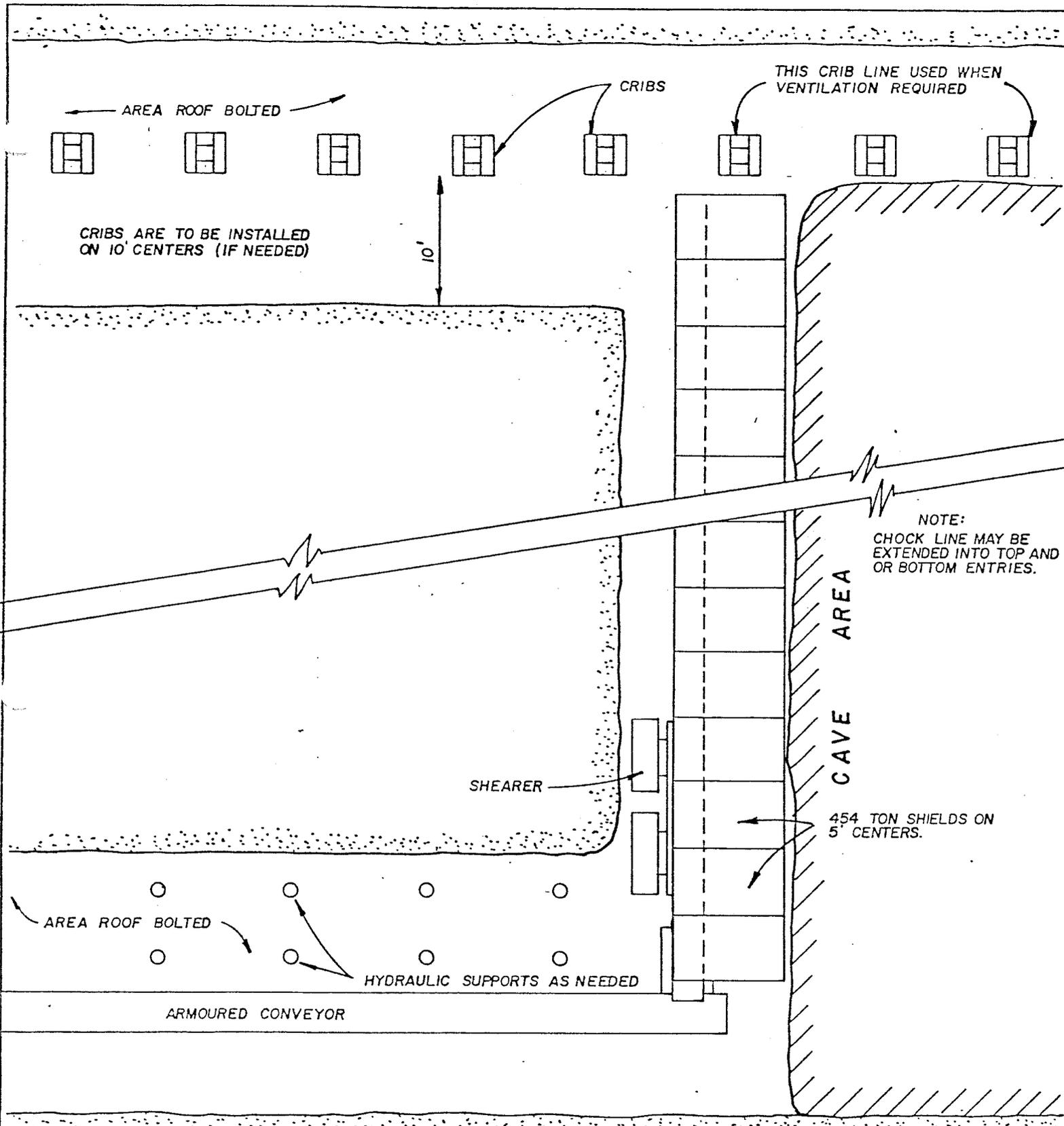
• ROOF BOLTS

**EMERY MINING CORP.**

HUNTINGTON, UTAH 84528

**LONGWALL SET-UP ENTRY**

MARK	REVISIONS	DATE	DRAWN BY:	APPROVED BY:	DRAWING NO.
			B. L.P.		GENU 288
			SCALE:	DATE:	
			1" = 20'	FEB. 29, 1980	



# EMERY MINING CORP.

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## LONGWALL ROOF SUPPORT PLAN

MARK	REVISIONS	DATE

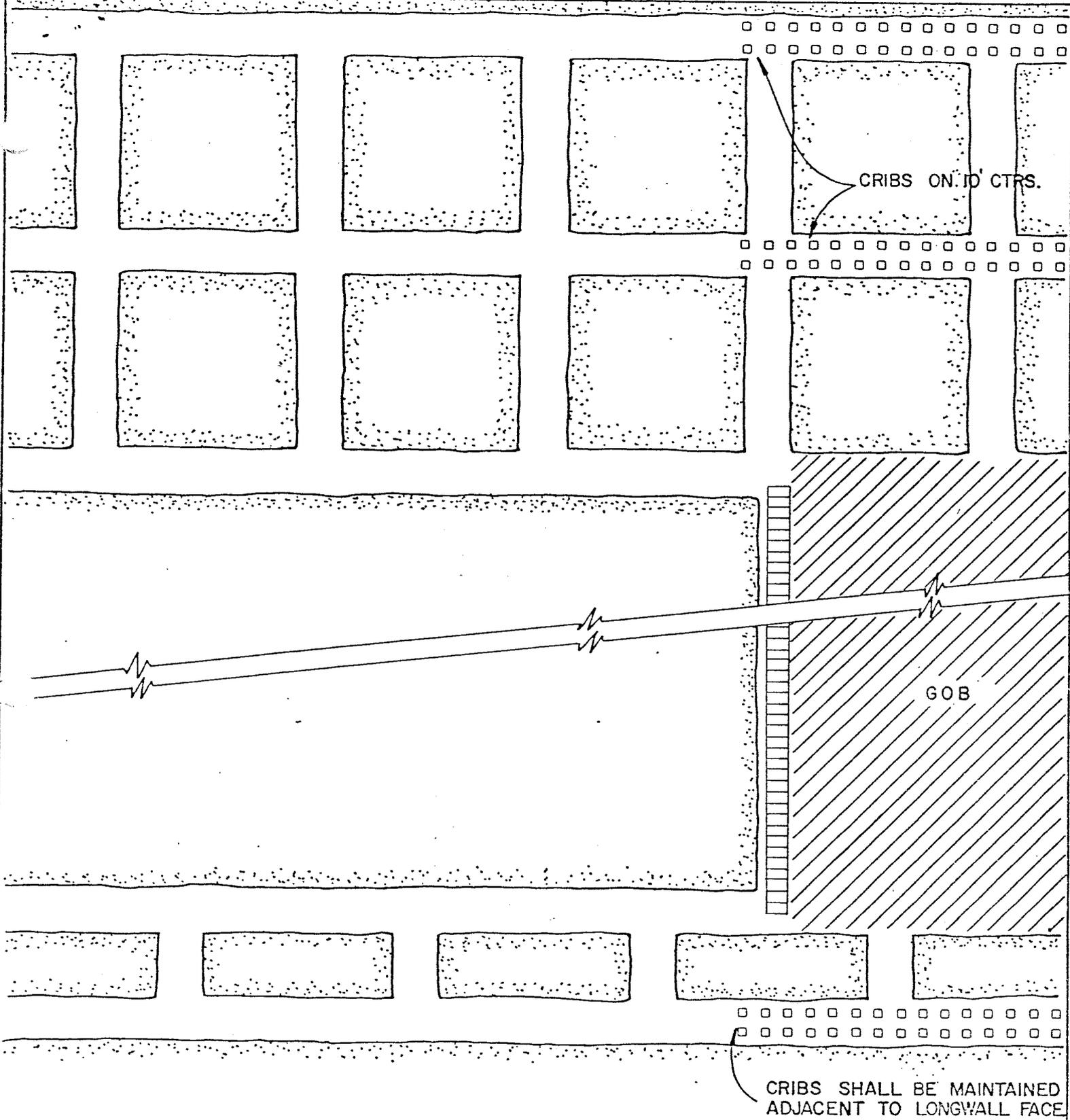
DRAWN BY:  
B.L.P.

APPROVED BY:

DRAWING NO.  
GENU-410A

SCALE:  
1" = 10'

DATE:  
OCT. 9, 1980



# EMERY MINING CORP.

HUNTINGTON, UTAH 84528

## LONGWALL CRIBBING PLAN

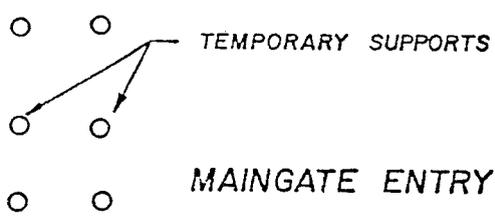
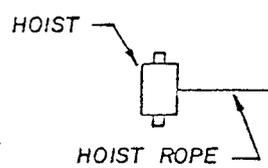
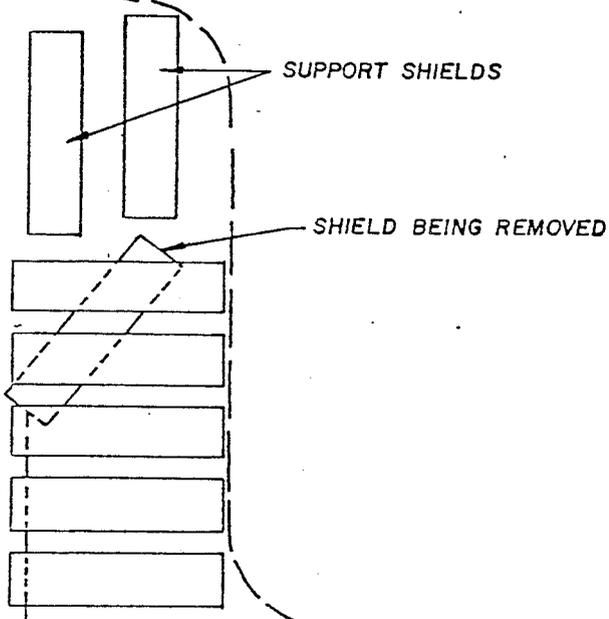
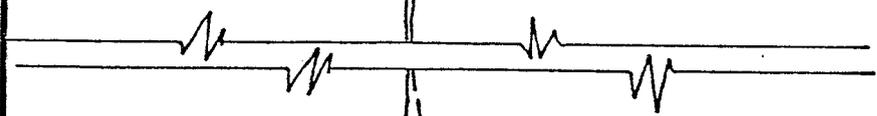
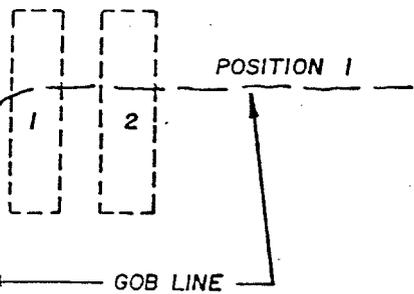
MARK	REVISIONS	DATE

DRAWN BY:  
B.L.P.  
SCALE:  
1" = 60'

APPROVED BY:  
  
DATE:  
10-10-80

DRAWING NO.  
GENU-410 A  
SHT. 2

TAILGATE ENTRY



# EMERY MINING CORP.

HUNTINGTON, UTAH 84528

## Alternate Procedure - Extracting Shields From Longwall Face

MARK	REVISIONS	DATE

DRAWN BY:  
Barry Prettyman

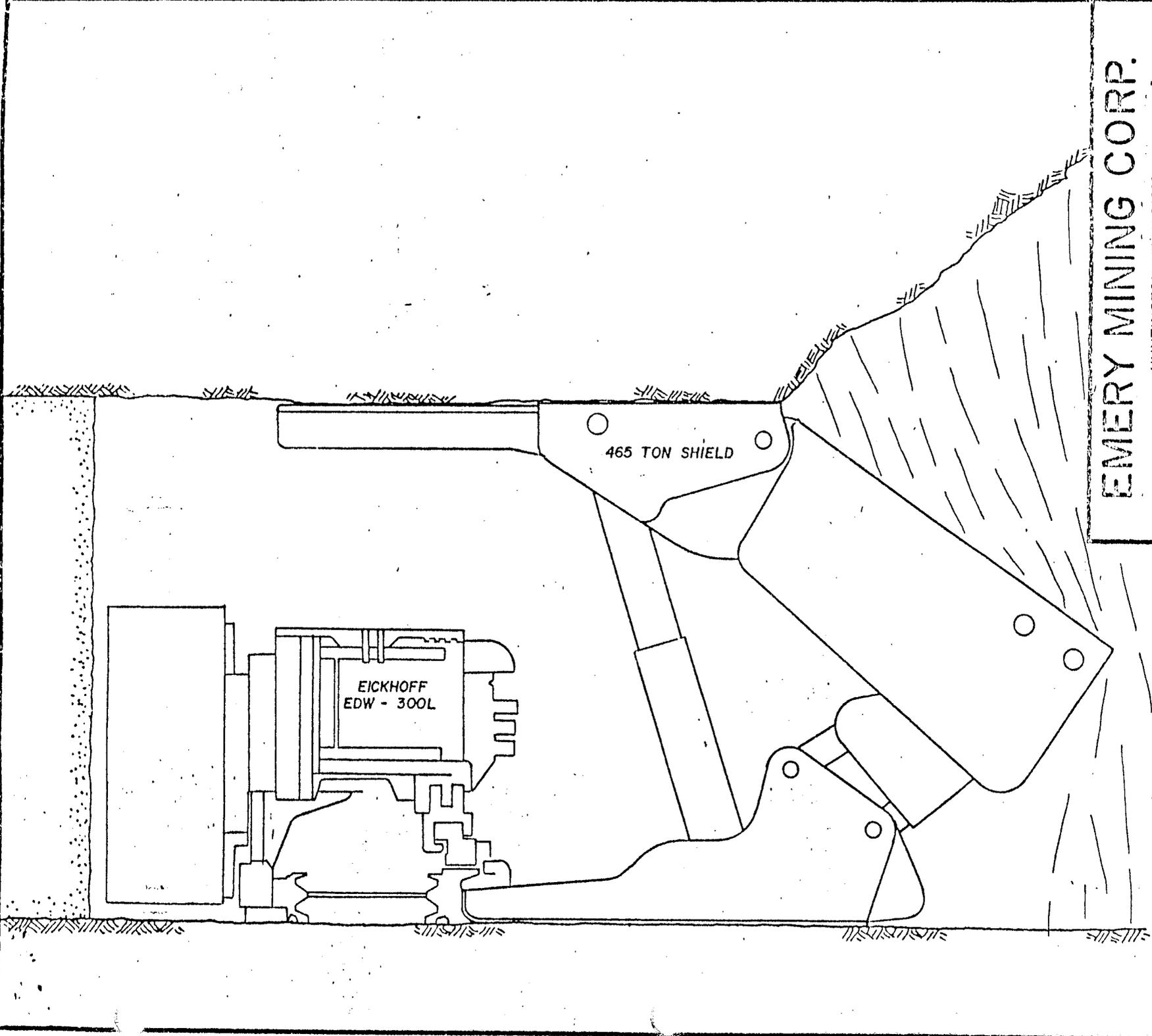
SCALE:  
No Scale

APPROVED BY:

DATE:  
Nov. 10, 1978

DRAWING NO.  
GENU-413 A

- SHT. 3



**EMERY MINING CORP.**

HUNTINGTON, UTAH 84528

**LONGWALL CROSSSECTION**

REVISIONS	DATE	APPROVED BY:	DRAWING NO.
		Barry Prstyman	GENU-411A
		SCALE: NO SCALE	DATE: November 10, 1978
			SHT. 3

EMERY MINING CORPORATION  
VENTILATION SYSTEM AND METHANE AND DUST CONTROL PLAN  
DEER CREEK MINE

The operator of the Deer Creek Mine hereby adopts and will follow the following ventilation system and methane and dust control plan and any approved supplements and/or revisions thereof:

Signatures Neldon Sitterud  
Company Representative Mine Manager  
MESA Investigator D.P. Rupp 12/17/79

A. General:

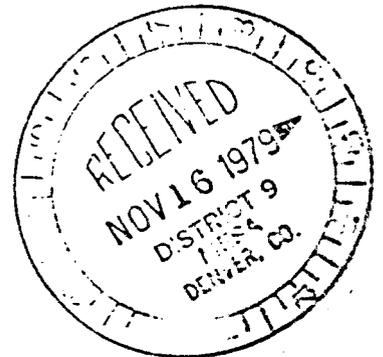
The following information should be submitted to the District Manager:

1. Company Name	<u>Emery Mining Corporation</u>
Mine Name	<u>Deer Creek Mine</u>
Post Office Address (Town, County, State)	<u>P.O. Box 310 Huntington, Emery County, Utah 84528</u>
Telephone Number	<u>801-748-2317</u>
Identification	<u>42-00121</u>
Operator's Name	<u>Neldon Sitterud</u>
Operator's Title	<u>Mine Manager - (acting)</u>
Operator's Address	<u>Orangeville, Utah 84537</u>
Operator's Telephone Number	<u>801-748-2317</u>

2. Indicate if life of mine is      less than one year  
X greater than one year

3. Number of employees:

Surface	<u>49</u>
Underground	<u>484</u>
Total	<u>533</u>



4. The type of face equipment used on each section in the mine:

Joy 12 CM Miners  
Lee-Norse Twin Boom Roof Bolters  
Joy Shuttle Cars  
S & S Scoops  
Long Air-Dox Feeder Breakers  
Longwall  
Shearer Eickhoff EDW 300 L  
Face Conveyor Eickhoff DMK F4  
Stage Loader Eickhoff EKF-3  
Crusher Klockner Feromatic SV-63

51a- The name and height of the coal seam being mined:  
Blind Canyon

6' to 14'

*II VENTILATION*

b- Main Fan Installation

Main Fan Data:

Location	See 1" = 200' map
Name	Joy Axivane Fan
Type	M 96-50
Size	8'
Speed	1189
Water Gauge	4.5
Quantity	600,000 CFM
Blade Setting	26
Motor	Reliance Motor
Horse Power	1,000 H.P.
Ampere	119 Amps
Alternate power	
Source	Cat 346 At 990 RPM
Voltage	4,160

c- Aux. Fan Installation

Aux. Fan Data:

Location	See 1" = 200' & 1' = 400" scale maps
Name	Jeffery
Type	8H-72 Aerodyne
Size	6'
Speed	1345 RPM
Water Gauge	4.2
Quantity	300,000 CFM

Aux. Fan Installation continued- -

Blade Setting	Number 7 (has 7 positions)
Motor	General Electric
Horse Power	600 H.P.
Voltage	2,400
Ampere rating	105
Alternate power source	Catepillar Diesel 1,300 rpm 484 hp To start when electric power goes off

"All main fan installations shall meet or exceed all criteria established in Sections 75.300-2 and 75.300-3, 30 DFR 75."

d. Dust Control Plan Outby Areas

1. "The following dust control practices shall be adhered to at the indicated locations."

(a) Transfer points

All transfer points will be rock dusted as needed.

(b) Loading points

If dust conditions warrant, feeder breakers shall be equipped with water sprays.

(c) Underground dumps

If dust conditions warrant, underground dumps shall be equipped with water sprays.

(d) Belt and trucklines

Shall be rock dusted by pressure dusters or hand dusted as needed.

\* (e) Shuttle car roadways

Shall be wetted down or calcium chloride applied as needed.

(f) All other problem areas

Shall be rock dusted as needed.

\* All haulageways will be maintained damp & well compacted or calcium chloride applied to control dust from being raised into the atmosphere when equipment<sup>3</sup> travels over the roadway.

( telephone verification between E. Windor & B. Knepp )  
Emery Mining Corp. IASHA

- 12/17/79 -

E. Methane and Dust Practices of Face Areas

1. The line curtain or other approved device will be installed within 15 feet of the deepest penetration to which any portion of the face has been advanced.
2. The minimum quantity of air reaching each working face from which coal is cut, mined or loaded shall be 6,000 CFM. Idle working faces, working faces where roof bolts are being installed and dead end entries shall be ventilated and maintained free of explosive, noxious and harmful gases and dust, smoke and explosive fumes. Water is used in roof bolt drilling.
3. A minimum mean entry air velocity of 60 feet per minute shall be maintained in all working places where coal is cut, mined or loaded. (does not apply to clean-up made by S & S scoop).
4. The minimum quantity of air reaching the last open crosscut in any pair or set of entries shall be 9,000 CFM and the minimum quantity of air reaching the intake end of a pillar line shall be 12,000 CFM.
5. At least 90 percent of the sprays provided for dust suppression on each piece of equipment shall be maintained operative. The pressure required is the actual operating pressure and will be measured at the first spray in the system on the operator's side.

<u>Equipment Type</u>	<u>No. of Sprays</u>	<u>Minimum Water Pressure</u>	<u>Minimum Flow Rate</u>
Continuous Miners	32	100 PSI	3/4 gal per min

F. Longwall Ventilation

1. The minimum quantity of air reaching the headgate of the longwall face shall be 30,000 CFM and 190 FPM velocity, the velocity at the tailgate 100 FPM.

<u>Equipment</u>	<u>No. of sprays</u>	<u>Min water pressure</u>
Shear	32	100 PSI 35 gal per min 70

The shear drums will be maintained wet with a minimum of 25% sprays operating. The manufacturer spray system on the drums lacks the efficiency for adequate dust suppression. The operator is using an experimental spray bar with sprays directed on the drums with more affective dust suppression. This bar configuration and sprays may be changed to give better dust suppression and bring us closer to being in compliance. This is experimental and we will continue with this minimum in any changes that are made unless otherwise approved by the District Office of MESA.

- a. A spray bar on the headgate end and the tailgate end of the shear directs water onto shear.
  - X a 4 ft. bar with two sprays each shall be maintained at 100 PSI 1.9 gpm.
- b. A spray bar will be maintained 2 feet outby discharge end of crusher 2-BD3 sprays at a minimum of 20 PSI .42 gpm each.
- c. A bank of 3 sprays each are positioned every 25 feet along the longwall face near the top of the shield supports, 3-BD3 sprays at a minimum of 20 PSI .42 gpm each.
- d. Spray bar is installed above the stage loader discharge point. 3-BD3 sprays minimum of 20 PSI .42 gpm each.
- e. Belt air shall not be used to ventilate the working face.
- f. The conflow back flusher is used to keep water sprays from clogging.

6. Methane Control in Outby Areas:

1. The methane content in any return aircourse other than an aircourse returning the split of air from a working section (as provided in Sections 75.309 and 75.310, 30 CFR 75) shall not exceed 2.0 volume per centum. The methane content in the air in active workings shall be less than 1.0 volume per centum or more of methane, changes or adjustments shall be made at once in the ventilation in the mine so that the air shall contain less than 1.0 volume per centum of methane.
2. Due to the susceptibility of spontaneous combustion bleeder entries shall not be driven in active pillar section. Panels will be sealed upon completion.
3. Section 75.300, 30 CFR 75, requires that the mining system shall be designed in accordance with a plan and revisions thereof approved by the Secretary and adopted by such operator, so that as each working section of the mine is abandoned it can be isolated from the active workings of the mine with explosion-proof seals or bulkheads.

a. The location of the proposed seals shall be shown on the mine map which shall be sufficiently detailed to illustrate the mining system employed, depth of cover and dimensions of barrier pillars left in place bordering such areas, the proximity of all active workings and the sequence of construction of the seals.

See 1" = 200' mine map.

b. A detailed drawing or drawings of proposed explosionproof seal construction which shall meet the requirements of Section 75.329-2. Such drawings shall show the pillars in which the seals will be erected and such pillars shall be of sufficient size and number to protect the seals. See drawing #2 and 1" -200' mine map.

"Whenever a working section is completed and the operator does not wish to continue to ventilate the area or permission to ventilate the area is denied, the area shall be sealed. (work shall be started to seal the area after the section is abandoned.") The section will be ventilated until such time as sealing is completed.

4. If the operator wishes to ventilate pillared or abandoned areas, a request for permission to ventilate these areas shall include the following:
  - a. A detailed history of the methane content determined throughout the mine and when available, the volume of air in which such methane determinations were made. 0.00% methane content has been determined throughout the mine. Methane content and volume of air in the Main return entries are shown on the 1" = 200' map.
  - b. A description of the method by which the areas from which the pillars have been wholly or partially extracted and abandoned areas shall be ventilated, and such maps and drawings as may be required to illustrate such method and to indicate existing or proposed air volumes to ventilate such areas. Ventilation structures and volumes of air are shown on the attached 1" = 200' map. Inactive areas or abandoned areas which are not yet sealed will be ventilated.
  - c. Areas from which pillars have been extracted shall be sealed within 30 days after the area is abandoned. (Note:) An area is not considered abandoned if daily inspections are made and air is being coursed across the pillar line.

#### G. Section and Face Ventilation System

1. The complete section and face ventilation system. Typical one for each system of advance and retreat mining. See attached typical face sequences wing curtains are kept within 15 feet of the working face where coal is being cut, mined or loaded.
2. Method used to ventilate belt haulage entries and direction of air flow. See attached 1" = 200' map.
3. Coal shall not be permitted to accumulate at the outby end of the face equipment to the extent that ventilation of the working face is restricted.

#### H. Permanent Stoppings

1. All ventilation devices such as stoppings, overcasts, undercasts, and shaft partitions shall be of substantial and incombustible construction installed in a workmanlike manner and maintained in a condition to serve the purpose for which they were intended, and any stopping leaking air excessively shall be repaired immediately. Sealants

used to minimize leakage are (1) Mando-seal (2) Lite-mix (3) Mine Guard (4) MSA Rigid Seal, applied by hand, compressor, or applicator.

2. Permanent stoppings shall be erected between the intake and return aircourses and shall be erected to and including the third connection crosscut outby the face of the entries. Whenever the third connecting crosscut is broken through, work shall be started on building the stopping as soon as possible and shall be completed by the end of two production shifts after the shift in which the crosscut was broken through.
3. Metal stoppings supported with approved fire retardant treated wood may be used in short lived entries such as panels, rooms, or butts as belt or intake escapeway seperation stoppings. Timbers laid longitudinally "skin to skin" and packed with rock dust, may be used in heavy or squeezing areas if the timbers are treated with an approved fire retardant. Metal stoppings supported by 1" angle iron shall have the angle iron nitched into the rib.
4. For the two entry system, the feeder breaker may be placed in the crosscut on intake side with box curtain. To allow shuttle cars to travel intake air instead of return air course. It also extends belt moves. The curtain will be replaced with a permanent stopping within 3 production shifts after the belt move.
5. In heavy or caving areas, Permanent Seal and Stopping may be constructed of solid wood blocks measuring a nominal 8" x 8" x 36". The ends of these blocks are to be coated with a fire resistant product called "STOP IT." They will be laid longitudinally "SKIN TO SKIN: and be packed in rockdust. They may be secured in place by "TOE-NAILING" one to the other with appropriate size common nails. They will be recessed into the rib to solid coal, and recessed into the floor to solid coal or rock. When the final seal is constructed in a section a certified individual will supervise, with checks every 20 minutes, for detection of gasses. See drawing #1.

Permanent seals can also be constructed with 8x8x16 concrete blocks. They will be recessed into the rib to solid coal and recessed into the floor to solid coal or rock. They will conform to drawing #2.

I. Diesel Equipment

1. DNA
2. DNA
3. DNA

J. Use of Auxiliary Fans

1. The fan shall be of a permissible type, maintained in permissible condition so located and operated to avoid any recirculation of air, and examined once every four hours when in use. The examiner shall place his initials, date, and time near the fan.
  - a. Fans operated blowing shall be installed in the positive intake air current of the place to be ventilated by the fan, and the volume of such positive intake air current shall be the free discharge capacity of the fan.
  - b. Fans operating exhausting shall be installed in return air current from the place to be ventilated by the fans, and the volume of the positive intake air current available at the entrance to the place (at the crosscut or other point of entry) to be ventilated with exhaust fans shall be the free discharge capacity of the fan.
2. All face ventilation systems using auxiliary fans and tubing shall be approved under the provisions of Section 303 (O) of the Act. (Subsection 75.316 of the Federal Register).
3. For installation procedure see drawing #13.
4. Auxiliary Fan

Make	Joy
Model	25-25-17.5-3450
Horsepower	10 H. P.
RPM	3450
Blade Position	Fixed
C. F. M.	9700
Tubing	Flexible
Type	Exhausting

5. continued --

Auxiliary Fan

Make	Joy
Model	23½x17½-3450
Horsepower	40 H.P.
RPM	3450
Blade Position	2
C.F.M.	12,600
Tubing	20" diameter rigid fiberglass
Type	Exhausting

EW/cs

## USED FOR STOPPINGS

1. (a)

Block Stoppings — 4"x8"x16" Minimum Concrete Block  
Mortar Mix  
Lite Mix or Mando-seal for sealant  
Block pieces to seal edges and top

Metal ————— Metal Panels 1' x 5' to 1' x 10'  
Minimum thickness- .004"  
1" Angle Iron & Clips  
Lite Mix or Mando-seal for sealant  
Block pieces to seal edges and top

(b)

## DESCRIPTION OF CONSTRUCTION

See drawing 3

Block - Mortared— Floor, ribs, and top are taken down to solid.  
Blocks are laid with long axis perpendicular  
to opening. Each succeeding rows joints overlap  
the preceeding rows. All rows are mortared and  
stopping covered with sealant to prevent leakage.

- Stacked— Floor, ribs, and top taken down to solid.  
Blocks are laid with long axis perpendicular  
to opening. Each succeeding rows joint overlap  
the proceeding rows. Stopping sealed with sealant.

Metal --- Floor, ribs, and top taken down to solid.  
Supporting angle irons are notched into ribs  
Panels are clipped to each angle iron.  
Stopping covered with sealant to prevent leakage.

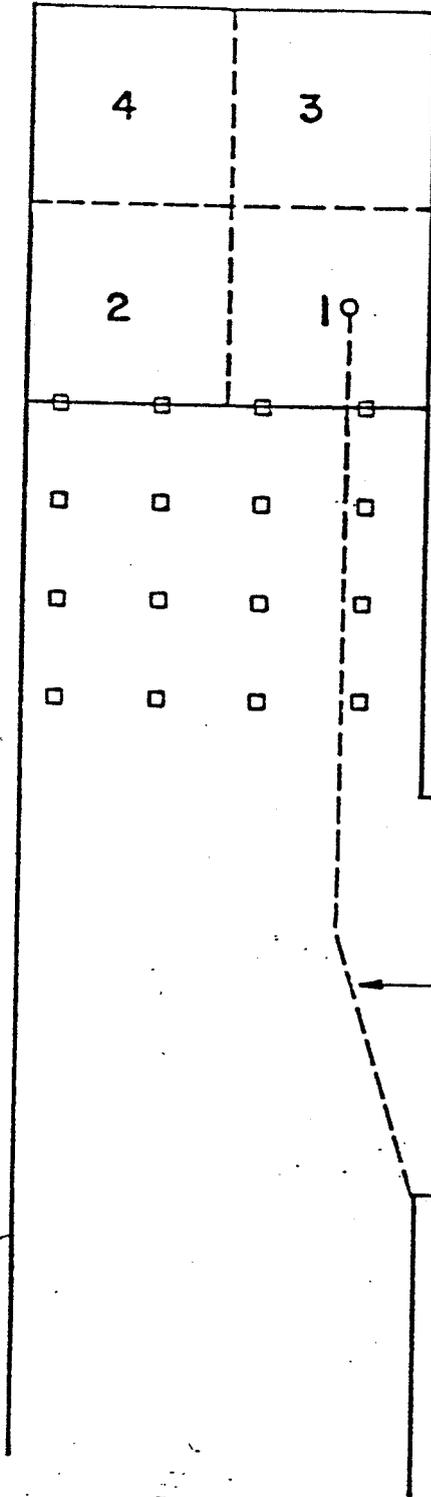
(c)

## AREAS WHERE STOPPINGS USED

Mortared Block — On Mainlines to separate intake and return entries  
and for belt isolation.  
Estimated life is life of the mine Approx. 50 yrs;

Stacked Block — In panel sections to separate intake and return  
entries and for belt isolation.  
Estimated life 18 months.

Metal — In panel section only on the intake side for belt  
isolation.  
Estimated life 18 months.



BRATTICE LINE SHALL BE KEPT WITHIN 15' OF FACE.

CURTAIN

**LEGEND**

- PERMANENT SUPPORT
- TEMPORARY SUPPORT

**EMERY MINING CORP.**

HUNTINGTON, UTAH 84528

**MINING SEQUENCE**

MARK	REVISIONS	DATE	DRAWN BY:	APPROVED BY:	DRAWING NO.
			B.L.P.		
			SCALE: 1"=10'	DATE: 9-26-79	

# TYPICAL 5 ENTRY MINING SEQUENCE



-TYPICAL: ALL SECTIONS REGARDLESS OF NUMBER OF ENTRIES DRIVEN.

-THE SEQUENCE OF MINING MAY HAVE TO CHANGE AS CONDITIONS WARRANT. THE SEQUENCE ON THE DRAWING INDICATE NORMAL MINING CONDITIONS.

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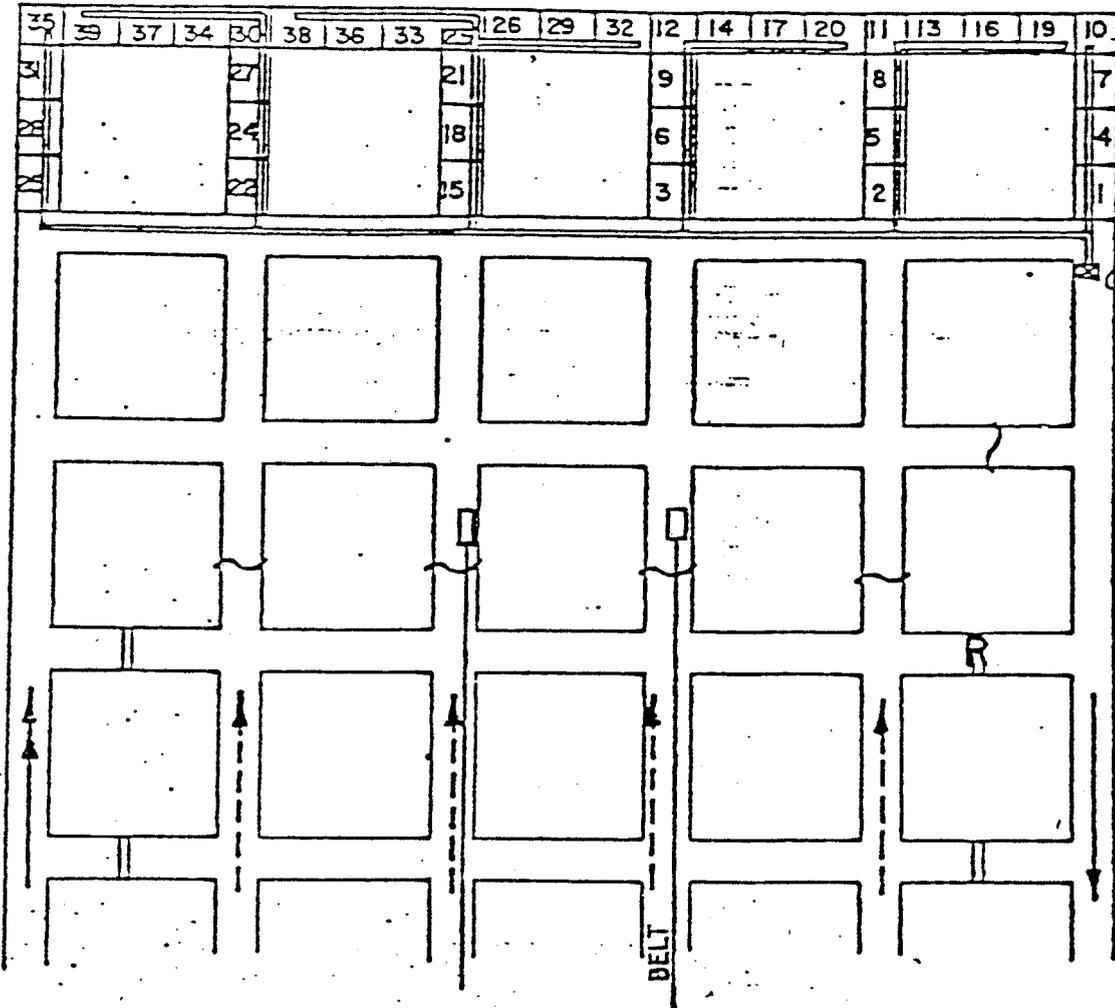
#	REVISIONS	DATE

DRAWN BY: B.L.P.
SCALE: 1" = 100'

APPROVED BY:
DATE: OCT. 13, 1977

DRAWING NO. <b>WU132A</b> SHT.
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# TYPICAL 6 ENTRY MINING SEQUENCE (USING AUXILIARY FAN & VENT TUBE)



**NOTES**

- AIR VOLUMES = 6000 C.F.M. AT EACH WORKING FACE  
9000 C.F.M. AT THE LAST OPEN CROSSCUT.

- THE SEQUENCE OF MINING MAY HAVE TO CHANGE AS CONDITIONS WARRANT.

THE SEQUENCE ON THE DRAWING INDICATE NORMAL MINING CONDITIONS.

- TUBING IS KEPT WITHIN TWELVE FEET OF THE WORKING FACE WHERE COAL IS BEING CUT, MINED, OR LOADED.

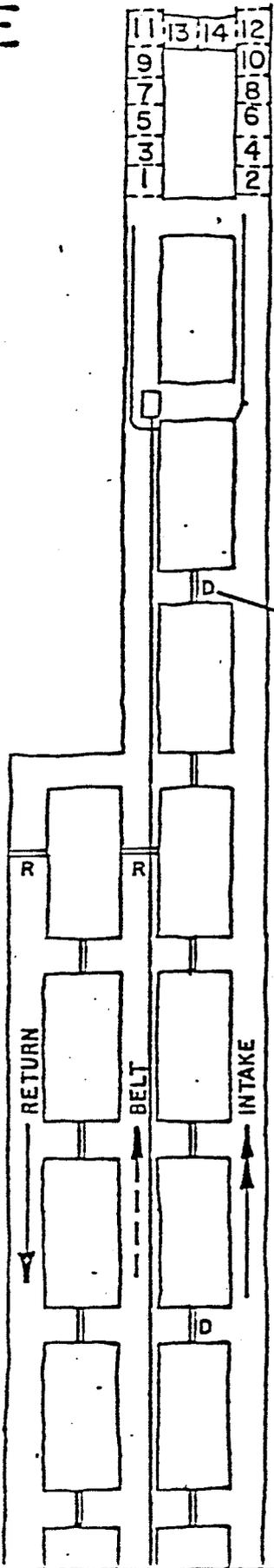
AUXILIARY FAN  
 == VENT TUBING

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				13

SCALE: 1" = 100'  
 DATE: OCT. 13, 1977

# TYPICAL FACE SEQUENCE



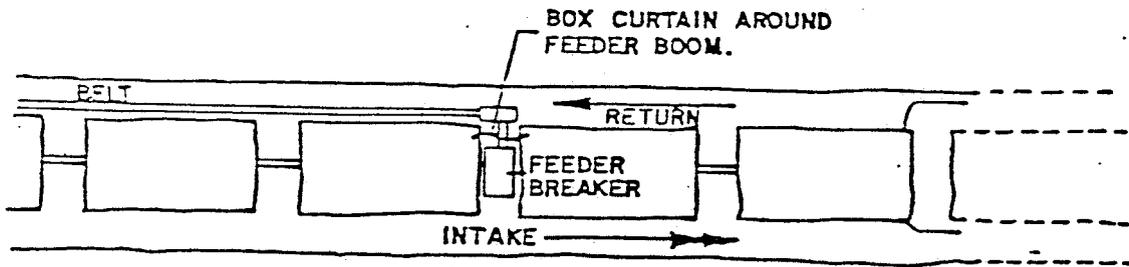
AUXILIARY FAN VENT TUBING COULD BE USED.

MAN DOOR EVERY 4TH CROSSCUT.

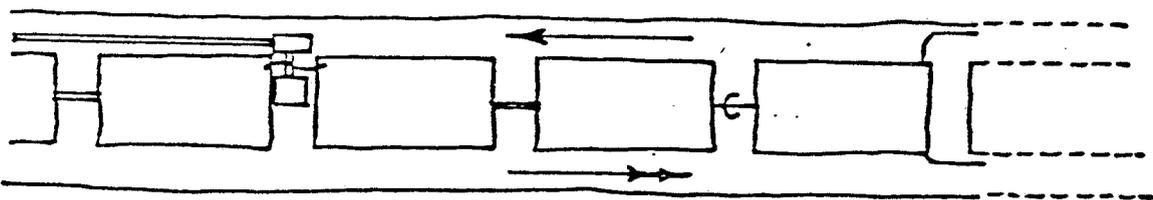
**EMERY MINING CORP.**  
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**TYPICAL 2 ENTRY SYSTEM**

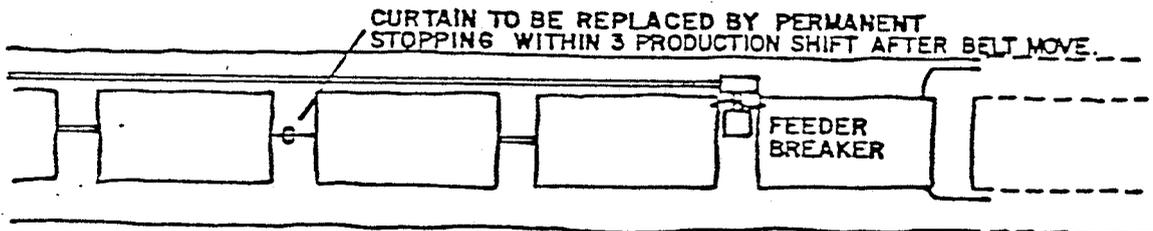
REVISIONS	DATE	DRAWN BY:	APPROVED BY:	DRAWING NO.
		BARRY PRETTYMAN		
		SCALE:	DATE:	
		NO SCALE	MAY 4, 1979	



TYPICAL TWO ENTRY SYSTEM



VENTILATION  
(IMMEDIATELY PRIOR TO BELT MOVE)



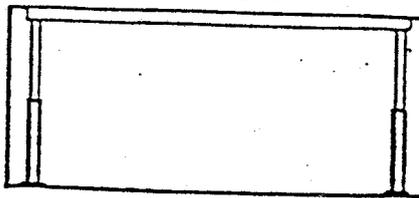
VENTILATION  
(IMMEDIATELY AFTER BELT MOVE)

**AMERICAN COAL CO.**  
HUNTINGTON, UTAH 84528

**TYPICAL TWO ENTRY SYSTEM**

RK	REVISIONS	DATE	DRAWN BY:	APPROVED BY:	DRAWING NO.
			B.L.P.		
			SCALE:	DATE:	
			NO SCALE	MAY 4, 1979	

Header Set



7'10 9"

Typical set capable of supporting 20,000 lbs. (hydraulic jacks or timber may be used).

Maximum distance of face ahead of temporary supports will be 10 feet.

Maximum advance ahead of bolts with header sets shall be 110 feet.

Miner cab will not advance in by last header set.

Crosscuts cannot be turned or completed until intersections are bolted.

First row of bolts installed 3-4 feet by previous row of bolts adjacent to header set. Header set is removed and next row of bolts installed on normal pattern. This cycle will continue until area is bolted.

Brattice line shall be maintained to within 15 feet of face at all times during the mining cycle.

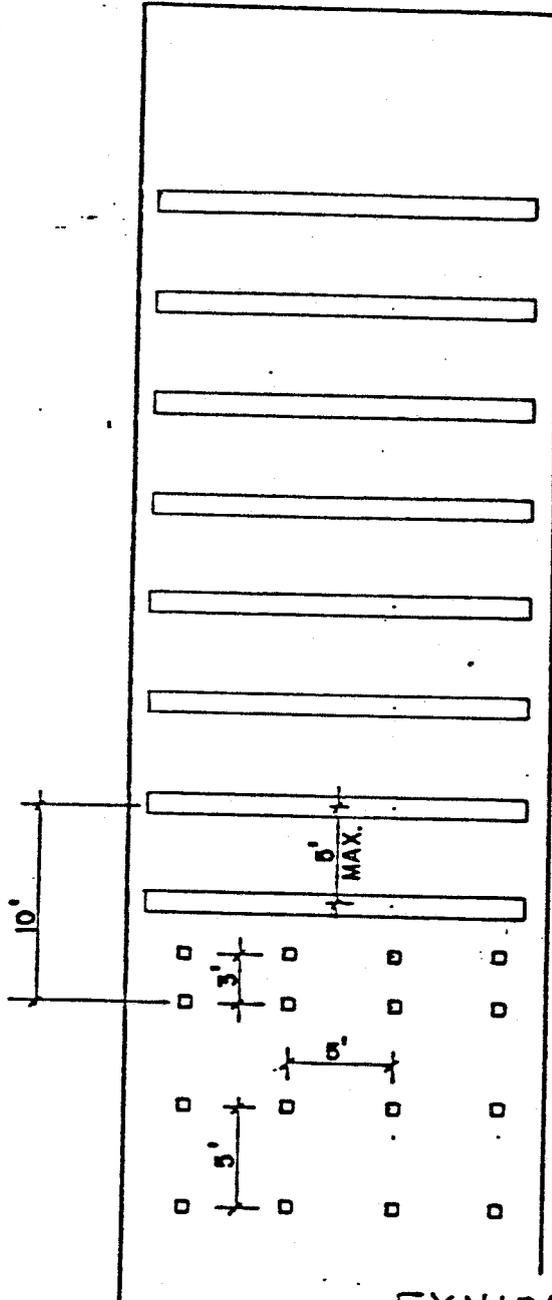


EXHIBIT "D" - FIG. 1

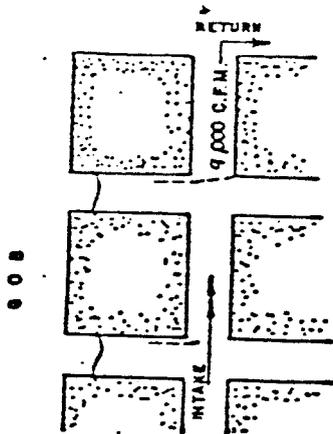
AMERICAN COAL CO.

HUNTINGTON, UTAH 84528

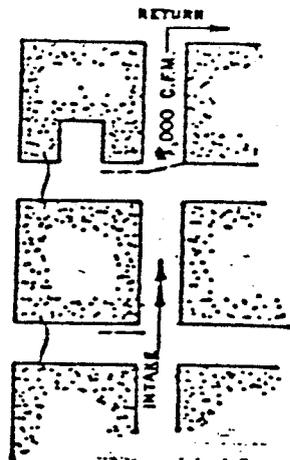
PROCEDURE FOR ADVANCE WITH HYDRAULIC JACKS OR TIMBER AND CROSSBARS

REVISIONS	DATE	DRAWN BY:	APPROVED BY:	DRAWING NO.
		B.L.P.		
		SCALE:	DATE:	
		1" = 10'	FEB. 5, 1979	

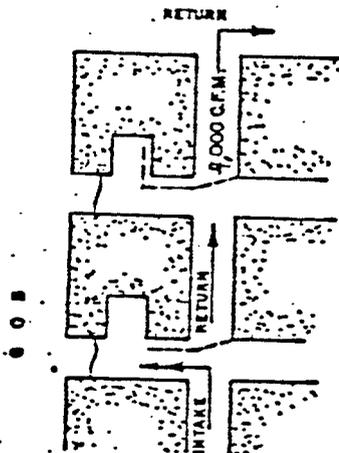
16



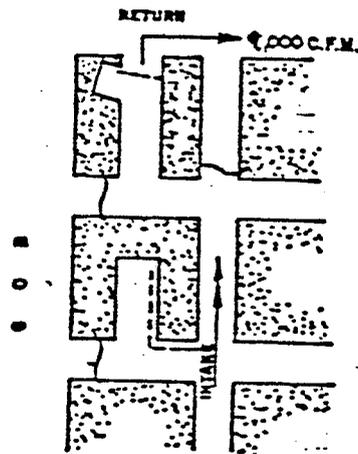
STEP No. 1



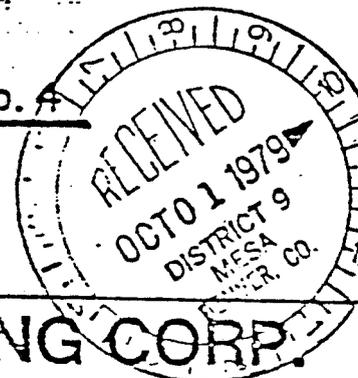
STEP No. 2



STEP No. 3



STEP No. 4



**EMERY MINING CORP.**

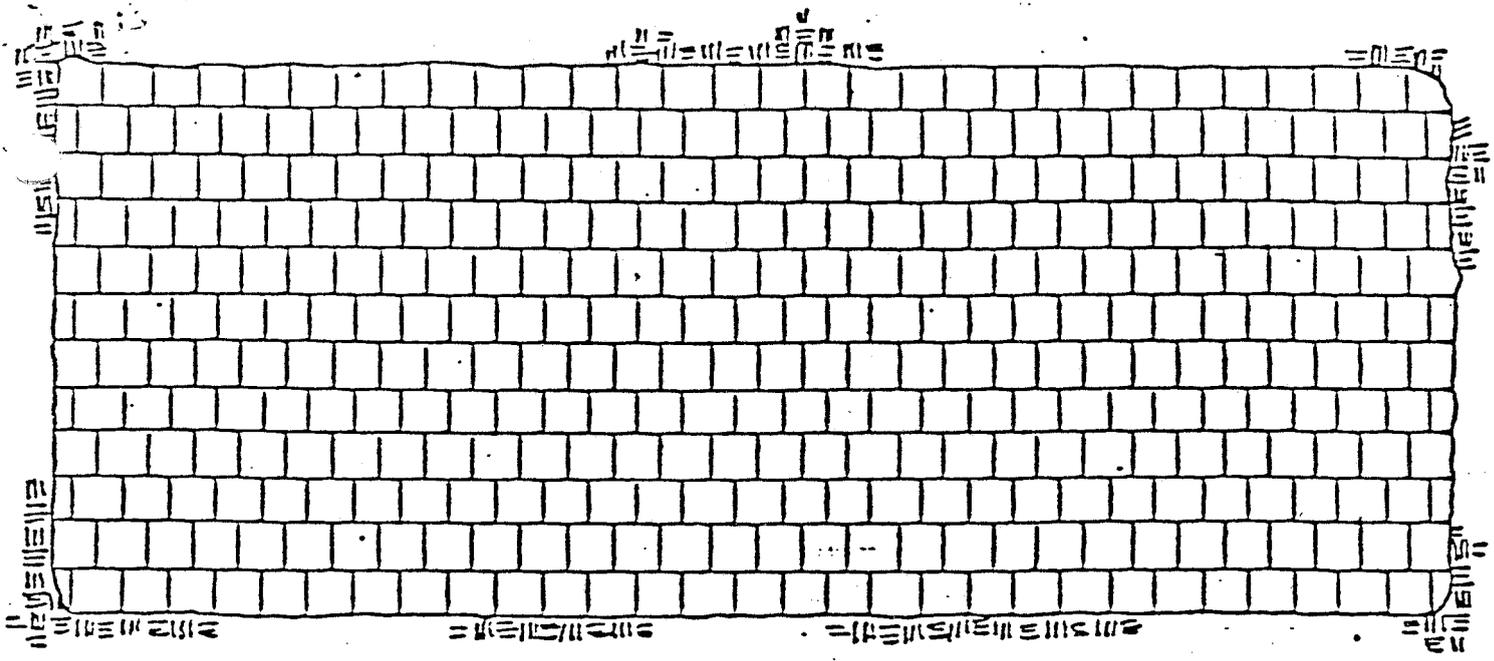
HUNTINGTON, UTAH 84528

**VENTILATION - PILLAR EXTRACTION**

MARK	REVISIONS	DATE

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SCALE: NONE 17	DATE: SEPT. 26, 1979

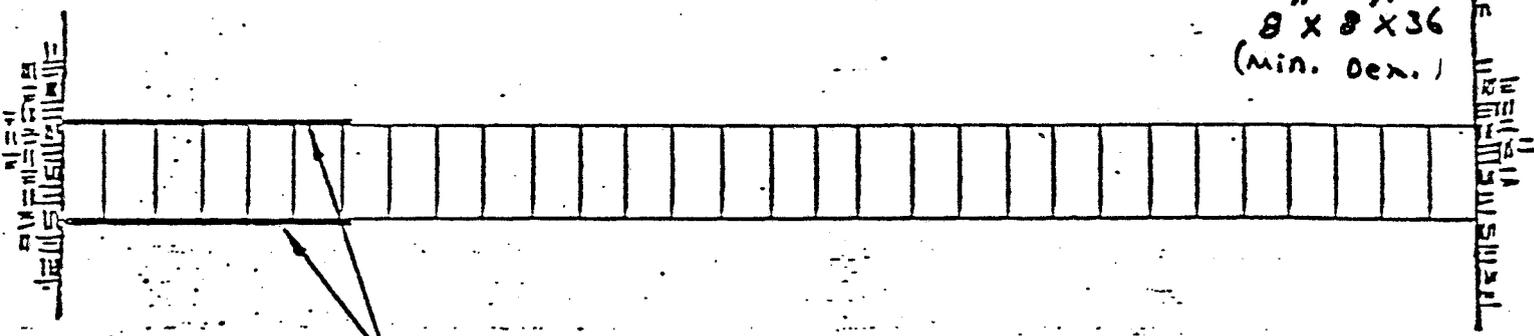
DRAWING NO.



TYPICAL STOPPING BEFORE  
STOPPIT APPLIED

see page 8

8" x 8" x 36"  
(min. den.)



1/4" THICK STOPPIT (MIN.) ON EXPOSED SURFACES

EMERY MINING CORP.

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SQUEEZE TYPE  
WOOD STOPPING

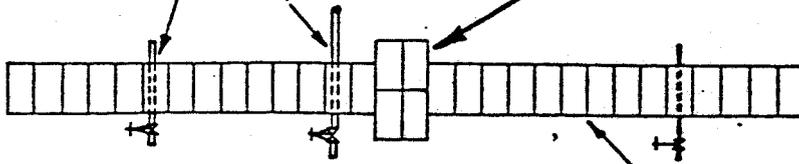
REVISIONS	DATE

DRAWN BY: B.L.P.	APPROVED BY:
SCALE: NONE	DATE: JUNE 13, 1979

DRAWING NO. 1
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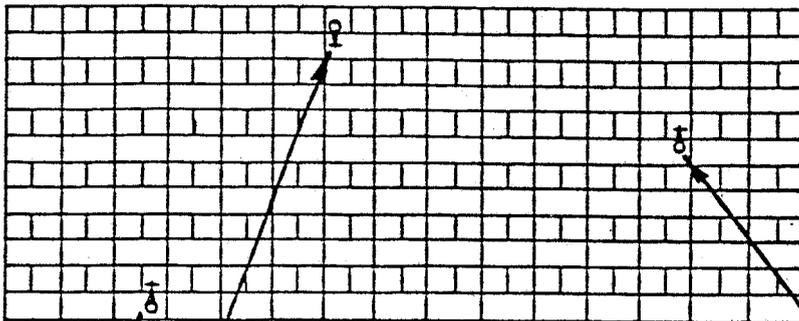
2" PIPE AND VALVES

Pilasters shall be included in widths greater than 16 ft. and heights greater than 10 ft.

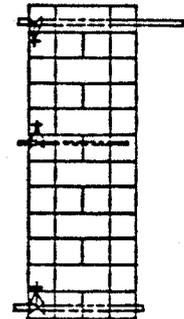


8x8x16 CONCRETE BLOCKS LAID WITH MORTARED JOINTS.

TOP VIEW



FRONT VIEW



SIDE VIEW

Vent pipe shall be installed in at least one seal in each set of seals through the bulkhead into a return aircourse. It shall not be more than 8 inches and have a strength equal to schedule 40 steel pipe and be located near the roof but not closer than 4 ft. from a rib and not on the center line of the bulkhead. Vent pipe shall be packed with gravel for at least a 10' length or provided with equivalent flame arrestor. The ends of the pipe shall be closed with perforated caps or valve.

At least one seal in each set of seals shall have a surveillance tube  $\frac{1}{2}$ " copper or  $\frac{1}{2}$ " schedule 40 pipe or equivalent and be sealed at accessible outlet with a valve. Tube and fitting shall withstand at least 75 psig.

Where necessary at least one seal in each set of seals will be provided with a 4" water drainage. Pipe shall be at the lowest elevation of the bulkhead. Pipe shall be made of corrosion resistant materials. Shall be equal to schedule 40 steel pipe. The drain will be capped or sealed with a valve.

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## PROPOSED SEALS

WITH DEVICE FOR CHECKING ATMOSPHERE BEHIND THEM INSTALLED

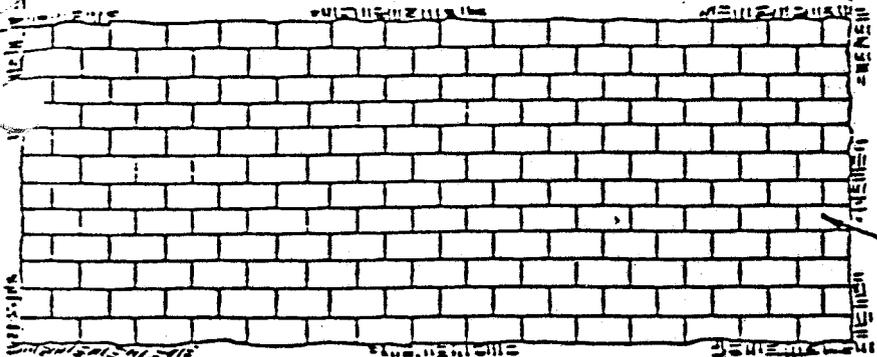
MARK	REVISIONS	DATE

DRAWN BY: B.L.P.
SCALE: 1" = 5'

APPROVED BY:
DATE: SEPT. 26, 1979

DRAWING NO.
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20'

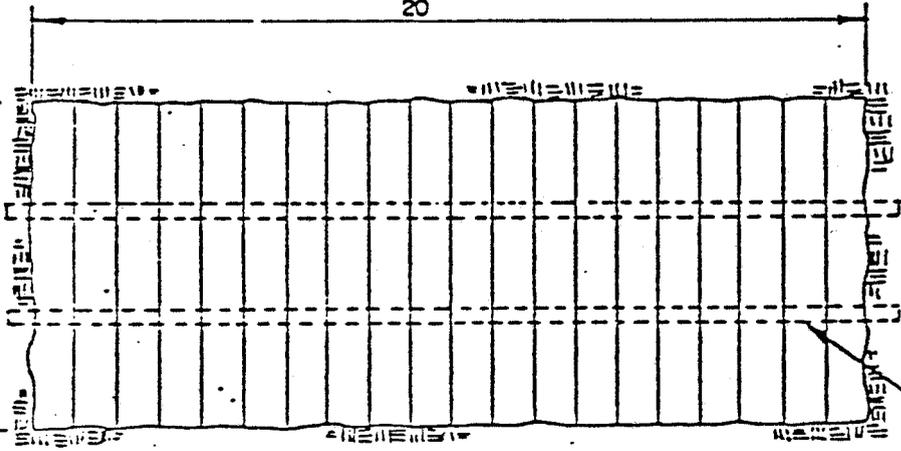


4' x 8 1/2' x 16" CONCRETE BLOCK

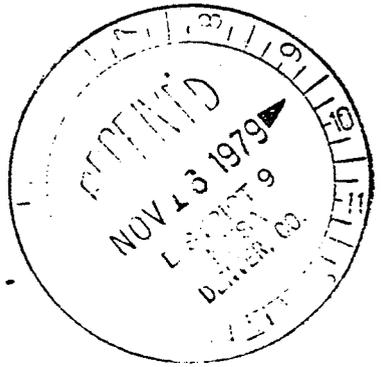
**NOTE**

STOPPINGS SHALL BE COVERED ON ONE SIDE WITH A SEALANT TO PREVENT AIR LEAKAGE.

20'



STOPPING CONSISTS OF A SERIES OF 1' x 5' PANELS, EXPANDING TO 1' x 10', CLIPPED ONTO 1' ANGLE IRON SUPPORTS. ANGLE IRON SUPPORTS NOTCHED INTO RIBS.



# EMERY MINING CORP.

HUNTINGTON UTAH 84526

## PROPOSED STOPPING

NO.	REVISIONS	DATE

DRAWN BY: B.L.P.
SCALE 1" = 5'-0"

APPROVED BY:
DATE: OCTOBER 13, 1977

DRAWING NO. WUI35 A
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