

Day 2

Mine Rescue

Judges Book

Team Name _____

Team Number _____

Judges Name _____

Day 2 Alabama State Contest

Thank you for responding to our call for assistance. You will be the first team to explore the #3 section. Two people were doing maintenance on the section last night. They reported around 6:00 AM that they had a fire on the section but had it under control. When they did not respond to repeated calls it was decided to hold the day shift outside and send the mine foreman and fireboss to the section. They found the air short circuited in the crosscut just outby the section. They also found low O2 just inby in #3. It was decided that we needed the mine rescue team to explore inby. They established a Fresh Air Base in this crosscut.

The mine foreman and fireboss have made the rest of the mine. The #3 entry and the crosscut to the right of #3 are intakes. The #1 and #2 entries are returns. The #1 return has a small caved area just outby the Fresh Air Base. The rest of the mine is safe to ventilate through.

This section was driving towards an air shaft in the #2 entry and possibly old works in the #3 entry. The air shaft has been capped on the surface. Test holes were being drilled towards the old works. The map is not up to date.

Medical personnel are at the mine. The proper authorities have been notified.

We need you to find the two miners.

Day 2 Alabama State Contest

Problem

Find the missing miners and bring any survivors to the Fresh Air Base.

The fan is running exhausting and may not be reversed, stalled, or stopped.

The cap on the shaft may be removed but will be destroyed when doing so. It will take 24 hours to replace the cap.

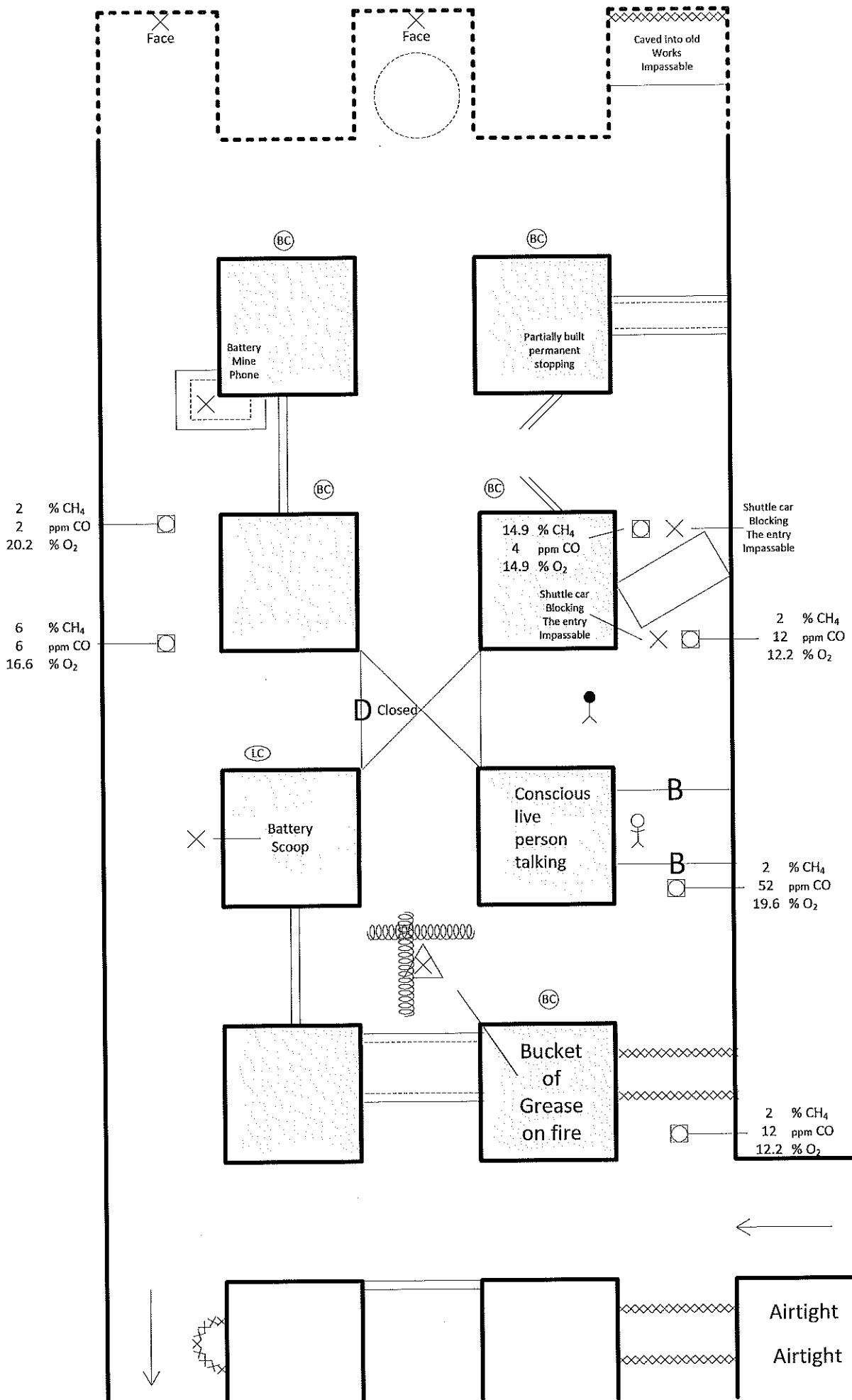
You have 75 minutes to work the problem.

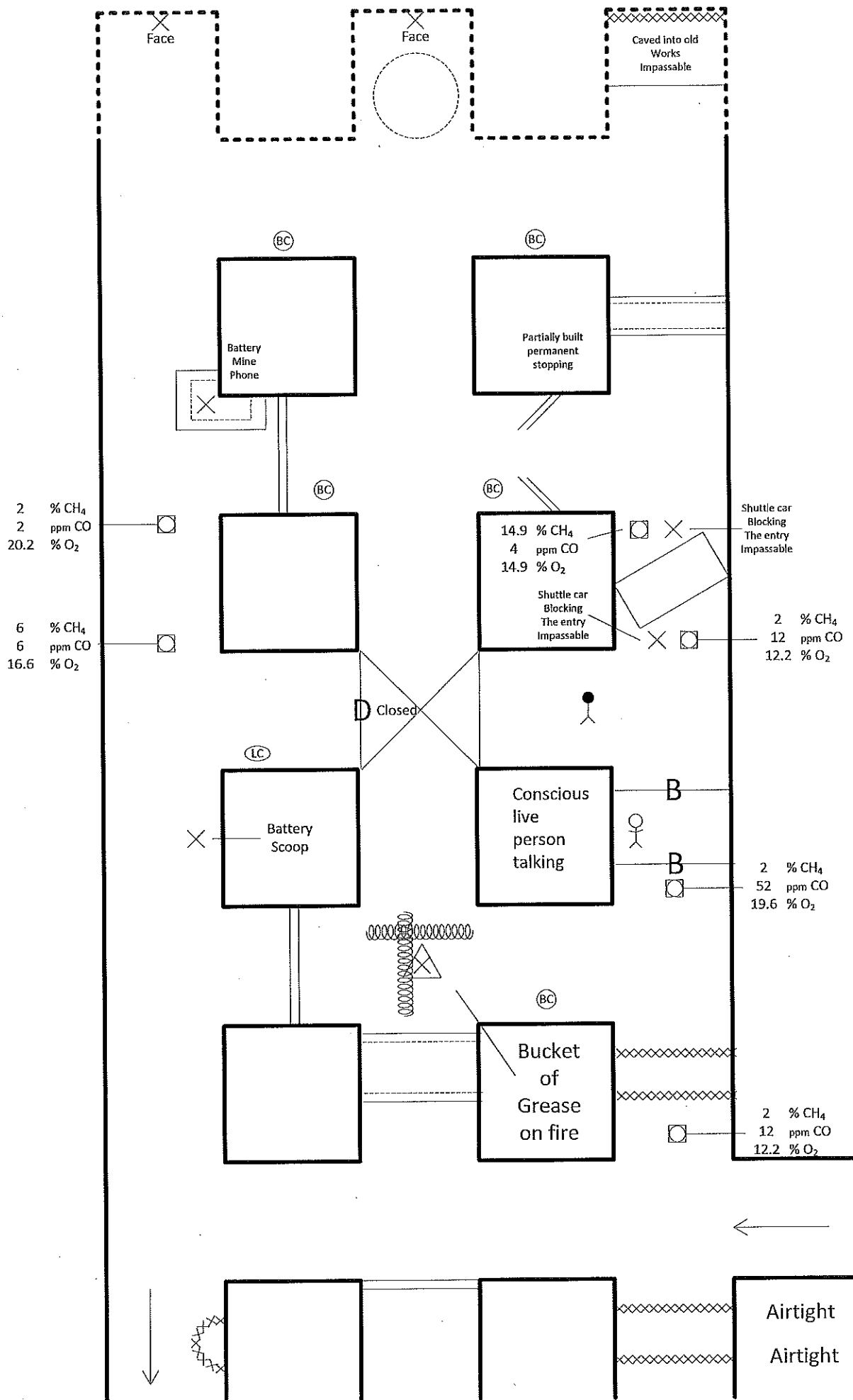
Day 2 Patient Statement

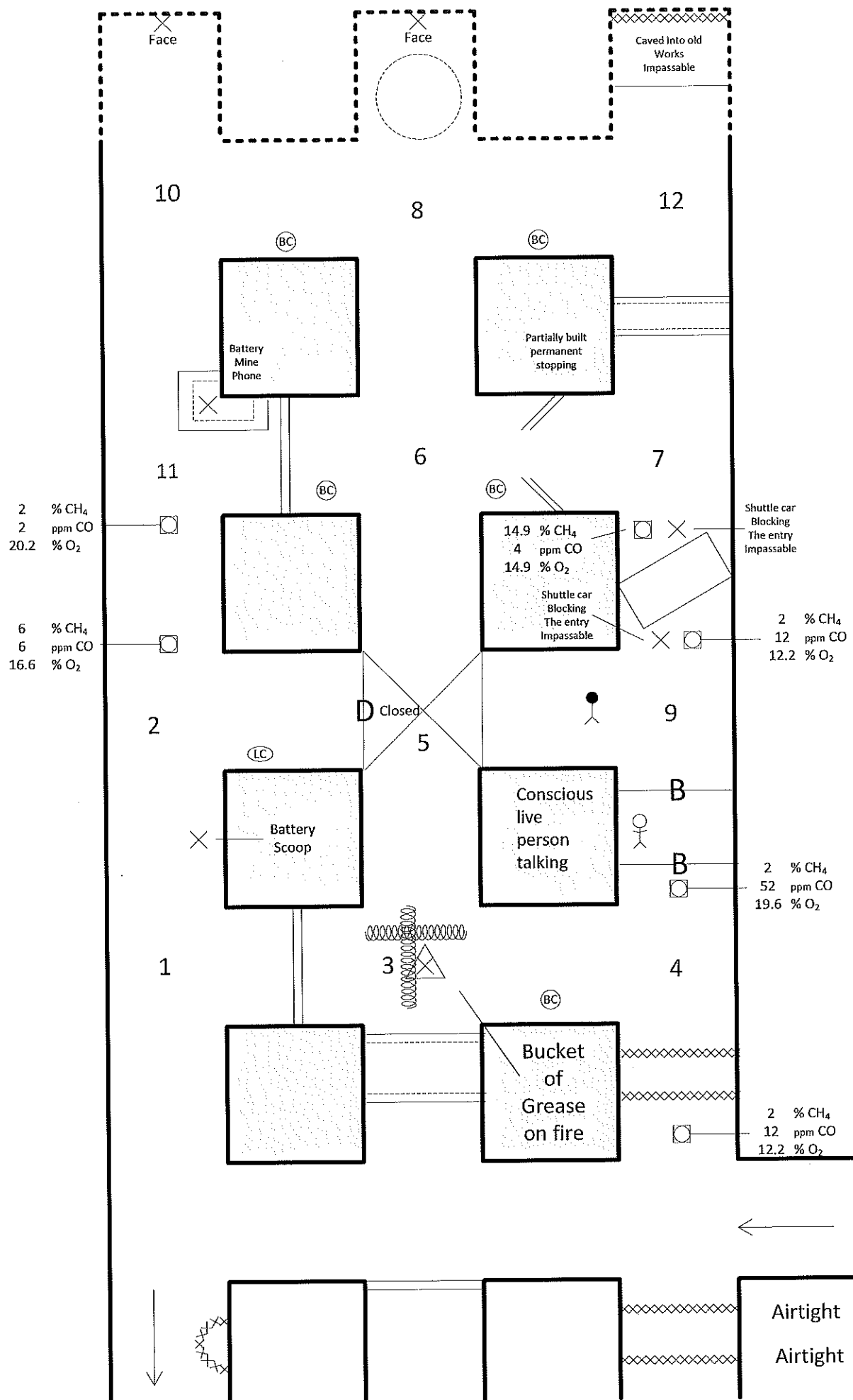
Help! Get me out.

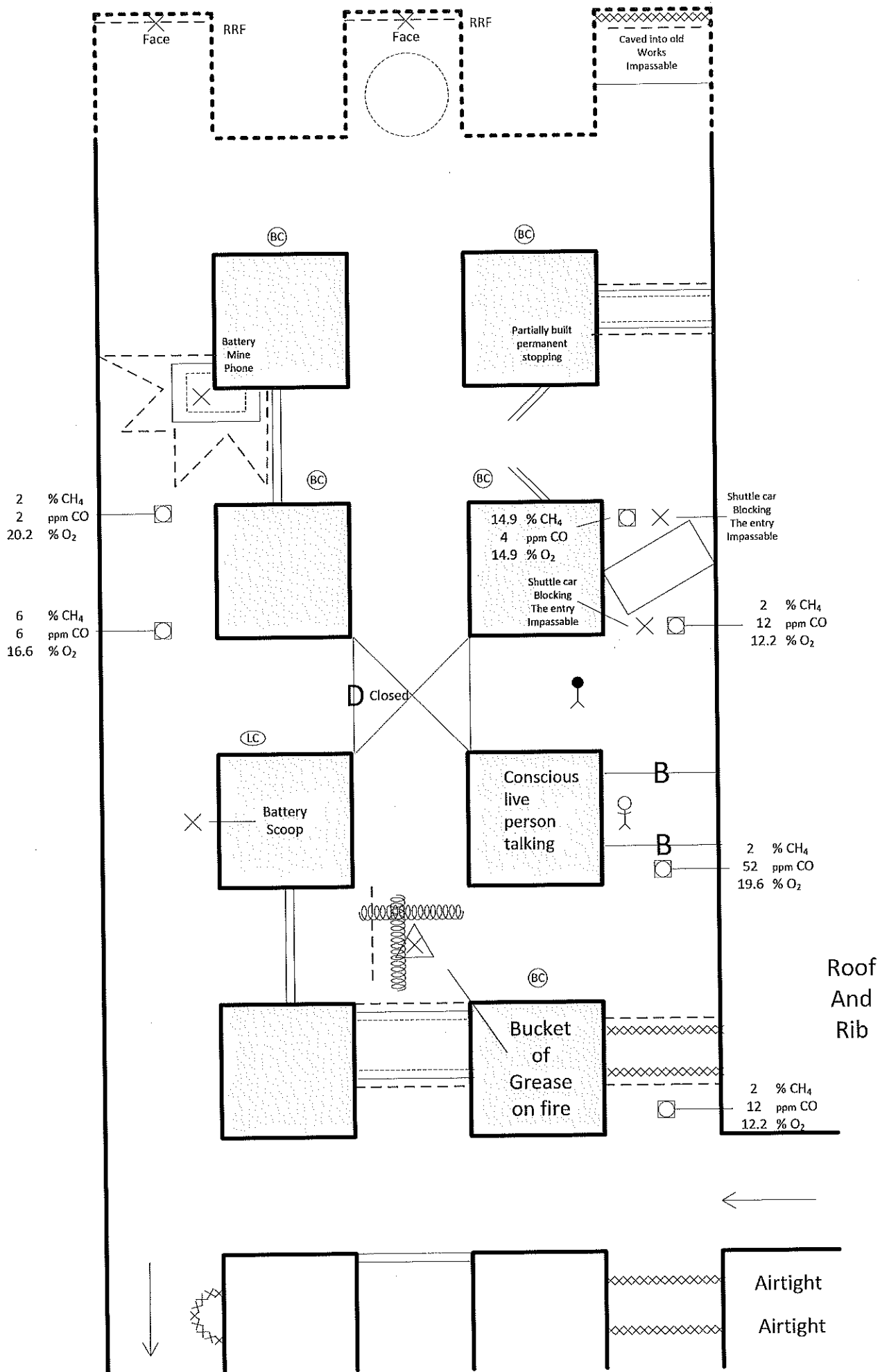
There is an airtight

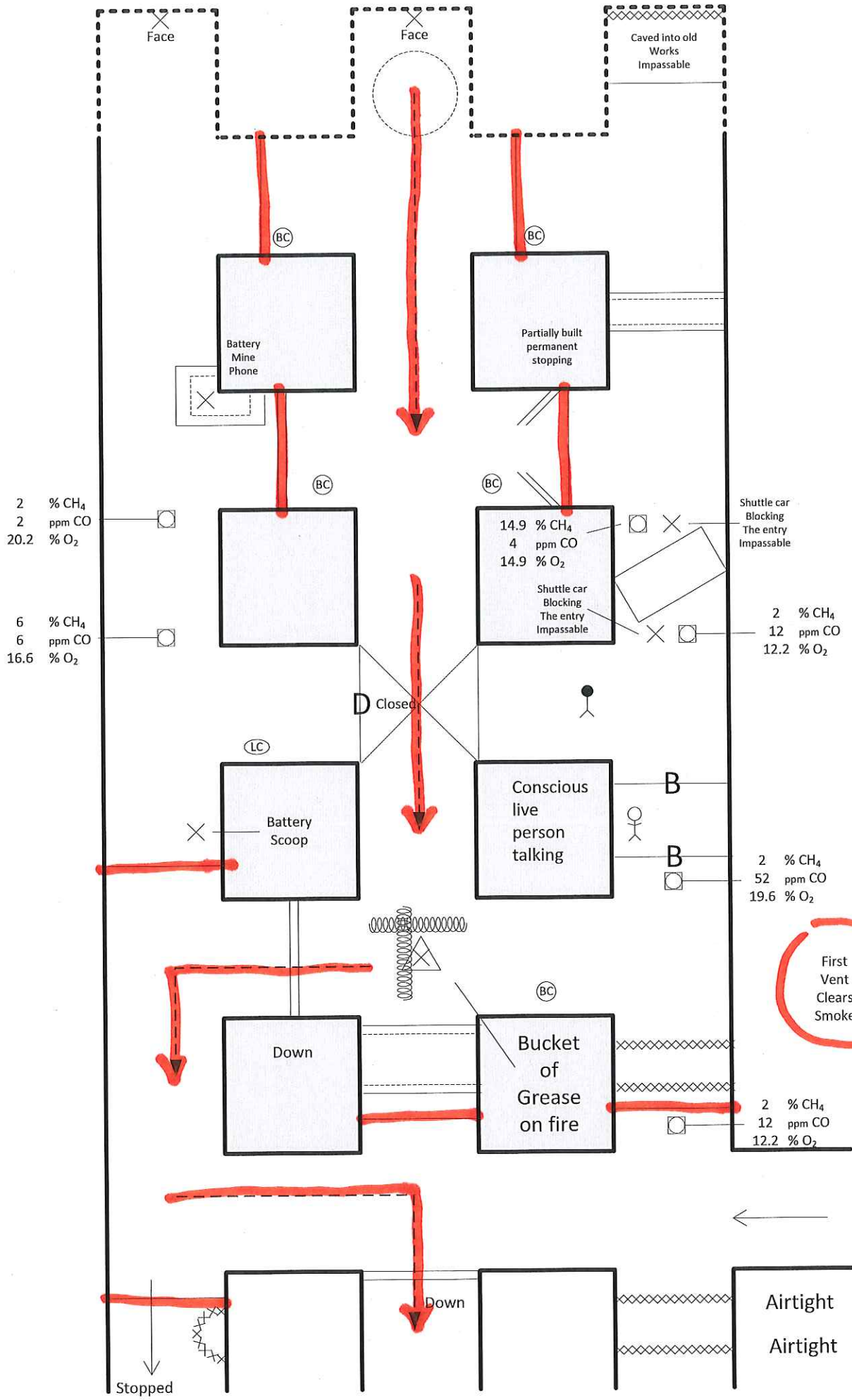
Barricade behind me.

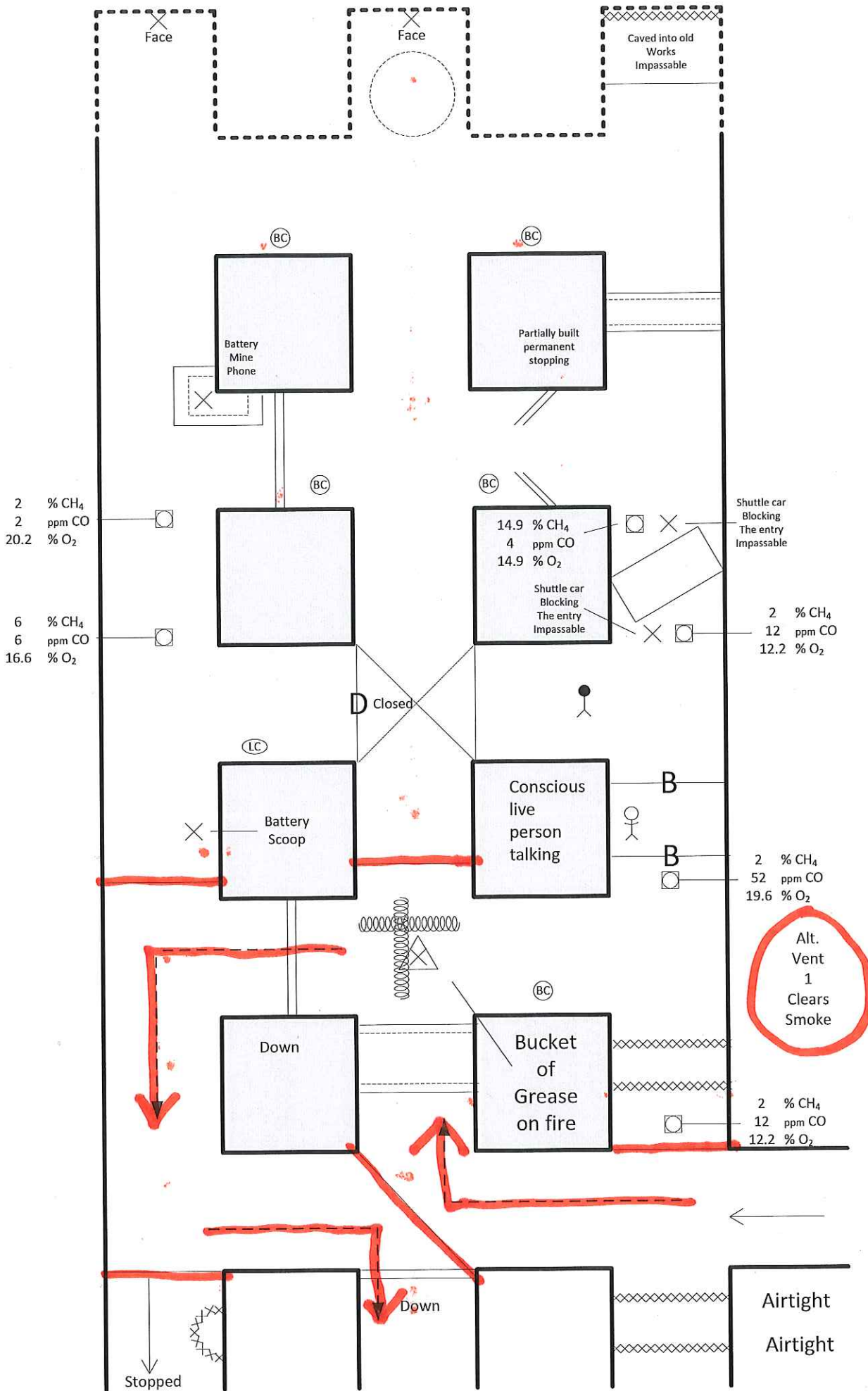


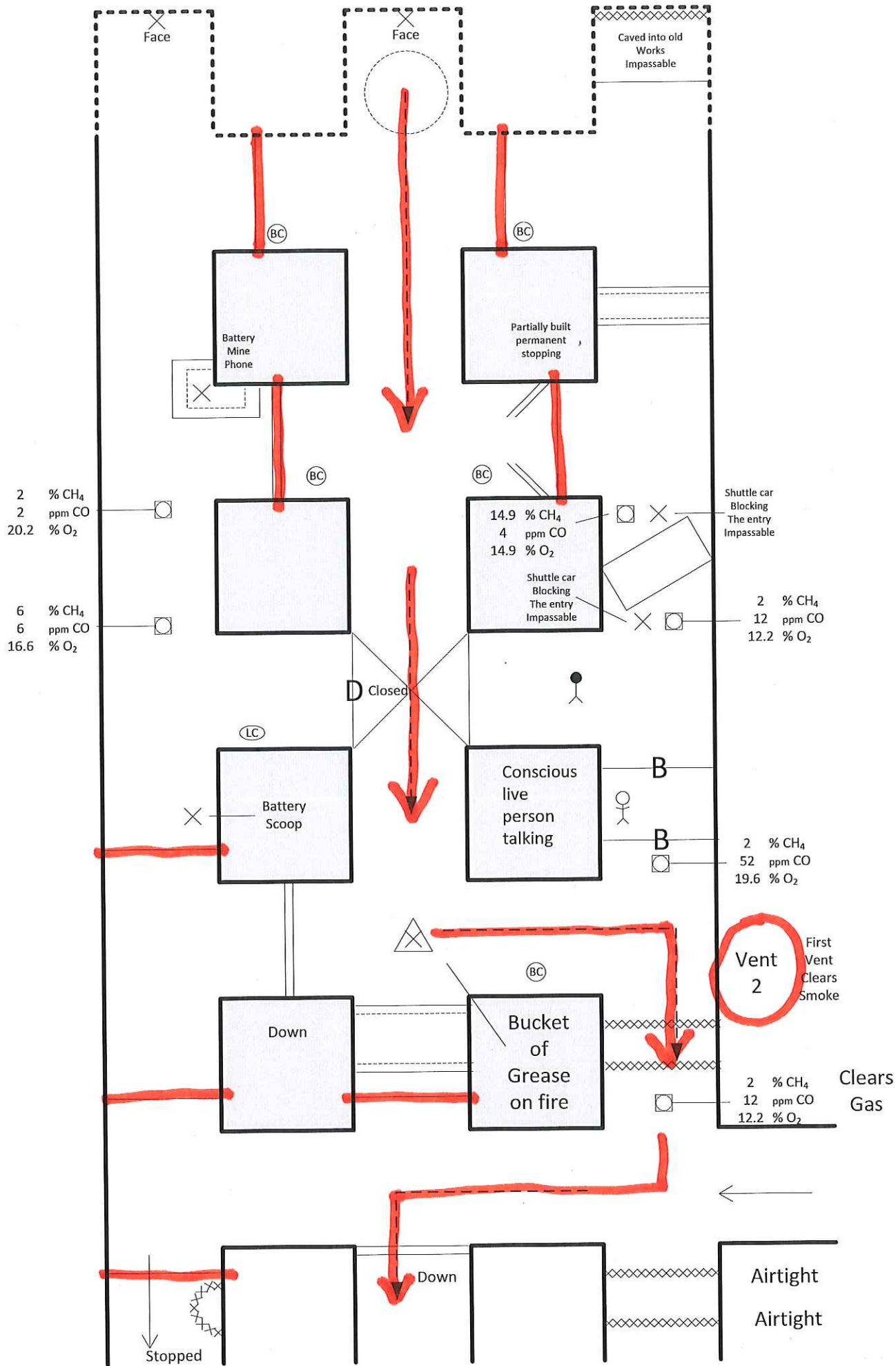


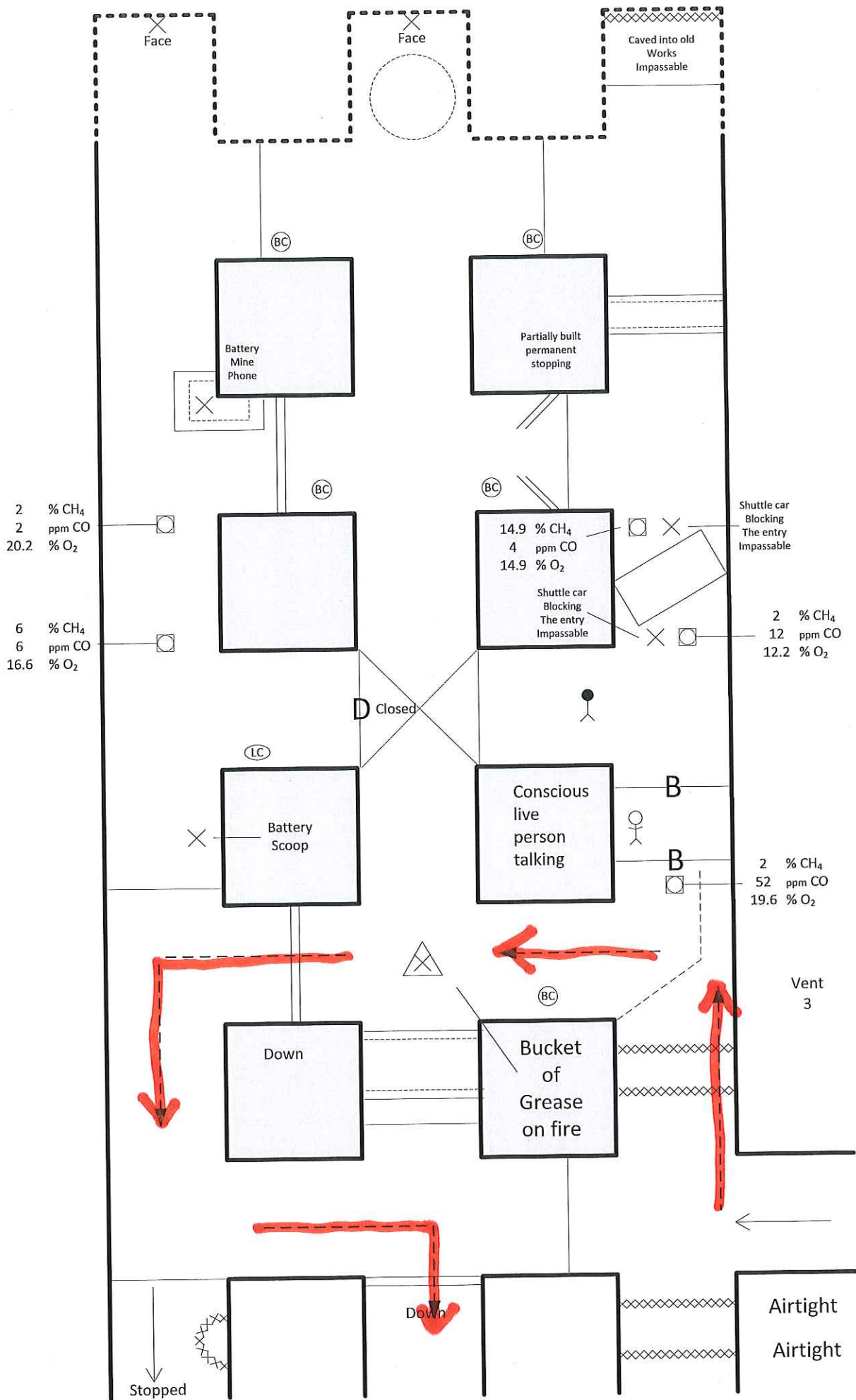


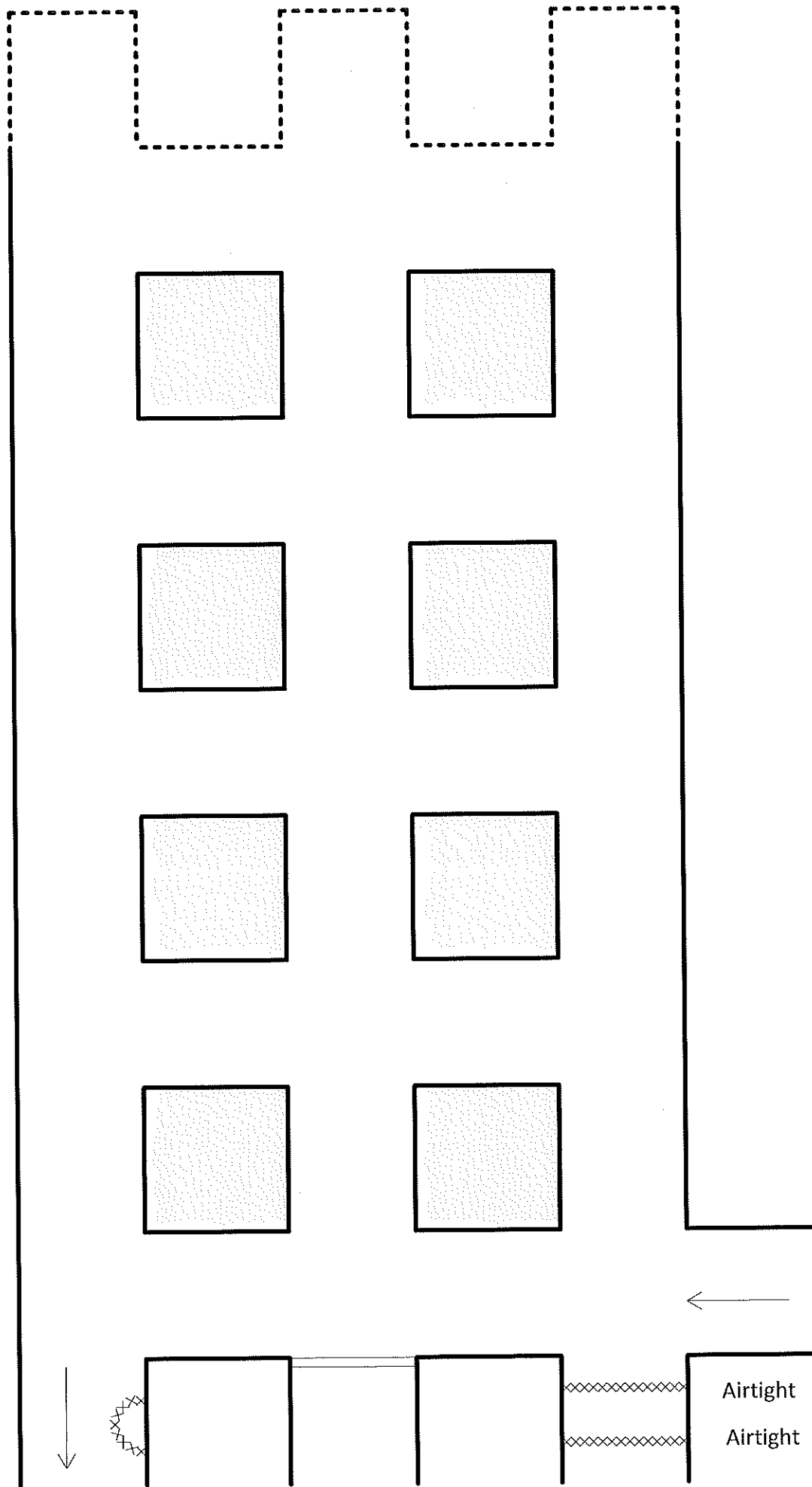


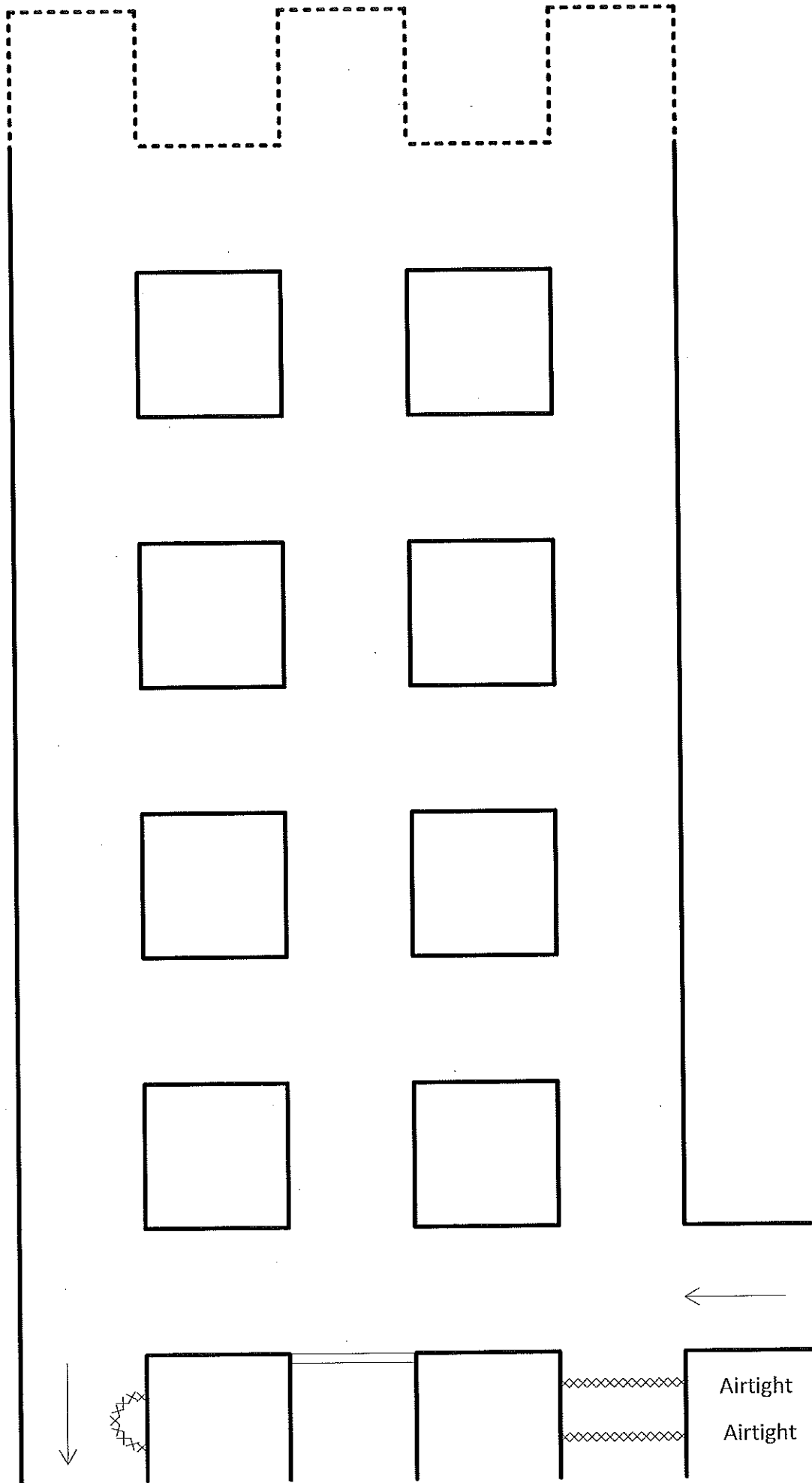












Day 2 Problem

The team will have 4 minutes to get ready at the FAB. Air is going across the FAB from right to left and exiting in the #1 entry. All areas outby have been explored and may be used for ventilation. #1 and 2 entries are returns. #3 and the crosscut to the right of #3 are intakes.

The team will explore team stops 1 and 2. At team stop 2 they will have to explore to the imaginary line of the inby intersection. They will find the extent of the explosive gas going inby. This is important when the team goes to team stop 3.

The team has now explored two crosscuts and must tie across in the first crosscut from 1 to 2. They will be required to make an air change and remove the stopping outby the FAB in #2 in order to airlock across. The team will airlock and proceed to team stop 3. The team may not recognize at this time that they can use the stopping outby in #2 to airlock. If not they will continue to explore straight ahead. They will be unsystematic and discounted 4 discounts (Rule 44E)

At team stop 3 the team encounters a bucket of grease on fire in the intersection. The captain will make a roof test perpendicular to the fire, a team member will make a gas test, and put out the fire. As long as the five man stays in clear air and the rest of the team holds onto the link line the captain and team members may finish the exploration at this stop. The captain must make a roof test at the outby unsafe roof. Reaching the imaginary line of the other two intersections could be difficult to reach and not exceed 25 feet. If the #5 man enters the smoke he must attach a life line in clear air.

At team stop 4 the team finds a barricade with a response. There is an airtight barricade behind him. The area behind towards the FAB is caved. The team is now required to ventilate the irrespirable in front of the barricade as soon as possible. They cannot at this point because of the irrespirable outby the caved in #3 entry. They must continue to explore.

At this point the team is free to travel either 1 or 2 entries. They must get on the lifeline and retreat past the fire. The captain must roof and rib the fire before the team passes the fire.

The team could choose to go to team stop 11 in the #1 entry. If they choose to the captain must perform a zig zag roof test for the unsafe roof. The team cannot

go any further inby because they would exceed the two crosscut limit without tying into #2 entry.

I believe most teams will go from team stop 4 to 5 but may go 4 to 11 then to 5. The team will make the overcast walls and the inby area.

The team should travel to team stop 6. At this stop the team finds a partially built stopping between 2 and 3. They also find two brattice cloths.

The team should travel to team stop 7. At this stop the team finds a gas placard outby and a shuttle car blocking the entry. By the new rule a gas test is required at an object blocking travel. This gas test will stop the extent of the gas at the shuttle car. This will come into play at team stop 9.

At this time the team has choices to make. They may travel to team stop 8. If they have not been to team stop 11 they may retreat and go to that stop. Should they choose to go to team stop 11, they would probably go from there to team stop 10 and then 8. Either route is systematic. Whichever route they take, when the team gets to team stop 8 they are able to ventilate the barricade. Any exploration into unexplored areas will be considered delay.

To ventilate the barricade will take at least three ventilations (see the attached ventilation maps). The shaft is capped on the surface. The cap may be removed but once removed cannot be recapped.

The first ventilation can be done two ways. The team must block the caved outby in #1 entry. They must keep the smoke from traveling through any unexplored area (unsafe roof at the entrance to #2 and caved at the entrance to #3). They must block any areas they do not want air to travel.

Once the smoke is cleared the team will need to remove the irrespirable outby the caved at the entrance to #3. Remember because a gas test is required at the caved the gas does not extend into the caved (new rule 24A) (second vent map).

The third ventilation will bring fresh air through the caved and the team will sweep the barricade (see vent map three). The team will recover the person and take them to the FAB.

The team may then airlock the second barricade (team stop 9). At this stop the team will find the gas going inby in #3 and the shuttle car blocking the entry. If the

team does not remember the rule change requiring a gas test at the shuttle car they may withdraw thinking there is no clear air separation between the evidence of fire and the explosive mixture. The team should explore the whole intersection at this stop but may stop at the body, FPA, and leave. They must FPA the map in every area they have not explored. Should the team choose to explore the rest of the mine it is not a discount but the team should be discounted for any required rule not followed, gas test, roof test, etc.

