

## Statement

Thank you for responding to our call for help this is the situation as we now know it.

Today we sent a four-man crew to an old section of this mine that has a bleeder to an old mined out set of rooms that ventilates out directly to the main return air course leading to the exhaust shaft. This roomed out area is separated from the air coursing across the bleeder by three stoppings and there is an evaluation point located there to monitor the area. The crew was to repair 2 of those stoppings that had been reported by the examiner as damaged and leaking when he made his exam last night.

At about 11:00am the crew leader called out that they had found smoke in the # 2 entry outby the bleeder line, and that he had a man checking it out. He also reported that he had traveled up to the stoppings and found two of the three stoppings down and open to the old roomed out area. He said that he had checked the evaluation point with an anemometer and had no air movement at the evaluation point also that the 4ft. X 4ft. door in the evaluation point wall was closed with the top working in front of the door. The crew leader was instructed by the responsible person to remove himself and his crew to a safe place outby then call out when they were safe. The crew never called out, and we have not been able to reach them by radio since then their tracking devices show them in that area.

We decided to call in the authorities and activated both of our rescue teams to try to locate our people. One team traveled up the main return entry from the fan to the backside of the evaluation point where they reported that the evaluation point wall was intact with the large walk through door closed in the wall as reported by the crew leader earlier.

That team also took a gas reading there at the evaluation point's return found the air there containing 5% CH<sub>4</sub>, 9 PPM CO and 13.0% O<sub>2</sub>. This team had a pack malfunction at that point and had to retreat from the area, but said the main return from the evaluation point to the exhaust fan shaft was safe and clear to ventilate through. The second team made it to the area where the repair crew left their mantrip about two cross cuts outby the bleeder line that is when the first team's pack malfunction so we pulled that team out also since they had no back up team. That team at the mantrip area reported air movement coming up the # 1 entry and returning down # 3 entry which is a return that is in common with the main return with no air movement inby towards the bleeder line. They also reported a caved airtight in # 1 entry, a stopping with a closed door in it in # 2 entry and a temporary stopping in #3 entry just inby the mantrip's location that are shown on your maps, and is now the fresh air base.

You are to explore inby the fresh air base location where the mantrip was found, and both of our teams are ready to be your back up. The exhausting fan is running but do not stopped, stalled or reversed the fan. The Maps are up to date only to the walls reported down that are separating the roomed out area from the last open to the main return. All authorities are on site, the mine is walking height, and accumulations of methane are common in the old works. Good Luck.

## **Problem/Instructions to the Team**

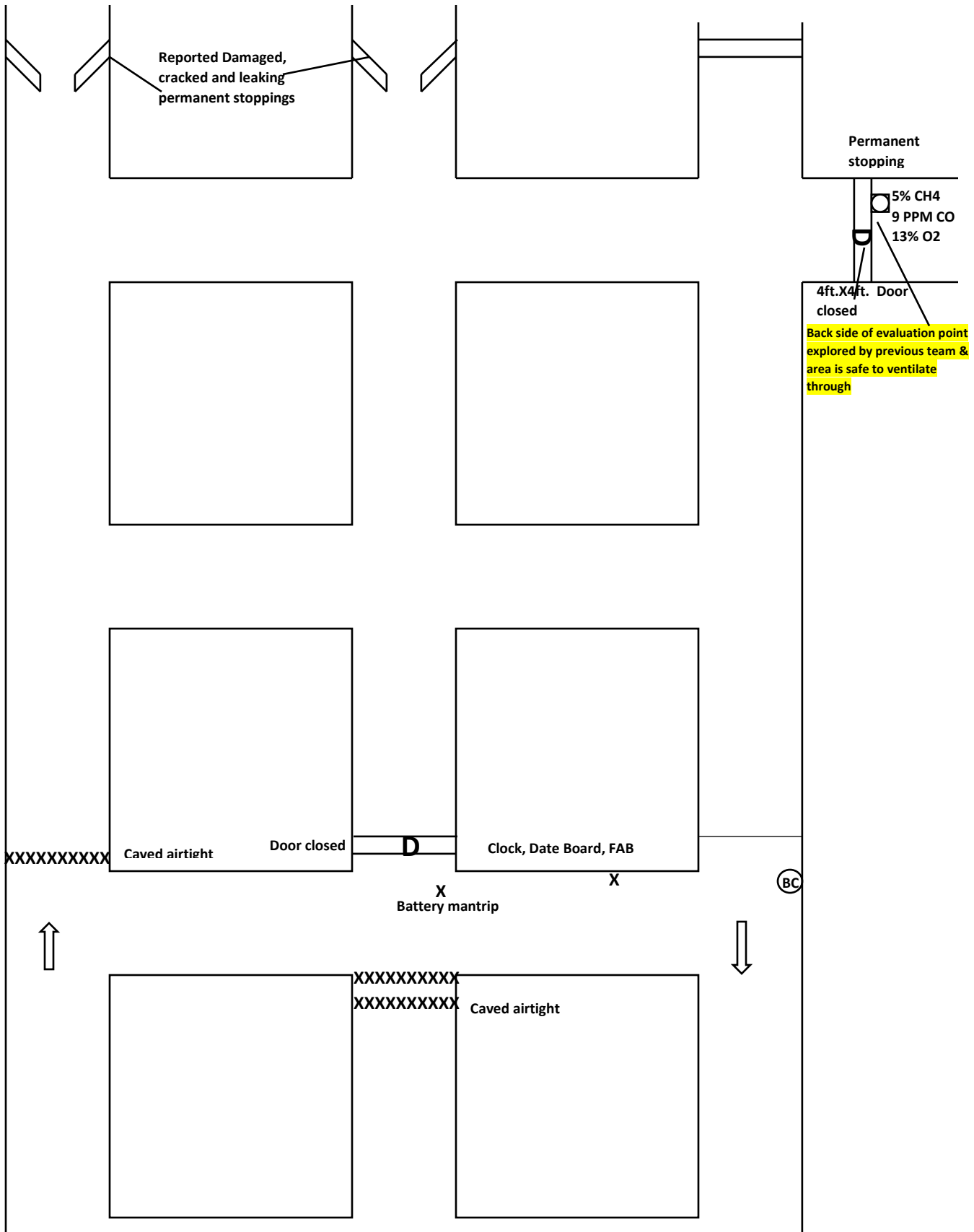
**Explore the entire mine that can be safely explored, located all missing persons and bring all survivors to the fresh air base**

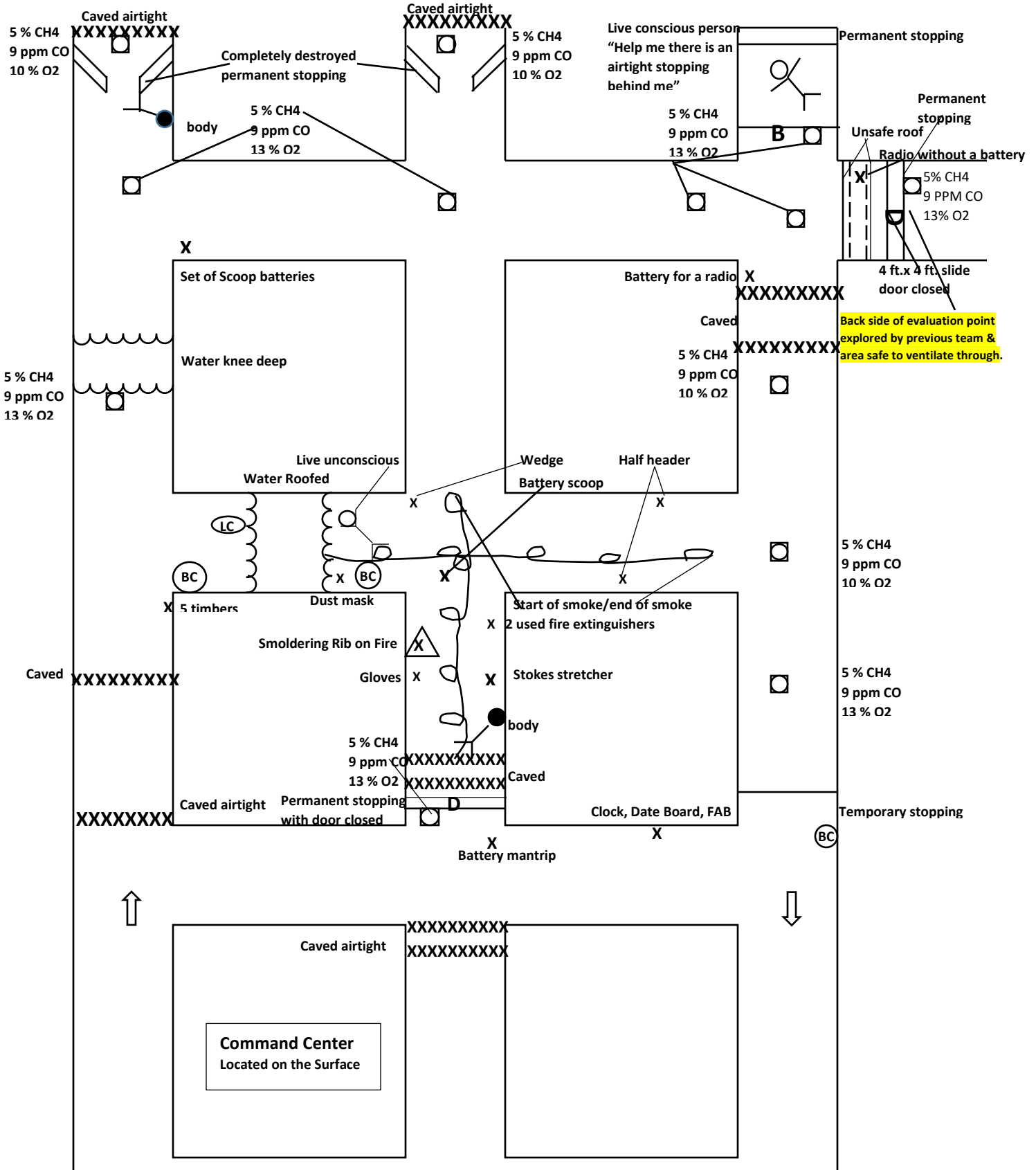
**Do not take the evaluation point wall down to relocate it you may open or close doors in it as needed**

**Any unconscious patient must be carried out to the fresh air base using a stokes stretcher**

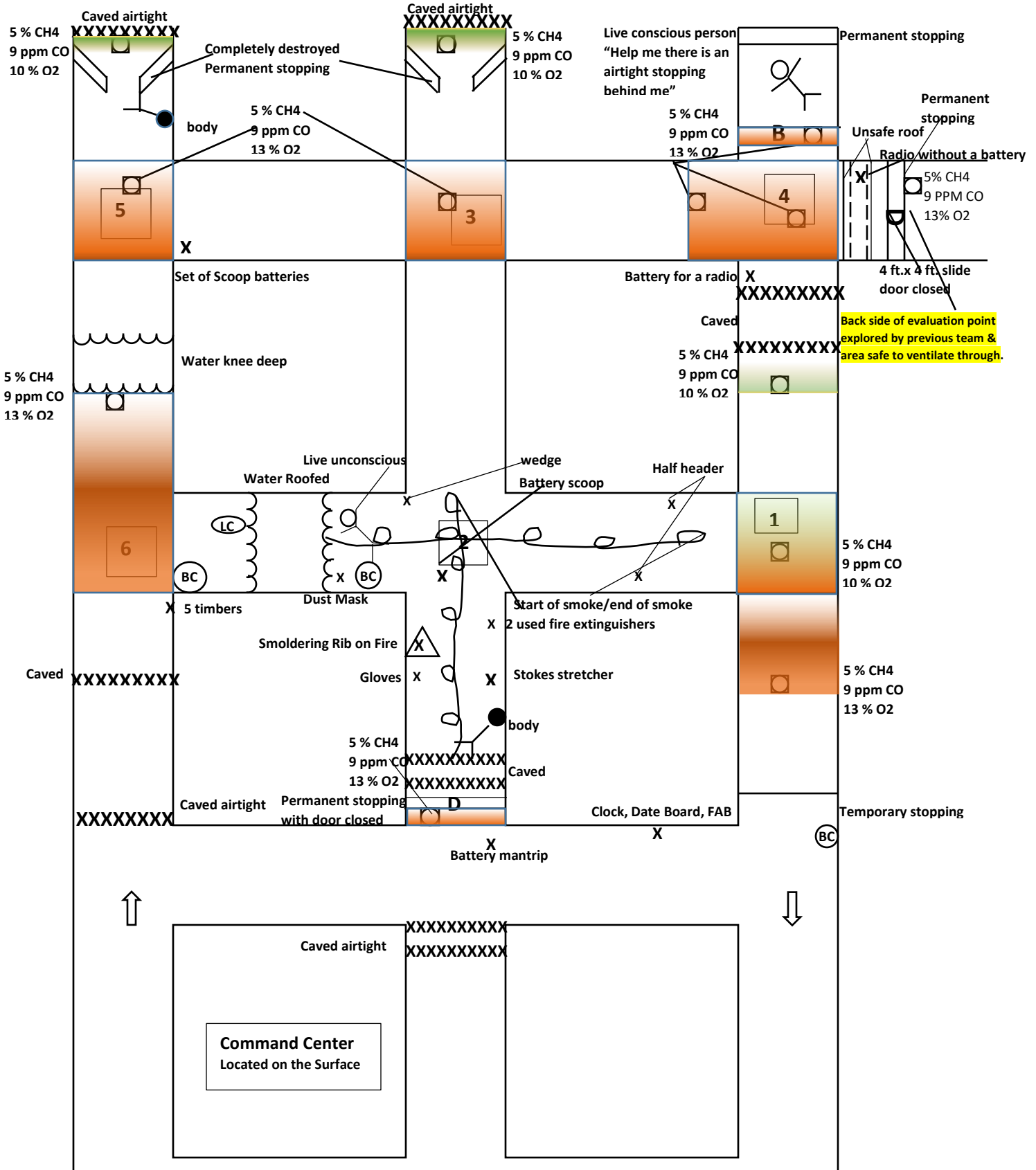
**You will have 60 minutes to work this problem**

**All ventilation changes must be acknowledged by the Fresh Air Base Superintendent with a verbal response**

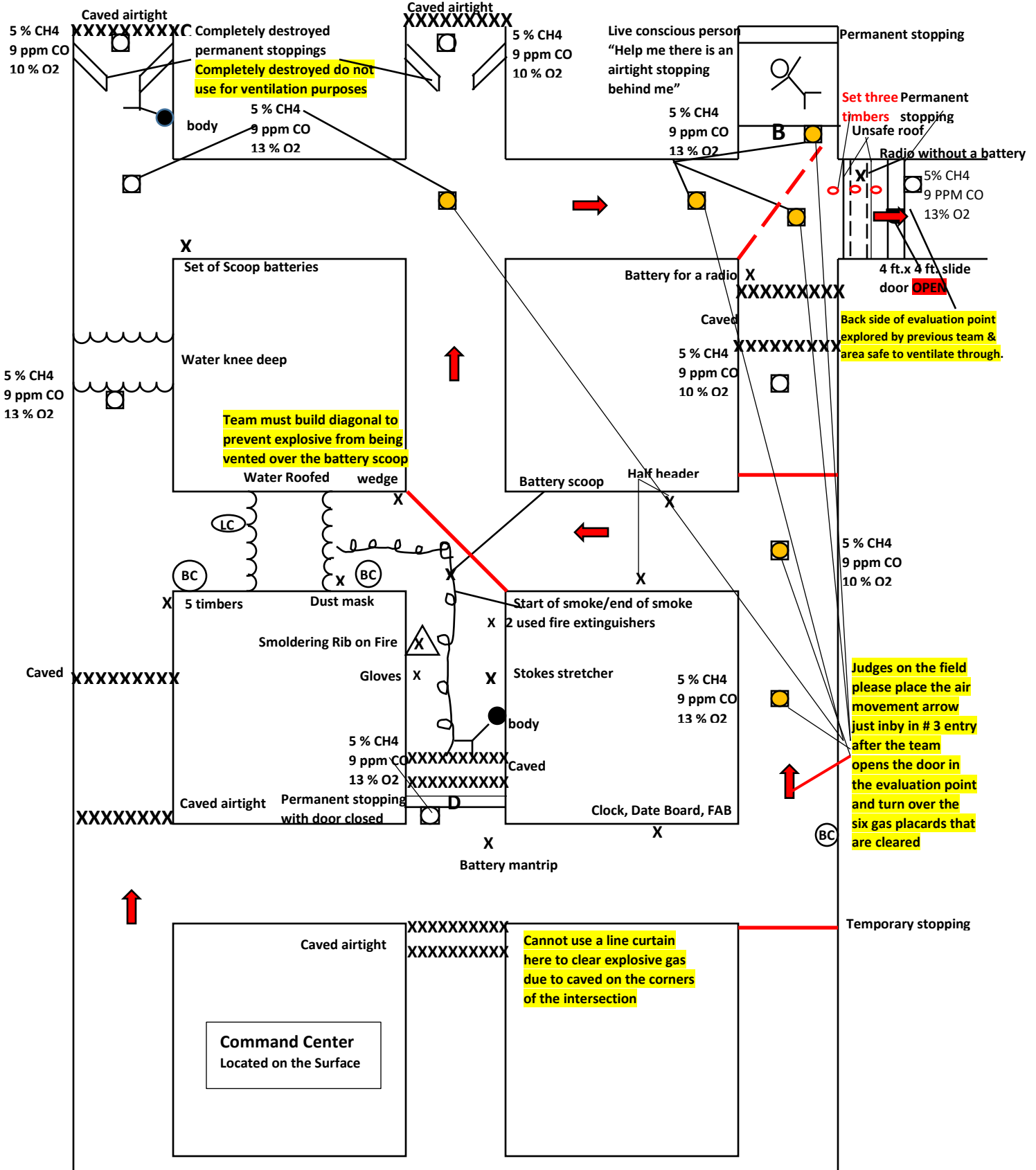




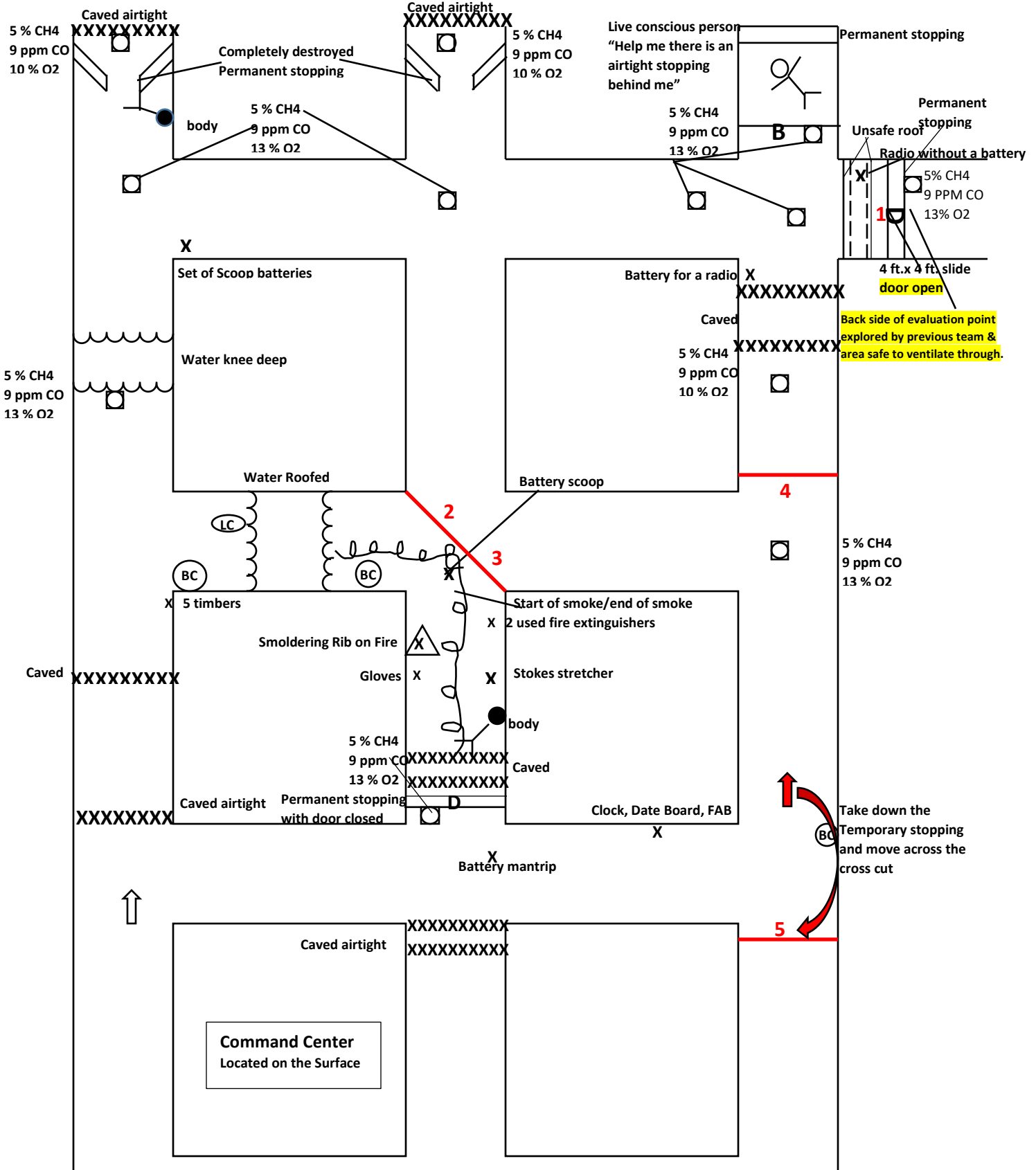
# Team Stops and extent of Gas



# Ventilation Map



# Ventilation building sequence



## KEY POINTS

Teams will need to airlock into the unexplored area since there is air movement indicated across the fresh air base and the “Statement” given the team states that the missing crew found two of the three walls down at the roomed out area, and under Rule 42 conditions behind which are not known and airlock is required. If airlocks are not maintained air could migrate outby down # 3 entry if the area behind the reported stoppings were open. Since they are not, (as the team will find out as they explore) the team should be discounted under Rule 42 for not knowing conditions behind the airtight separation if they do not air lock into # 2 and/ or # 3 entries.

Since the team has just one brattice build available to build in at the fresh air base the area at the stopping is slightly more limited for room than at the stopping in # 3 entry so teams may elect to just build in with two people in # 2 since the area will need explored. If they airlock in here, they will find a caved area just inby the stopping that blocks their advance inby.

The team must advance up # 3 entry for team stop # 1, and the first pack check will be made in the airlock. As the team advances up to the first intersection in # 3 entry they will pass through an explosive air gas mixture that will extend inby to the outby imaginary line of the intersection in this case because there is a non explosive irrespirable gas mixture in the intersection. Team stop # 1 is in A-line of # 3 entry where there is an irrespirable gas mixture in the intersection, (don't make the first stop in the airlock team stop # 1 for purposes of this explanation). The team can make its reach inby to the caved area where they find another irrespirable gas mixture that extends to the caved but not into the caved area. In the X-cut toward #2 entry in A-line the team encounters smoke they can break the plain of the intersection and take a gas test without getting into smoke. If team members make their reach toward # 2 entry the entire team must be attached to the link line prior to any team member entering smoke. Before the team advances into smoke, (this means the # 5 man moves) toward # 2 entry in A line the team must be attached to the link line and the # 5 man ties off in air clear before advancing into smoke as a team.

Team Stop # 2 is in A-line in # 2 entry where the team finds a battery scoop in the intersection outby of the center of the intersection. Inby the team while making their reach the team will find air clear of smoke on the imaginary line, toward # 1 entry they will find a live conscious person. This person must be touched by hand by the captain, a date and initial before the captain passes that person. An assessment made by any team member on the patient, the patient must be protected by breathing apparatus, or carevent not an SCSR since the patient is unconscious. The patient must be loaded properly onto a stokes stretcher, (per instructions to the team), and covered with a blanket to be transported out of the mine. While

this is being done the captain will extend his reach toward # 1 entry and find water roofed blocking his advance requiring his date and initials and a gas test. Teams may elect at this time to take the patient outside to the fresh air base. They can however make their reach outby in # 2 entry where they will find a fire that will need extinguished, a roof and rib test made prior to extinguishing the fire and a gas test made. Remember they are still in smoke and connected or attached to a link line during this. As the captain reaches outby after extinguishing the fire he will find a body which requires his contact by hand and a date and initial, then a caved area that requires a roof and rib test made a gas test and date and initials also. Teams may reverse this sequence depending on if they go outby first or into the cross cut.

Team stop # 3 in B line of # 2 entry will find a set of scoop batteries in the X cut toward # 1 entry, inby they will find a completely destroyed stopping, an irrespirable gas mixture and a caved airtight. The team will need to advance over to # 3 entry to tie through the open X cut first because of the contaminate/ explosive air gas mixture in the X cut toward # 3 entry.

Team stop # 4 will be in B-line of # 3 entry due to the contaminate in the cross-cut , as soon as the captain enters the intersection in B line of # 3 entry have the patient start yelling, (Help me there is an airtight stopping behind me). The team will find the irrespirable in front of the barricade and at this time they do not have the means to sweep it away. They have not found any timbers to post to the Bleeder evaluation point either and they cannot ventilate outby down # 3 entry due to explosive mixtures, unexplored areas and ignition sources. If they go to the caved outby in # 3 entry they will find a battery for a radio. It cannot be moved into the intersection since there is an explosive air gas mixture in the intersection. At this time so they must continue to explore.

Advancing back over to # 1 entry for team stop # 5 though the cross-cut the team will encounter a set of scoop batteries in the cross-cut toward # 1 these batteries are not in any explosive atmosphere so it is not a withdraw situation. The team will encounter a body on it's reach inby which will require the captain's touch by hand and a date and initial. The stoppings in # 1 and # 2 are completely destroyed and cannot be relocated for ventilation purposes. Then a caved airtight inby the completely destroyed stopping.

Reaching outby the team encounters water knee deep this is a passable depth and will not stop them.

Advancing outby in #1 entry the to team stop # 6 in A line of # 1 entry where the team encounters 5 timbers and a caved area. In the cross cut toward # 2 entry in A line there is a brattice build and a line curtain then a water roofed. The team now has the means to sweep the barricade and timber through to the Evaluation point, but can perform all functions at this stop before returning to set up ventilation regardless if they went to the x- cut first or second.

It is important how the team sets up their ventilation since their instructions say not to stall or stop the fan allowing air to migrate outby down # 3 entry. If they do not block # 3 entry this would allow the air to split at the fresh air base and not all the air from one opening would course inby to clear the barricade. So the 4 ft. x 4 ft. door must be opened, all ignition sources blocked. This will require three builds to be used before removing the temporary stopping at the fresh airbase in # 3 entry and building it across the cross cut in # 3 entry just outby the fresh air base. (See ventilation sequence map) **JUDGES please flip the gas placards in the line of ventilation and move the air movement air placard just inby the fresh air base in # 3 entry pointing inby after the wall in # 3 entry is built. If the wall is not up in # 3 entry then air splits, air migrates, but no gases are cleared.**

Then the team must request the ventilation change of the superintendent per written instructions, and the team must re-test 4 gas placards returning to sweep the barricade.

Sweeping the barricade clears the explosive/irrespirable gas mixture at the barricade and since the person behind the barricade said it was airtight the team does not need to airlock in to get him. Then once the team gets to him they can bring him out without a SCSR or other protection.