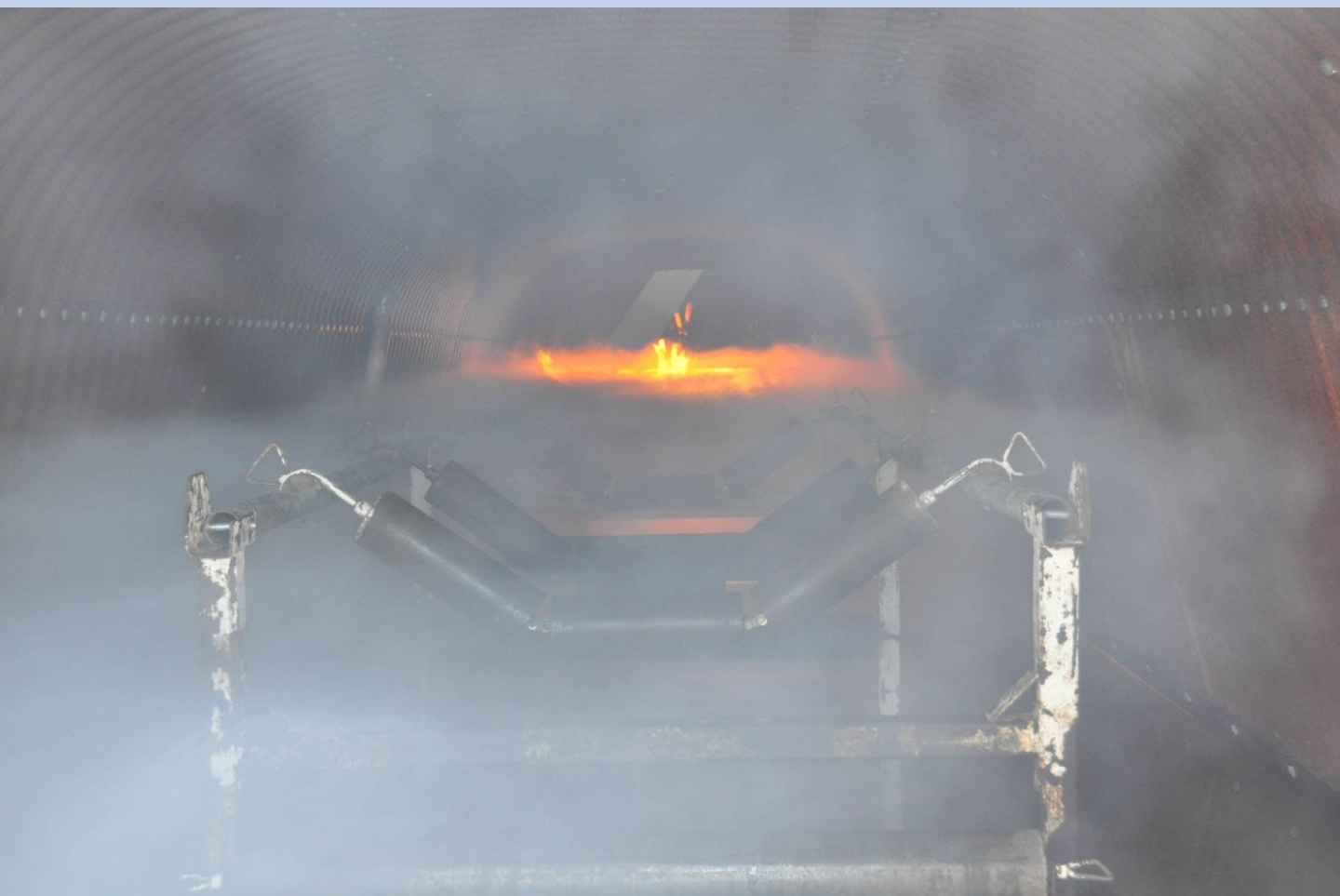


2015 MTTC Pennsylvania Regional Mine Rescue Skills Contest



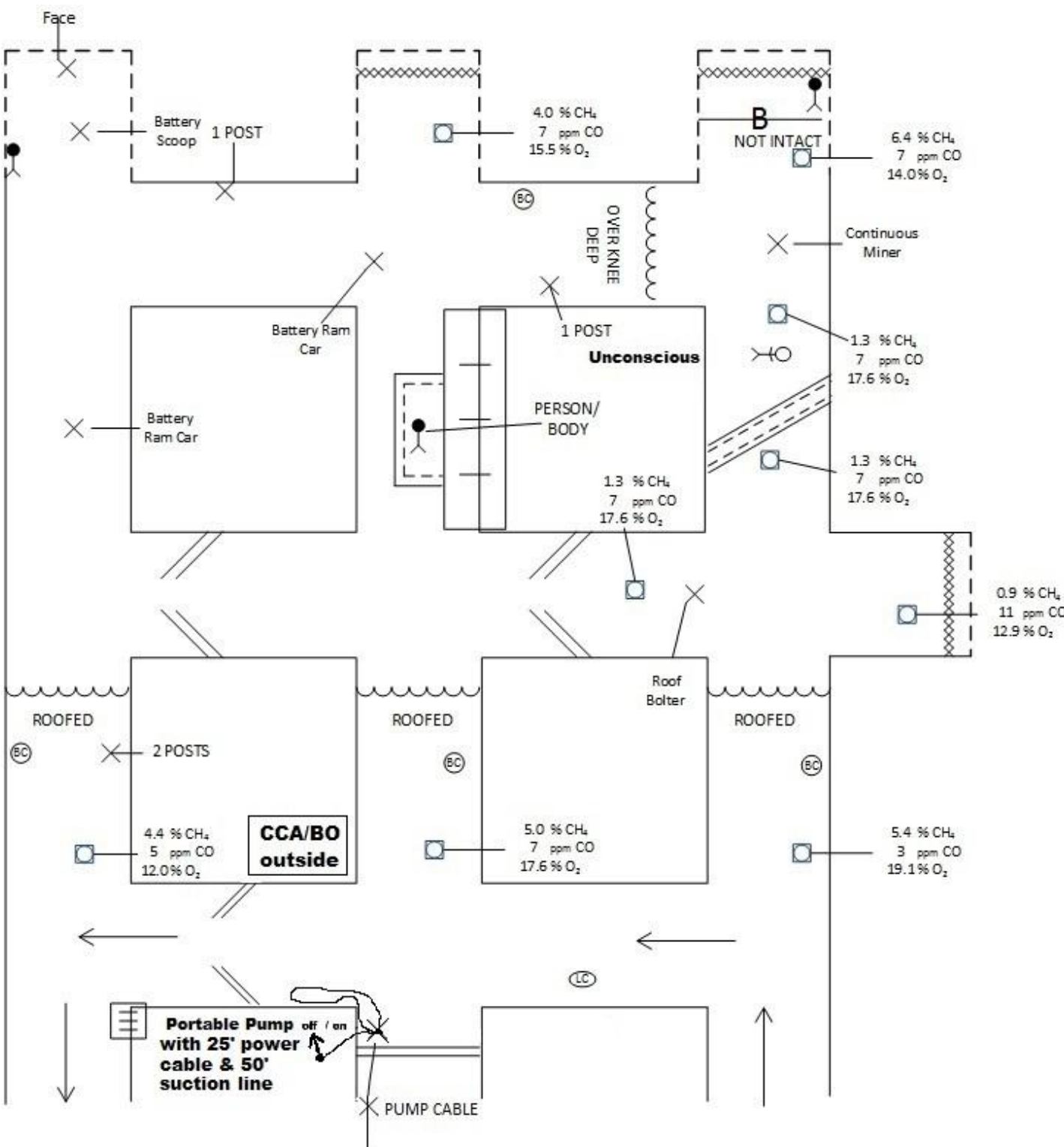
**April 21-25
Ruff Creek, PA**

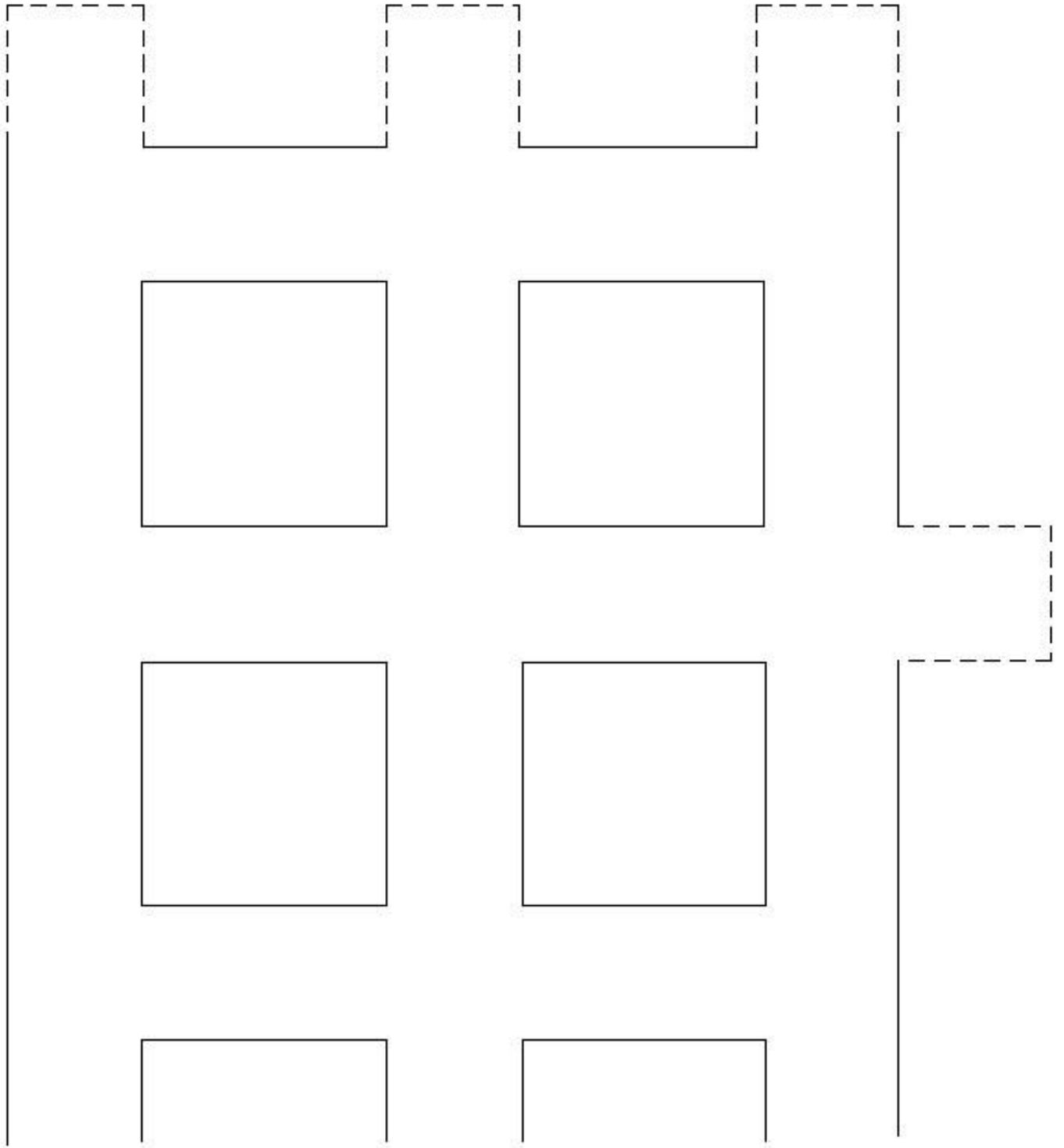
Problem Statement

You are located in the first crosscut underground of the M&M # 1 Mine. A fresh air base was established here when a responsible person went underground and found water roofed in all three entries.

We believe the 4 right section may have cut into old works. We have been calling the section but none of the four miners have answered.

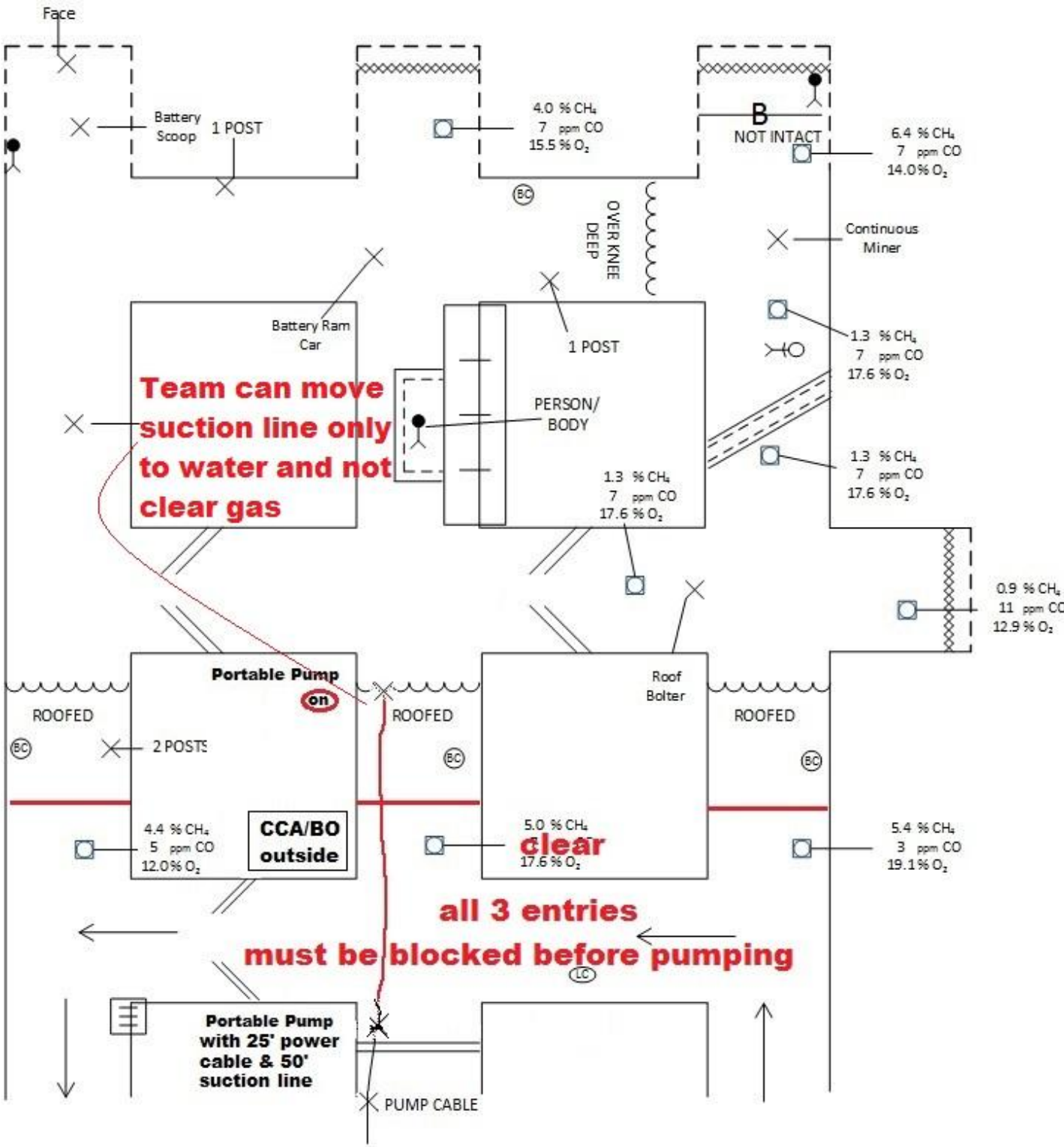
There is a trained mine rescue team here to back you up and power in by the fresh air base has been locked out. The maps you will receive when you start the clock are not up to date.

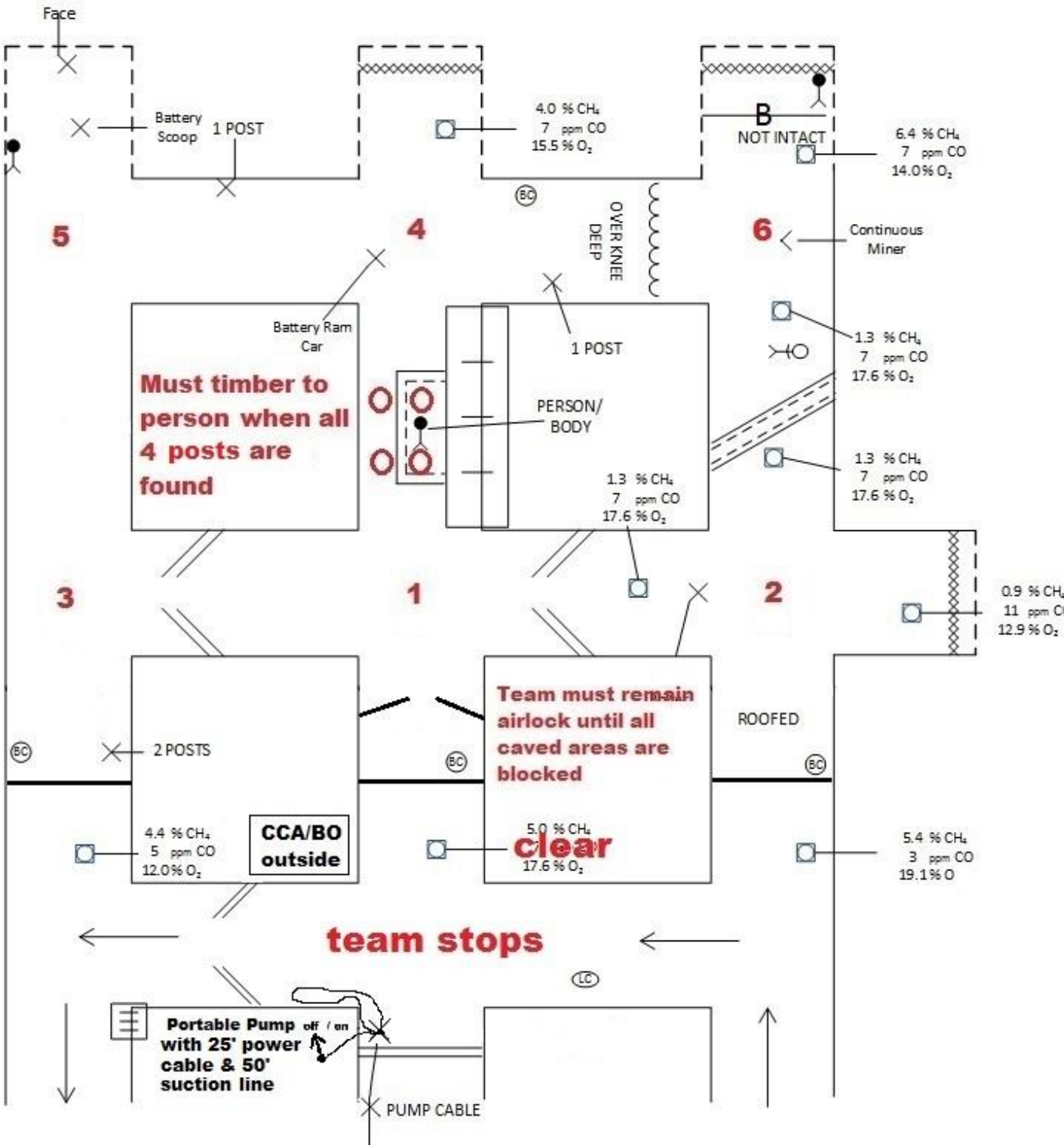




Written Instructions

- **Account for all missing miners and bring live persons to the fresh air base**
- **There is a blowing fan that is on and can't be shut off**
- **Portable pump can be turned on or off by the team**
- **Water pumped in the no. 2 entry just inby fresh air base (FAB) will also remove water in no.1 and no. 3 entry and connecting crosscut**
- **Team must use the no.2 entry on the intital exploration inby the FAB**
- **The Command Center Attendant / BO is outside**





5

4

6

3

1

2

Battery Scoop
1 POST

4.0 % CH₄
7 ppm CO
15.5 % O₂

B
NOT INTACT

6.4 % CH₄
7 ppm CO
14.0 % O₂

Must timber to person when all 4 posts are found

Battery Ram Car

1 POST

PERSON/BODY

1.3 % CH₄
7 ppm CO
17.6 % O₂

Continuous Miner

1.3 % CH₄
7 ppm CO
17.6 % O₂

1.3 % CH₄
7 ppm CO
17.6 % O₂

0.9 % CH₄
11 ppm CO
12.9 % O₂

2 POSTS

4.4 % CH₄
5 ppm CO
12.0 % O₂

CCA/BO outside

Team must remain airlock until all caved areas are blocked

5.0 % CH₄
clear
17.6 % O₂

ROOFED

5.4 % CH₄
3 ppm CO
19.1 % O₂

team stops

Portable Pump off / on
with 25' power cable & 50' suction line

PUMP CABLE

Face

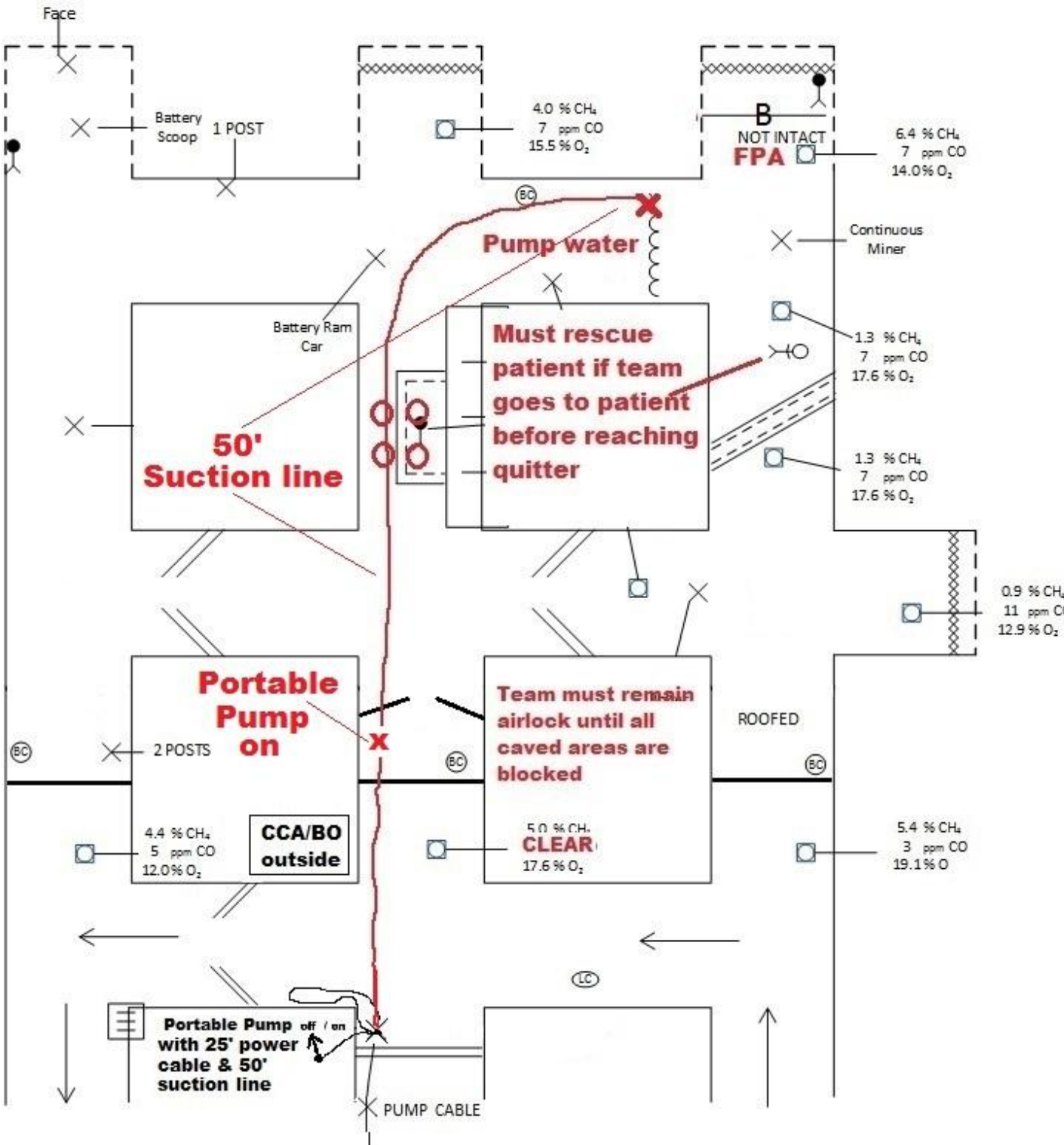
OVER KNEE DEEP

EC

EC

EC

LC



Face

Battery Scoop
1 POST

4.0 % CH₄
7 ppm CO
15.5 % O₂

NOT INTACT
FPA

6.4 % CH₄
7 ppm CO
14.0 % O₂

Pump water

Continuous Miner

Battery Ram Car
50' Suction line

Must rescue patient if team goes to patient before reaching quitter

1.3 % CH₄
7 ppm CO
17.6 % O₂

1.3 % CH₄
7 ppm CO
17.6 % O₂

0.9 % CH₄
11 ppm CO
12.9 % O₂

Portable Pump on

2 POSTS

4.4 % CH₄
5 ppm CO
12.0 % O₂

CCA/BO outside

Team must remain airlock until all caved areas are blocked

5.0 % CH₄
CLEAR
17.6 % O₂

ROOFED

5.4 % CH₄
3 ppm CO
19.1 % O₂

Portable Pump with 25' power cable & 50' suction line
off / on

PUMP CABLE

Keys to Problem

Upon completion of the team checking all openings to the area to be explored

- **Team can wing the explosive mixture in the no. 2 entry before pumping water roofed (See vent) or Team can move suction line to water roofed and keep cable out of explosive mixture**
- **Team will then airlock across no.1 and no. 3 entry and take two brattice cloths and portable pump or suction line to water roofed**
- **Team will build airlock and then pump water roofed in the no. 2 entry**
- **Team must remain airlocked until all openings inby the FAB are blocked or airlock out each time team goes to/from FAB**
- **Team must advance toward no.3 entry after finding contaminant in crosscut between 2 and 3 entry at team stop 1**
- **Team must advance up the no.2 entry into last open crosscut because of contaminant found just outby diagonal unsafe roof in the no. 3 entry**
- **Team must timber to person after finding 4 posts at team stop 4**
- **After team stop 5, team must move portable pump up no. 2 entry and then take 50' suction line to water over knee deep (explosive mixture just inby FAB must be cleared before pump and cable is moved to proper location)**
- **Team must FPA when they find the explosive mixture in the no. 3 entry after pumping water over knee deep between 2 and 3 entry. CO 11 PPM is going into caved area in first crosscut in no. 3 entry and map not up to date**
- **Team must not go to Barricade inby explosive mixture in the no. 3 entry**
- **If team goes to unconscious patient before going to explosive mixture inby intersection in the no. 3 entry, Team can rescue unconscious patient and FPA at explosive mixture inby intersection and then return to the FAB**
- **If team goes to explosive mixture inby intersection in no.3 entry before going to patient outby intersection, team must FPA where they have been and not go to unconscious patient and then return to the FAB**