

**2005 Pennsylvania State Mine Rescue Contest**  
**August 24, 2005**

**STATEMENT**

I am \_\_\_\_\_, Superintendent of the Carmichaels Mine. You are located at the fresh air base on the North Main entries. The West Mains Section was recently turned off of the initial mine development.

A five man maintenance crew entered the West Mains Section, at 12:01 a.m., to continue production while a four man crew entered North Mains Section to repair the continuous-mining machine and perform other general maintenance work. Midway through the shift the North Mains crew felt a pressure change and a sudden rush of air. They attempted to contact the West Mains section unsuccessfully and then proceeded outside after contacting the surface. All attempts to contact or locate the West Mains crew have been unsuccessful.

The mine is ventilated by the main exhaust fan and the fan is running, guarded, and monitored.

The Carmichaels Rescue Team has explored much of the mine but was unable to complete the West Mains Section due to unsafe roof conditions, water and time limitations. A fresh air base has been established here at the mouth of West Mains. Rescue teams are available to build and/or remove ventilation structures in areas that have been explored by the Carmichaels Rescue Team. Overcasts cannot be built or removed by the outby teams. You may request assistance from them through the Superintendent. Each request for assistance, regardless of the number of builds or removals, will take two minutes. The team will mark the changes on the maps, initial the map, and present the map to the Superintendent who will notify them when the changes are completed. No additional work, including exploration, will be permitted during this two minute period; however apparatus checks can be made. Carmichaels Rescue Team will serve as backup while you are working. Maps of the areas explored were prepared by the Carmichaels Rescue Team.

All electrical circuits in the mine have been de-energized, locked out and guarded. The coal seam is walking height and the roof is supported by roof bolts. Water and explosive gases have been encountered at this mine. The mine maps are up-to date. We have a competent lifeline person to give and return signals.

Written instructions and the following mine maps will be provided when you are ready to work:

1. Two blank maps
2. Two maps indicating the ventilation prior to incident
3. Two maps indicating the ventilation after the incident and the areas explored by the Carmichaels Rescue Team
4. Five blank maps to request ventilation changes

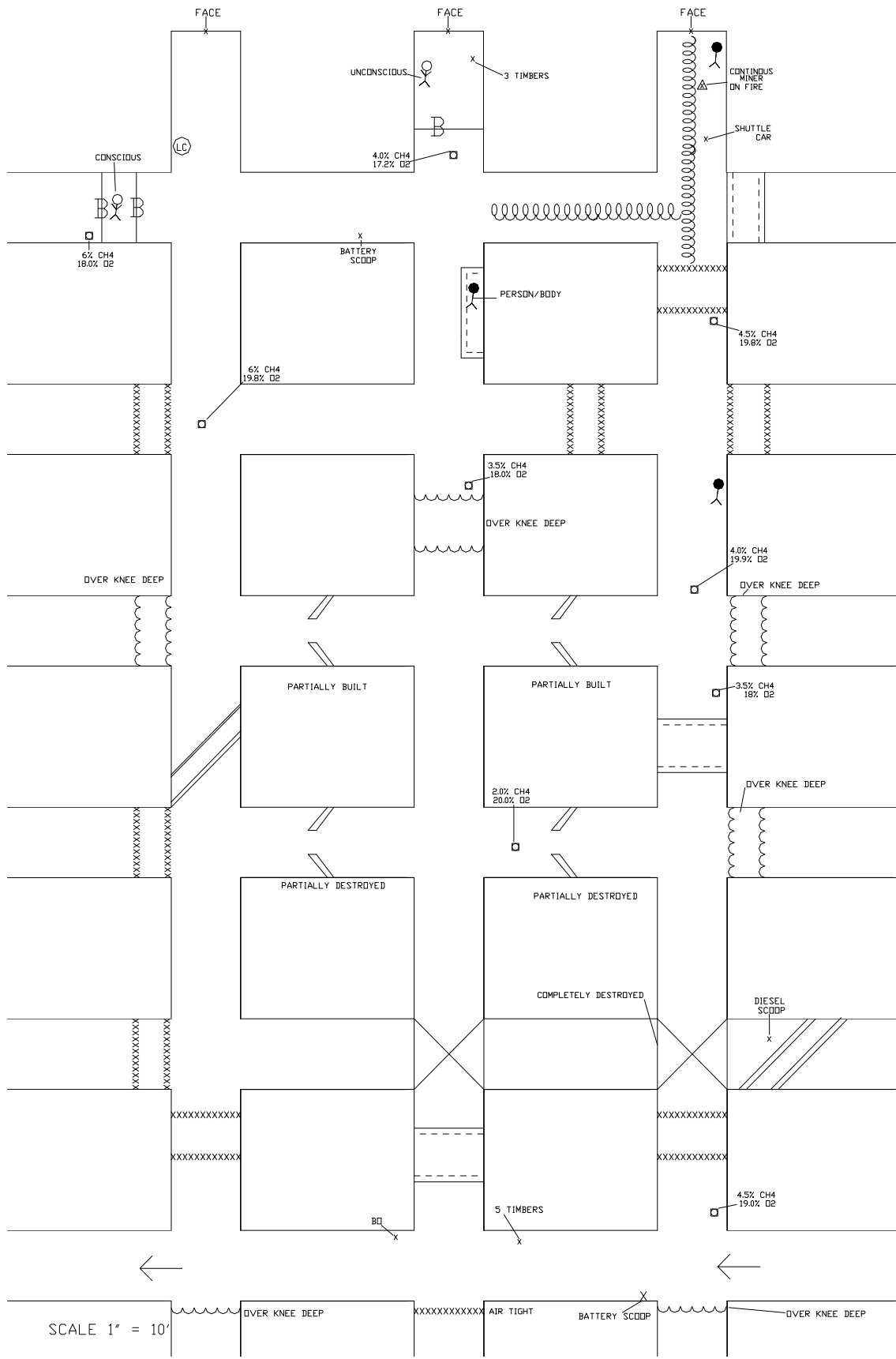
Good Luck.

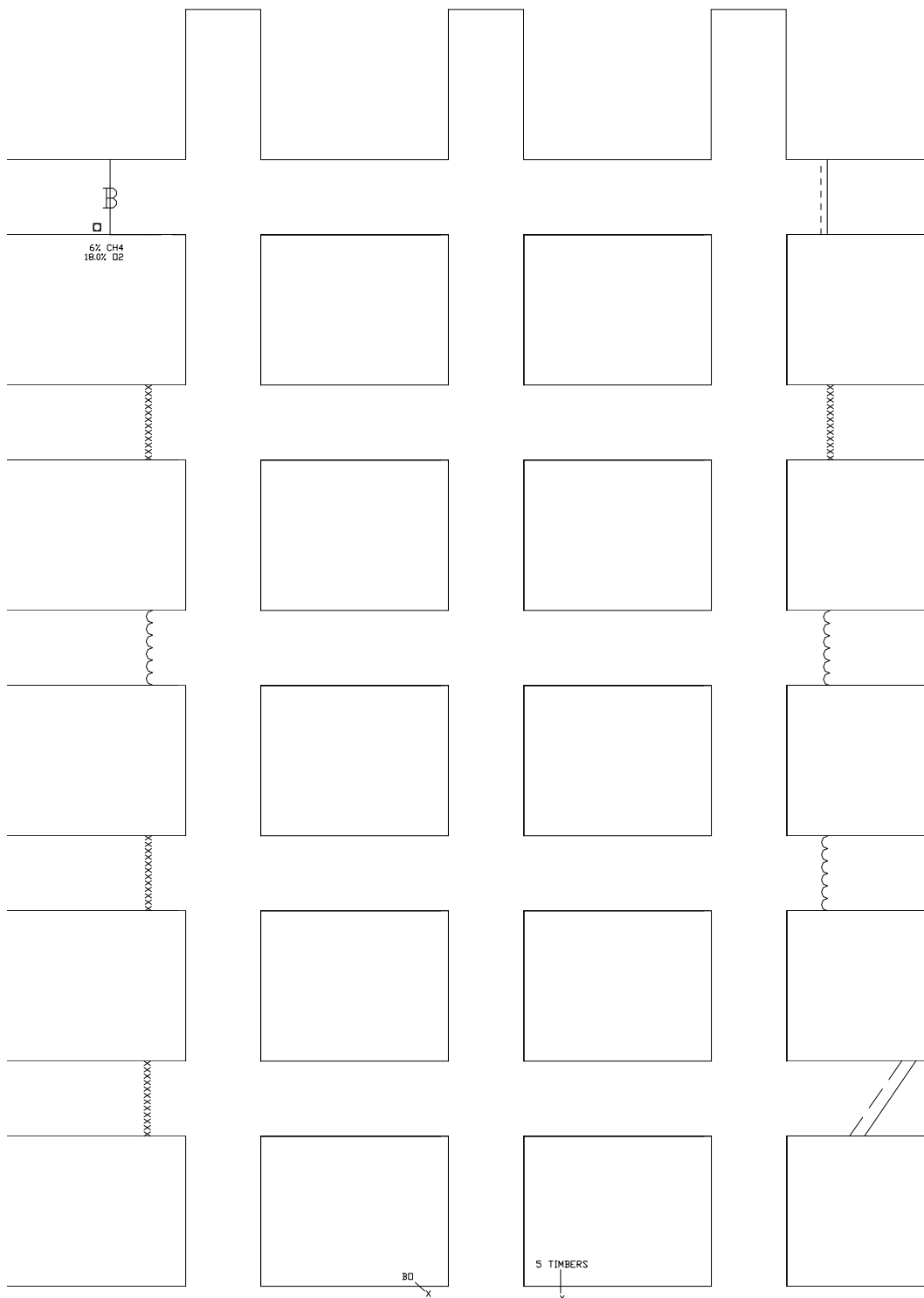
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## **PROBLEM**

**Account for all missing persons.**

**Explore all areas of the mine that  
can be safely examined.**





B  
 □  
 6% CH4  
 18.0% O2

BD  
 ↙  
 X

5 TIMBERS  
 ↓  
 X

SCALE 1" = 10'

OVER KNEE DEEP

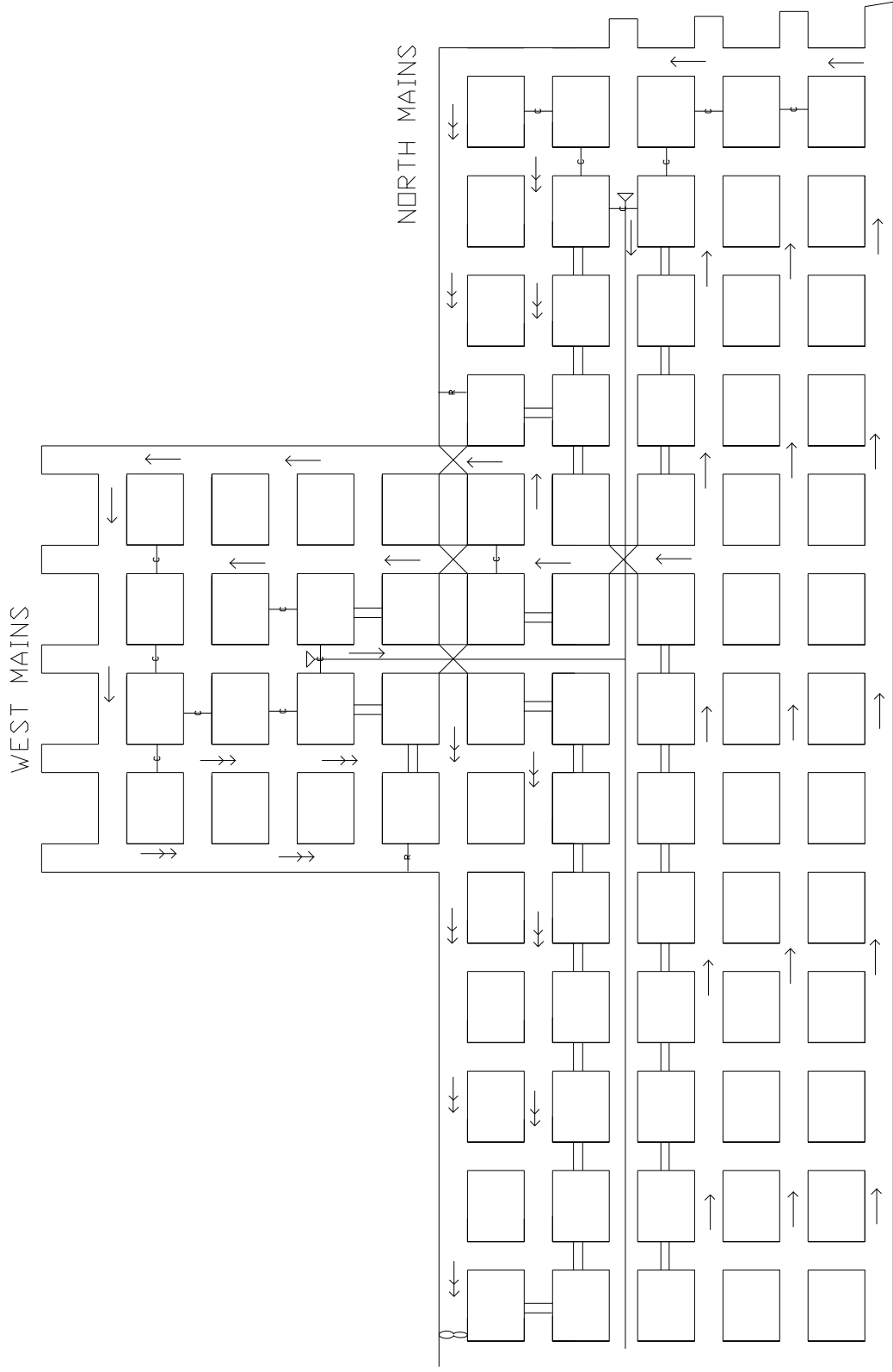
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AIR TIGHT

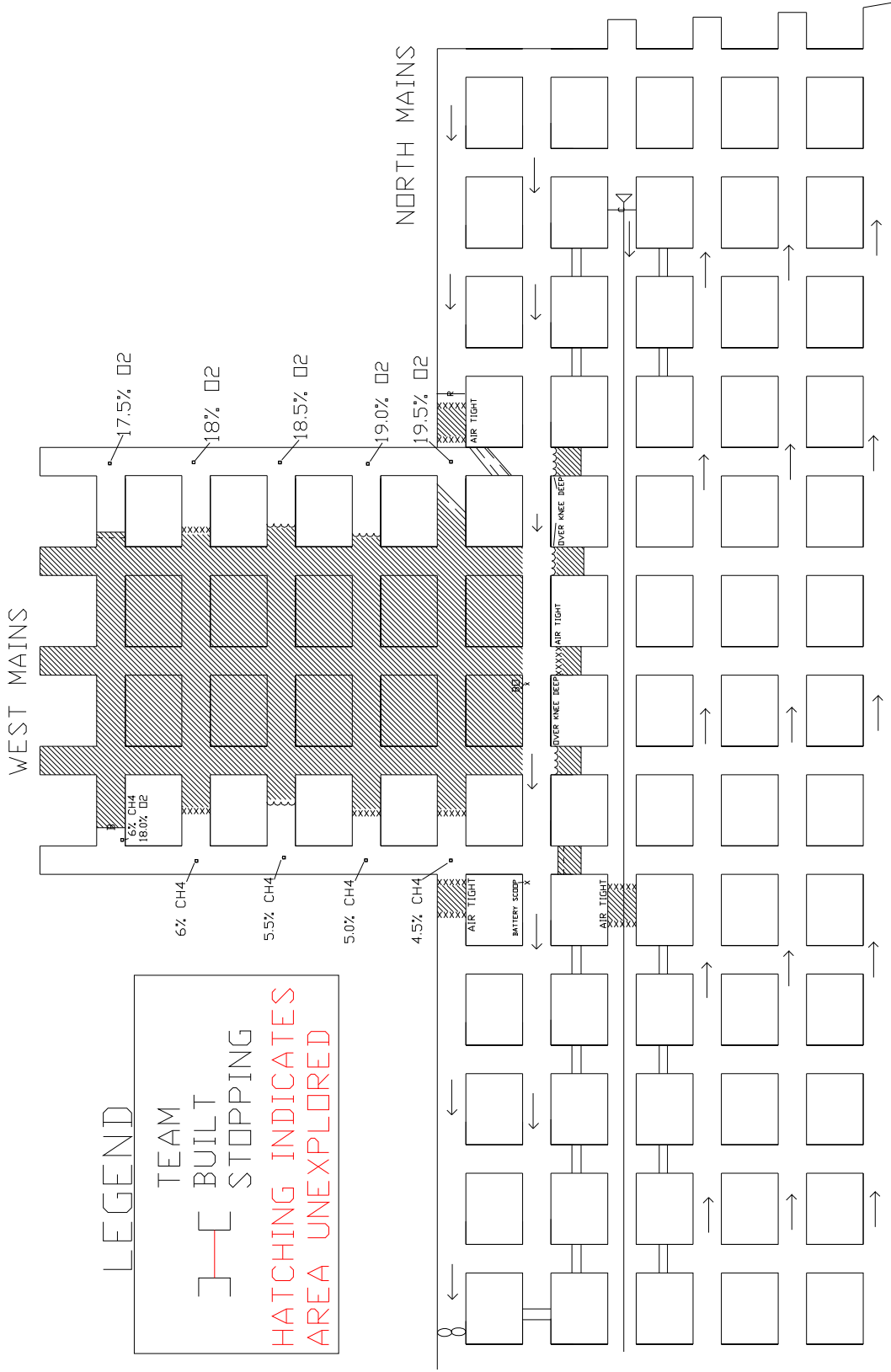
BATTERY SCOOP

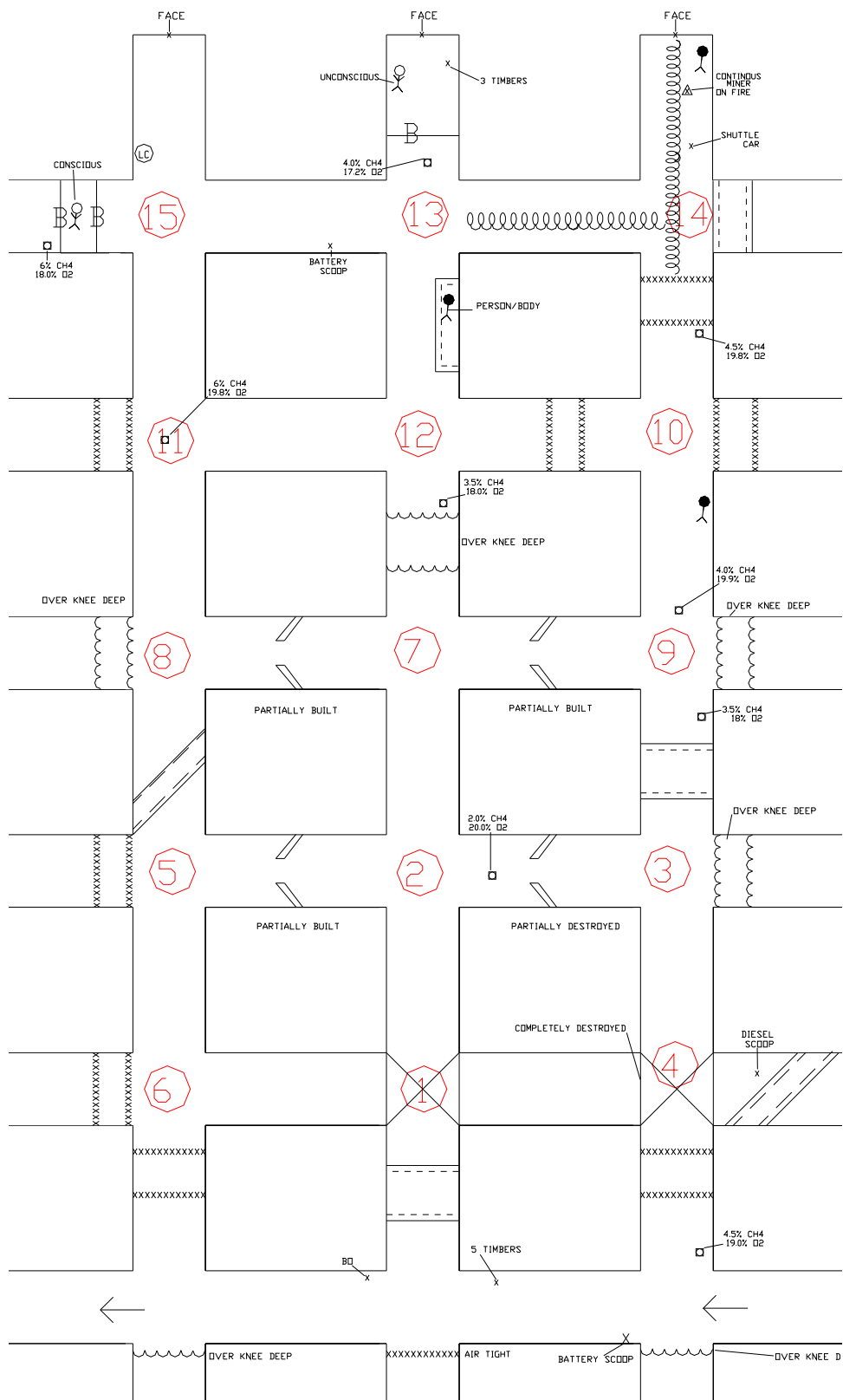
OVER KNEE DEEP

# VENTILATION PRIOR TO INCIDENT



# VENTILATION AFTER INCIDENT AND AREA EXPLORED







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**Judges Exploration Briefing**

Teams arriving at the fresh air base will examine the three entrances and conduct gas tests prior to the team going in by the fresh air base.

**TEAM STOP NO. 1**

The team must post through unsafe roof into the No. 2 entry. At this team stop, all team members and apparatus must be checked.

**TEAM STOP NO. 2**

The team must advance to B crosscut of the No. 2 entry.

**TEAM STOP NO. 3**

Team must advance to B crosscut of the No. 3 entry.

**TEAM STOP NO. 4**

Team must advance to A crosscut of the No. 3 entry.

**TEAM STOP NO. 5**

Team must advance to B crosscut of the No. 1 entry.

**TEAM STOP NO. 6**

Team must advance to A crosscut of the No. 1 entry.

**TEAM STOP NO. 7**

Team must advance to C crosscut of the No. 2 entry.

**TEAM STOP NO. 8**

Team may advance to C crosscut of the No. 1 or 3 entry.

**TEAM STOP NO. 9**

Team must advance to C crosscut of the No. 1 or 3 entry.

**TEAM STOP NO. 10**

Team must advance to D crosscut of the No. 3 entry.

**TEAM STOP NO. 11**

Team must advance to D crosscut of the No. 1 entry.

**TEAM STOP NO. 12**

Team must advance to D crosscut of the No. 2 entry.

**TEAM STOP NO. 13**

Team must advance to E crosscut of the No. 2 entry.

**TEAM STOP NO. 14**

Team must advance to E crosscut of the No. 3 entry.

**TEAM STOP NO. 15**

Team must advance to D crosscut of the No. 1 entry.

# VENTILATION #1

WEST MAINS

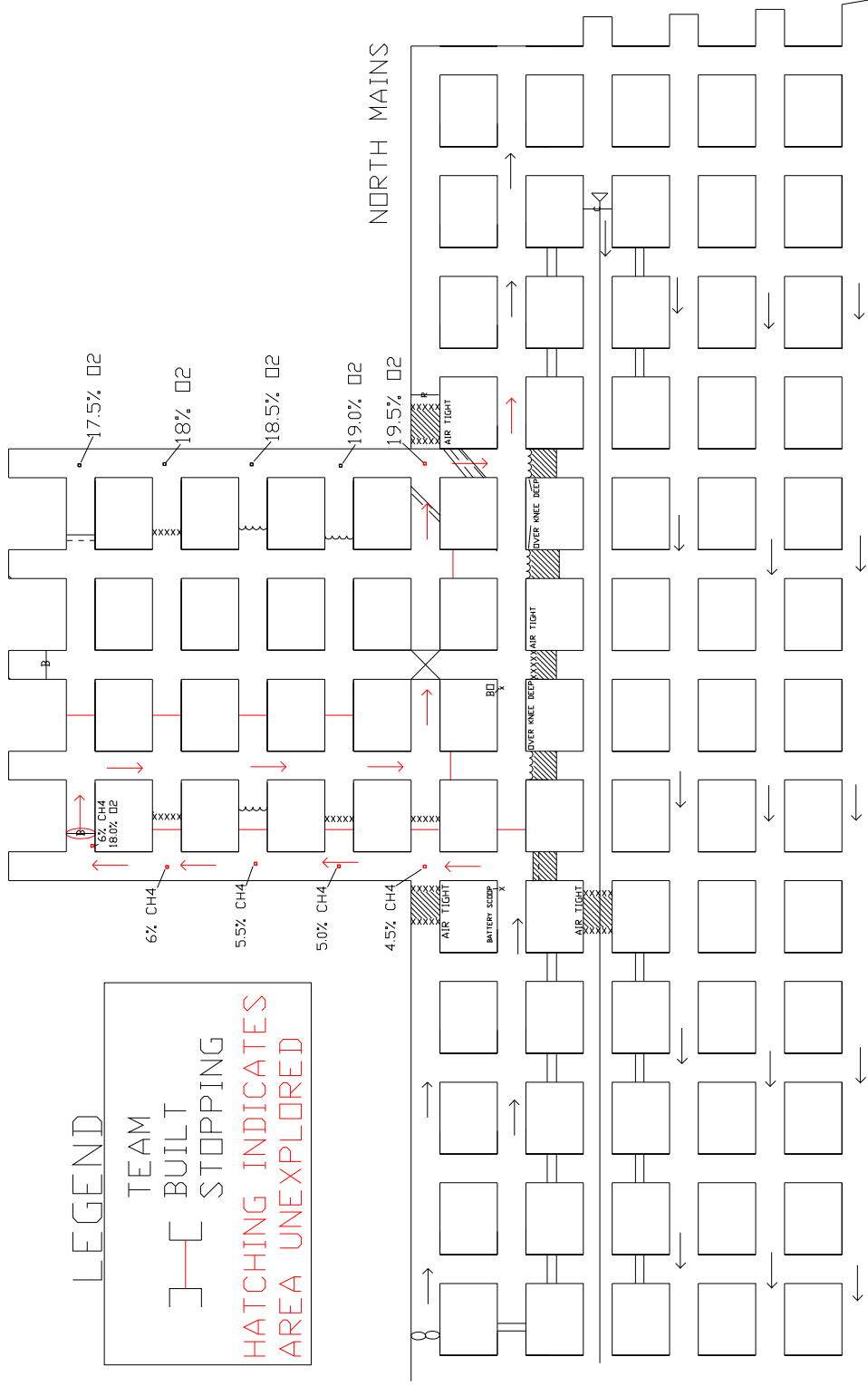
NORTH MAINS

## LEGEND

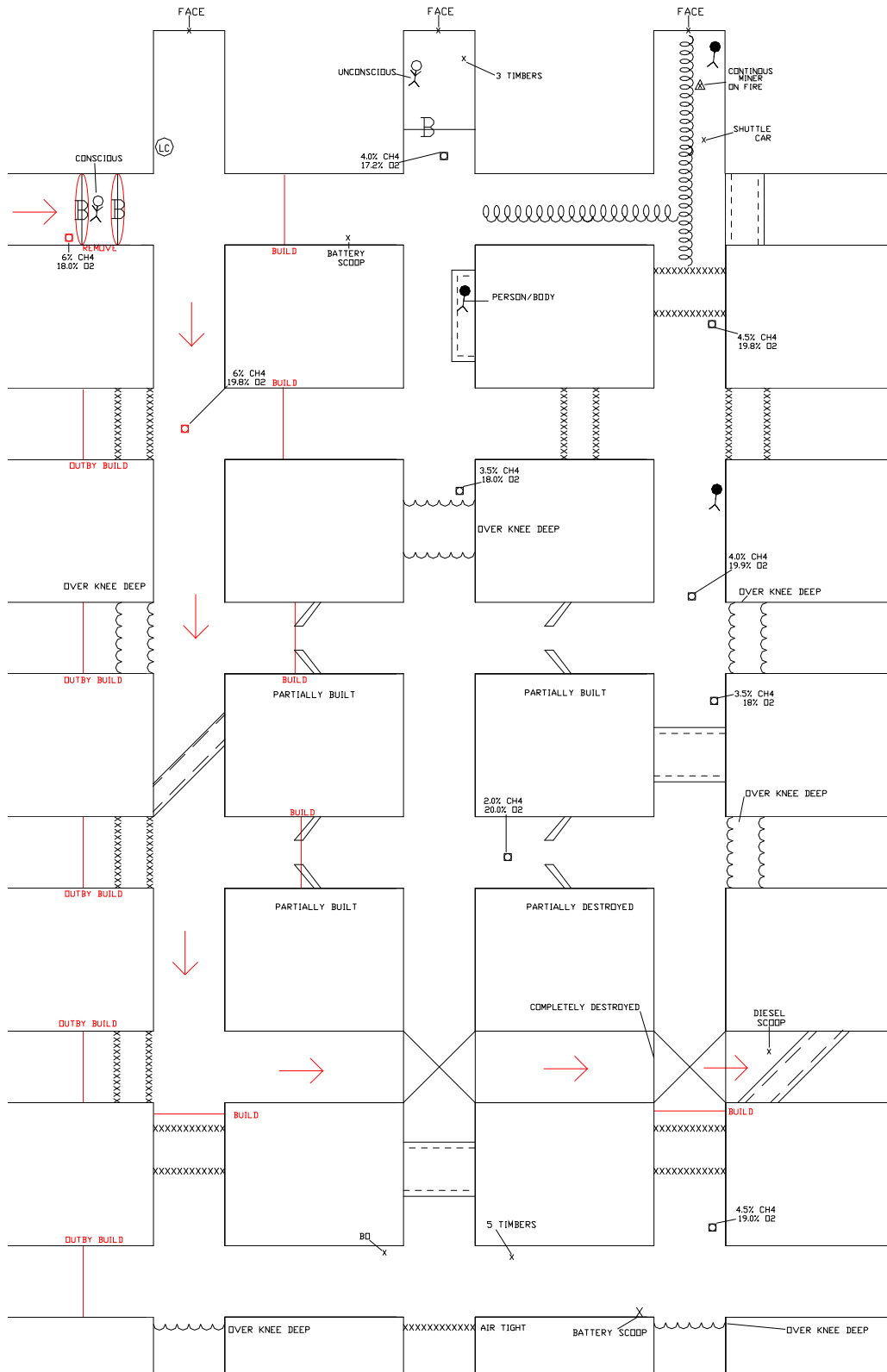
TEAM

— [ BUILT  
] STOPPING

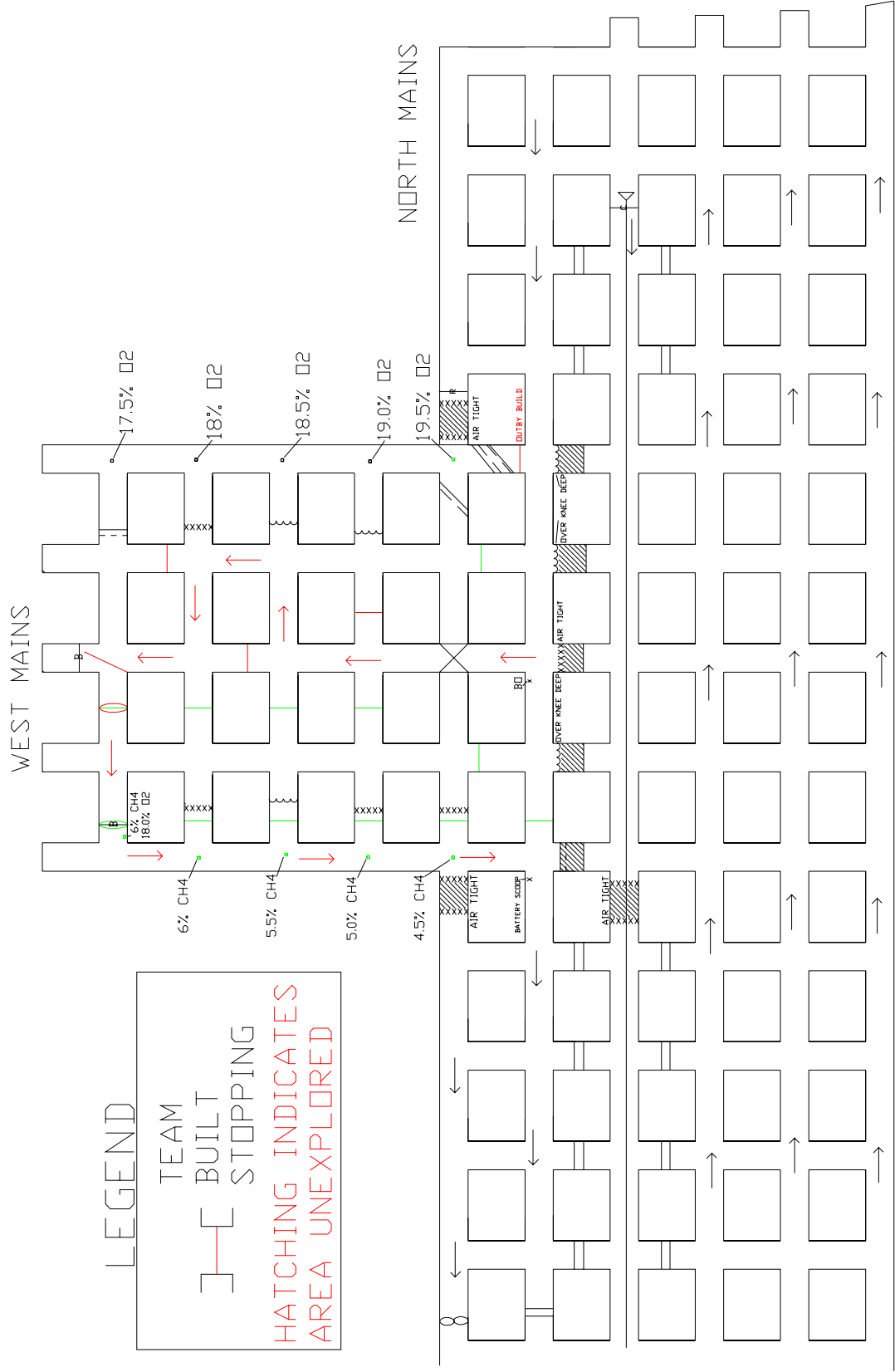
HATCHING INDICATES  
AREA UNEXPLORED



# VENTILATION #1 (FAN BLOWING)



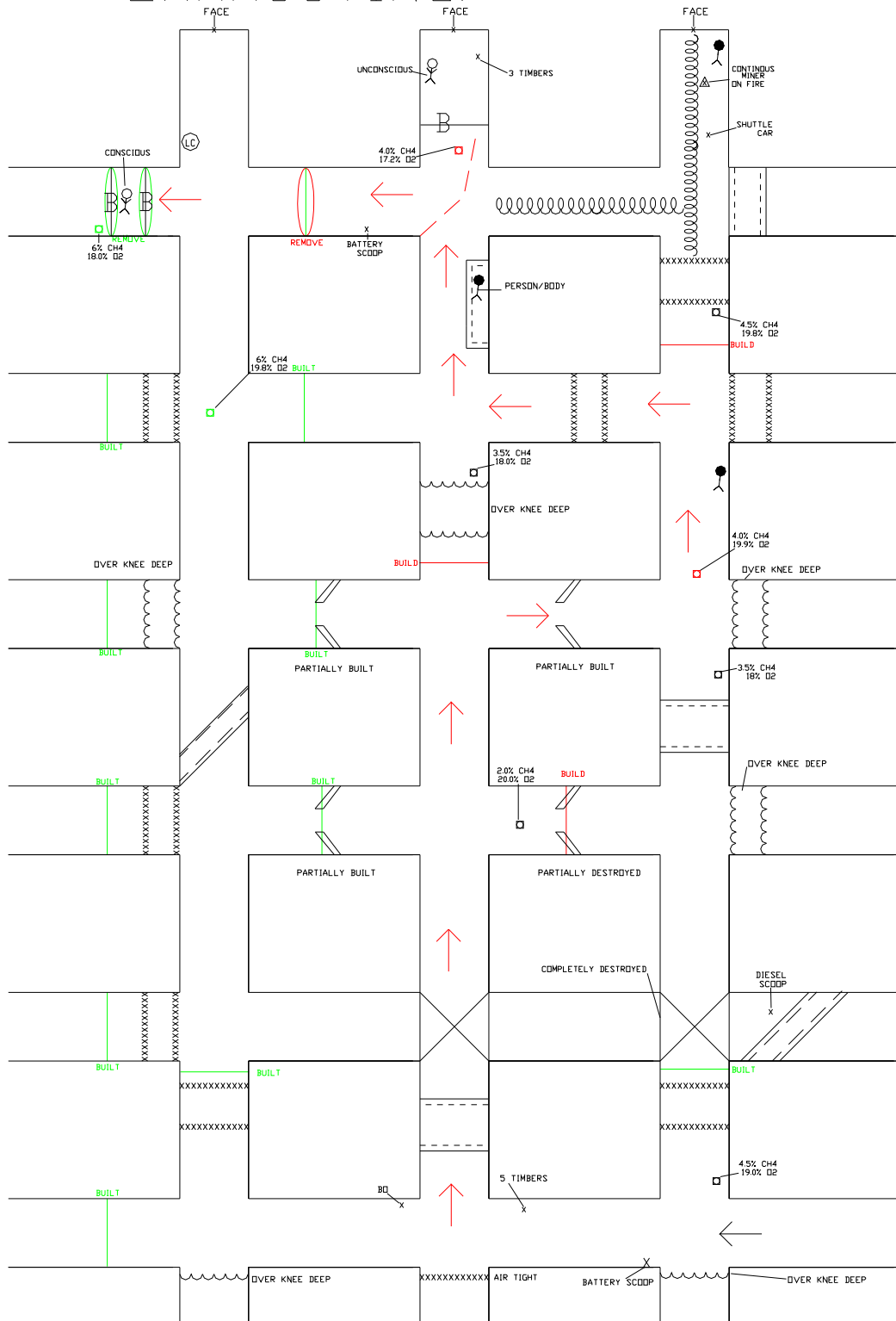
# VENTILATION #2



**LEGEND**

- [ TEAM STOPPING
- [ BUILT
- [ STOPPING
- [ HATCHING INDICATES
- [ AREA UNEXPLORED

# VENTILATION #2 (FAN EXHAUSTING)



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**Patient Statements**

**HELP! HELP!**

**IT IS AIRTIGHT ALL AROUND  
ME.**

**GET ME OUT!**

**GET ME OUT!**

# Final Ventilation Map

