

Statement

Thank you for responding for our request for help this is the situation as we know it at this time.

This is a two section mine, the mine roof is supported by roof bolts, and there have been some problems with methane accumulations also. There is a dip in the mine floor that runs through the mine in the area to be explored which will allow water to accumulate quickly if it is not pumped.

The section that is to be explored is mining toward a bleeder air shaft that we plan on using to improve the mine ventilation. On the afternoon shift the section foreman called out at the end of his shift and reported that they had mined into the bleeder air shaft and that he would be leaving two men in to bolt and clean the last two mine cuts. Then at about 2:00 a.m. a severe thunder storm passed through the area knocking the mine power. Efforts to reach the two men on the section by radio to tell them to come outside failed so after the power was reset the foreman went into the mine to find the men. He encountered high levels of methane and low oxygen so he returned to the surface to call in rescue teams. The two missing men's mine tracking devices indicated that they are still on the section.

Federal and State authorities are on site along with several rescue teams that can serve as your back up while you are underground. We have established a fresh air base about three cross cuts outby the reported location of the bleeder air shaft. The intake air is moving up the # 1 entry across the fresh air base and down the # 3 entry which is the return. The mine fan is in exhausting mode and it cannot be stopped, stalled or reversed we want it to remain running. We have re-established power to the fresh air base where there is a switch that will turn on a portable pump that is located inby the fresh air base. We have used this portable pump to control the water that accumulates in a dip that extends across all three entries in this area of mine.

The mine maps that you will be provided are not up to date, the projected location of the bleeder air shaft is shown on the maps provided to you.

You will have four minutes to set up your equipment before your captain starts the clock or it will be started for you at the end of the four minutes.

Good Luck

2.

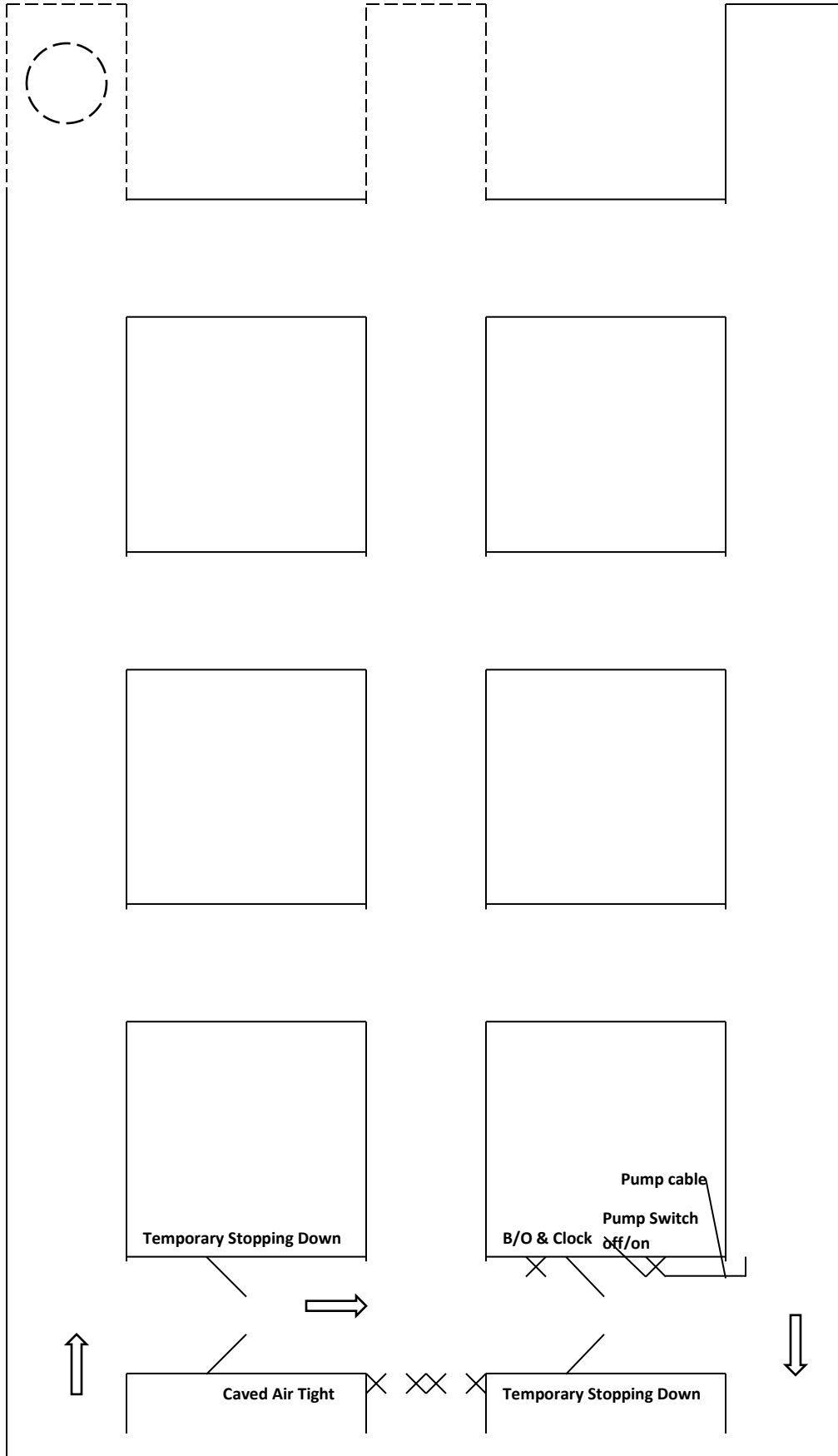
Instruction to the Team

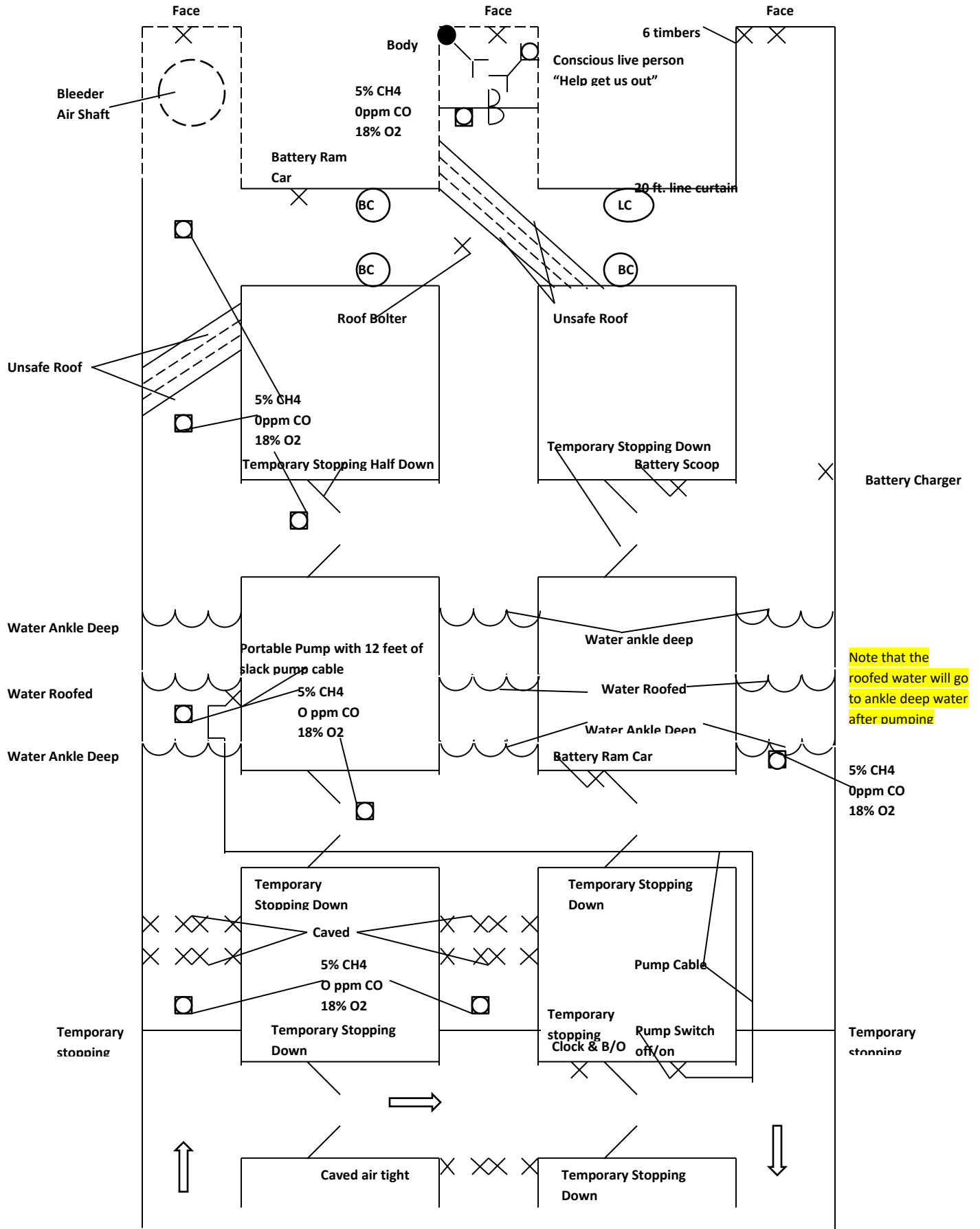
Explore all areas of the mine that can be explored safely

Bring survivors to the Fresh Air Base

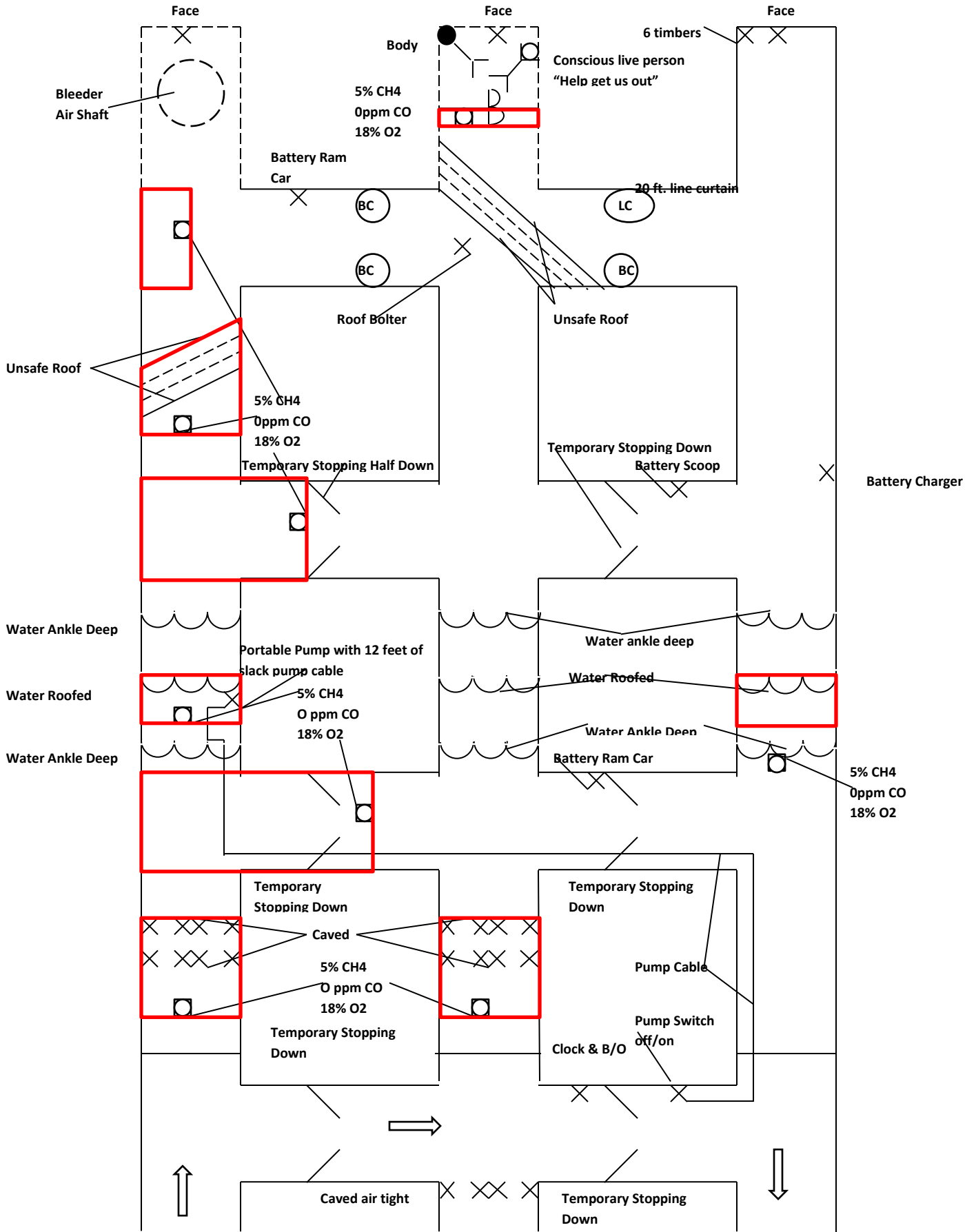
The fan is exhausting, running, and cannot be stopped, stalled or reversed

You will have 55 minutes to work this problem at 5 minutes left in the problem your team will be given a warning that your team has five minutes left.

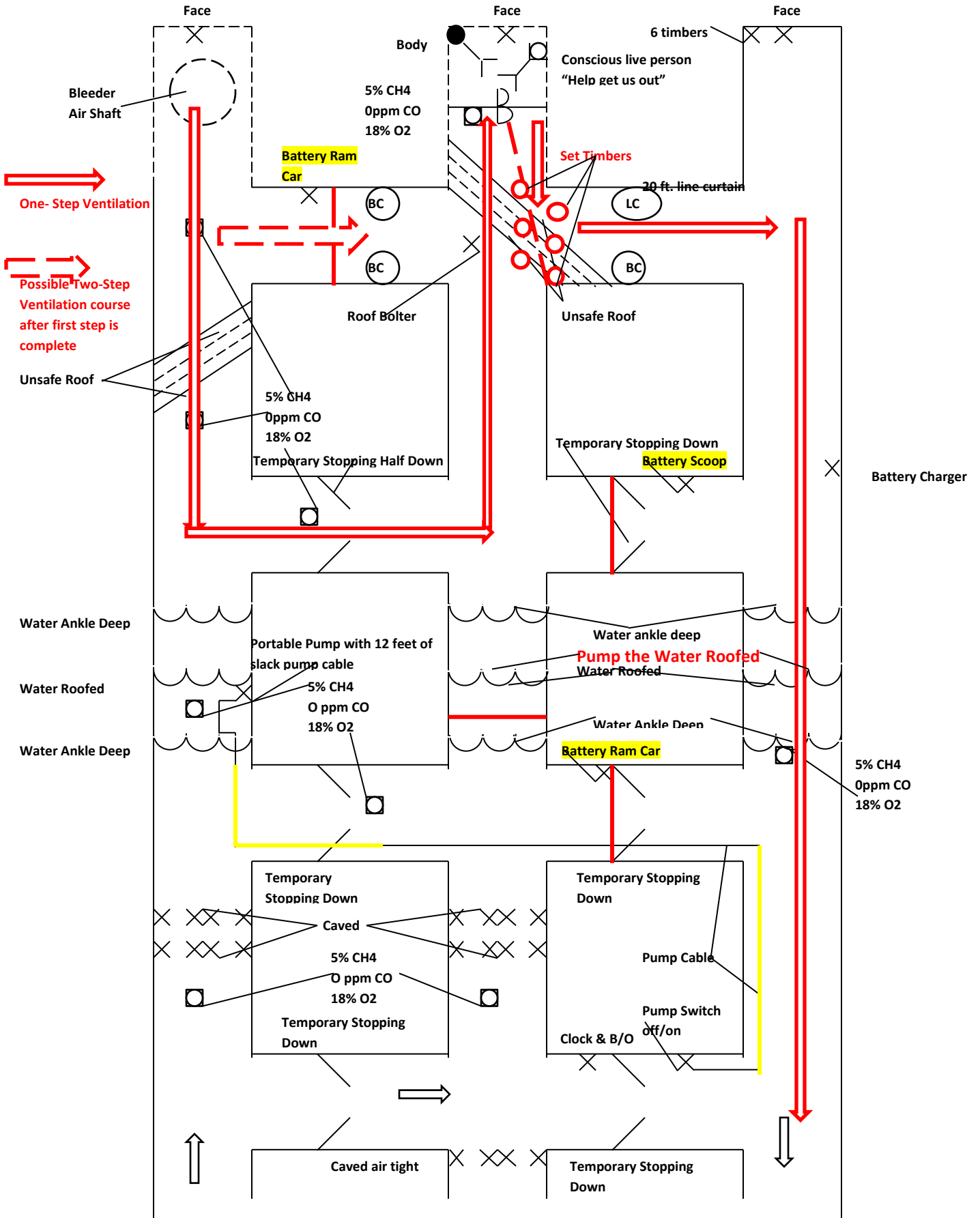




Extent of Gases after Initial Explorations



Possible Ventilation and Ignition Sources



Under the Fresh Air Procedures of the NMR Rules when the team arrives at the Fresh Air Base the judge will identify himself to the captain and the briefing officer and start a four minute countdown clock. After the four minutes is concluded if the captain has failed to start the timing device the judge will start it for him and the team should be discounted under Rule 50.

At the fresh air base during the four minutes the team may position their equipment and make ready for starting the clock however no work may be done prior to the clock being started. The captain is required to date and initial the check in board at the fresh air base under Rule 26 and this must be done after the clock has been started but before the entire team goes in by the fresh air base. All entrances must be examined and gas test made in them under Rule 24 c before the entire team goes in by the fresh air base. Teams may elect to build in to explore behind the temporary stoppings across # 1 and # 2 entries just in by the fresh air base before advancing in by the fresh air base or after they have explored in by, but these areas will need to be explored before the team exceeds the 2 break limit. **Please note that the gas encountered in direction of travel will extend into the caved areas in # 1 and # 2 entries under Rule 24 E paragraph 2.** The caved areas in #1 and # 2 entries will require a roof and rib test under Rule 23 and the captain's date and initial under Rule 27. Once the team has completed all functions required for fresh air base procedures such as the examining of instruments, the establishing of communications, and going under oxygen. The entire team may enter the mine by means of air locking in # 3 entry and a 50 ft. apparatus check under Rule 28 will be required once the 5 man is inside the mine at the team stop needed for air locking .

Team Stop # 1 will be in the first intersection of # 3 entry at this location all opening of the intersection will require a gas test under Rule 24B. Going in by from this stop the team will be stopped by water roofed which will require a date and initial under Rule 27. Going toward # 2 entry through the cross cut the captain will need to date and initial the temporary stopping down under rule 27.

Team Stop # 2 is in the first intersection in # 2 entry where all openings are required a gas test in them under Rule 24. Going in by in # 2 entry the captain will have to date and initial at the water roofed under Rule 27. In the cross cut toward # 3 entry the temporary stopping down requires the captain to date and initial it under Rule 27. **Note that the team encounters an explosive mixture in direction of travel which will extend that mixture into the next intersection under Rule 24 E paragraph 2.**

Team Stop # 3 is in the first intersection of # 1 entry all openings are required a gas test be made in them looking in by up # 1 entry the captain will encounter water roofed which requires his date and initials under Rule 27. As the captain examines out by he will encounter a caved area that will require a roof and rib test under Rule 23 and his date and Initial under Rule 27. **Please note that the pump cable that runs through the area and up to the portable is located in an explosive atmosphere, as well as the portable pump is also in explosive atmosphere.**

Team Stop # 4 will be back in # 2 entry where the team will need to relocate the portable pump to remove the water roofed. In order to do this they will have to airlock prior to pumping the water to eliminate the possibility of moving air in the mine under Miscellaneous Rule # 4 paragraph # 2, and also it is required to build and airlock to pump the water roofed under Rule 43 paragraph 2. The process of setting up the airlock may require the team to move to several locations before pumping the water such as they may elect to build across #1, #2 and # 3 entries to prevent any air movement. If a sufficient air lock is not made prior to pumping the water air may migrate in from the bleeder air shaft located in by that is shown on their maps and migrate through the mine under Miscellaneous Rule # 4 paragraph 2. This may migrate irrespirable mixtures through unexplored areas without having everyone accounted and should be discounted for under Rule 30 F. It may also migrate explosive atmospheres over ignition sources and through unexplored areas (such as caved areas), and should be discounted for under Rule 31 B and C. **Note that the portable pump must be relocated to # 2 entry since the pump cable runs through the explosive mixture in the crosscut of 2 to 1 and cannot be energized at that location under Rule 31D, and if the pump is relocated, please check to see that all the cable has been pulled out of the explosive atmosphere before energizing. The same problem exist in # 3 entry with the explosive mixture extending up to the water roofed and since there is an explosive mixture at this location and no means to remove the mixture the pump must be relocated to be energized to pump the water in # 2 entry. Once the water roofed is pumped it will drop to water ankle deep at this location in # 2 entry only.**

Team Stop # 5 will be in the second intersection in # 2 entry where all openings will require a gas test be made and the temporary stoppings that are down require a date and initial at them under Rule 27.

Team Stop # 6 will be in the second intersection of # 1 entry due to the gas encountered in the cross cut of 2 to 1 cross cut under Rule #45 C. All openings will require a gas test be made in them, and out by the intersection the team will encounter water roofed which will require the captain's date and initial. In by the intersection the team will encounter an area of

unsafe roof diagonally across the entry here the captain is required a roof and rib test be made under Rule 23 and a date and initial under Rule 27.

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Team Stop # 7 will be in the second intersection of # 3 entry gas test need made in all openings of the intersection under Rule 45 D. From this intersection outby the team will encounter water roofed which requires the captain's date.

Team Stop # 8 will be in the third intersection of # 2 entry due to the contaminate mixture that is located in # 1 entry by the unsafe roof under Rule 45B. The team must advance in the contaminated entry or the adjacent entry or be discounted under Rule 45B. The captain will be required to make a roof and rib test in a zig- zag pattern across the intersection under Rule 23 see the diagram of figure 1a of proper roof testing, he is also require his date and initial under Rule 27. There is a four foot open area in the cross cut toward 3 entry which is an opening to the intersection and requires its own gas test under Rule 24 and roof and rib test under Rule 23, and a date and initial under Rule 27.

Team Stop # 9 is in the third intersection of # 1 entry due to the contaminated entry being # 1 entry under Rule 45B and the open and accessible cross cut under Rule D. All openings require a gas test be made in them outby the team will encounter an area of unsafe roof diagonally across the entry which require a roof and rib test be made and the captain's date and initial. Inby the intersection the team will encounter the bleeder air shaft and the face of the entry here the captain is require to make a roof, face, and rib test a gas test be made at the face under Rule 24 and his date and initial.

Team Stop #10 will be in the third intersection in # 3 entry where all openings require a gas test be made reaching inby from this intersection the captain will encounter the face which requires a roof, face and rib test be made a gas test at the face and date and initial. In the cross cut toward # 2 entry the captain will encounter an area of unsafe roof across the entry going diagonally through the intersection. He may elect to start his roof and rib test of this area at this time, but he cannot complete it until he advances the team over to the intersection in # 2 entry.

Team Stop # 11 will be in the third intersection of # 2 entry due to Rule 45 D the team (which means # 5 man) cannot advance inby the inby corner of the intersection until the opening is checked, and must be done before the team advances or retreat from the area under Rule 24 B. The captain from this team stop may finish the roof and rib test of the intersection and inby the intersection under Rule 23. Reaching inby the intersection the captain will encounter the barricade with an irrespirable mixture outby the barricade.

12.

Once at the barricade he is required to date and initial at the barricade and a gas test must be made at the barricade. The team will get a response from the barricade of “Help get us out” under Rule 35 the irrespirable must be removed before breaching the barricade. Under Rule 43 since the response from the missing person does not say that it is airtight the team must erect a temporary stopping before breaching the barricade, and if they fail to erect a temporary the team should also be discounted under Rule 44. **Note that several things need to be completed to ventilate the barricade and they will be discussed in another paragraph.** Once the barricade is properly ventilated and the team has air locked into the barricade the captain is required to make a gas test after breaching the barricade under Rule 24. The captain when reaching inby will encounter a live person first which requires his physical contact (touch) under Rule 32 paragraph 1. The captain must date and initial the live person under Rule 27 then he may release the live person for assessment under Rule 12 and continue to reach inby under Rule 42. The captain will next encounter the body which require his physical contact under Rule 32 and his date and initial under Rule 27. He will then reach the face which require a roof, face, rib test be made, a gas test be made, and his date and initial.

From **Team Stop # 11** steps needed **to set up the ventilation** to remove the irrespirable located at the Barricade and not ventilate explosive mixtures over an ignition source or through an unexplored area.

The timbers that are encountered in # 3 entry inby the last open cross cut will be needed to timber the diagonal unsafe roof in # 2entry located in the last open intersection. The captains presence has been made rib to rib through this area, but to pass a line curtain through here will require the team to post some of this area as shown on the attached detail drawing. If the team fails to post this area to pass the curtain through the unsafe roof it should be discounted under Rule 49 A and Rule 30 for any team member reaching into the unsafe roof. **(see the diagram of how to set timbers).**

The **roofed water in # 3 entry will need pumped** from the inby side(the portable pump that is now located in #2 entry must be extended over to # 3 entry through the cross cut in the second line of cross cuts and placed at the inby side of the water roofed so it may be energized without the cable being in an explosive mixture).This will require an air lock to be built before pumping the water roofed under Rule 43, also if the airlock is not formed air may migrate from the bleeder air shaft through the open area where the water that was roofed. **So after the roofed water has been pumped it will be shown as ankle deep water.** This area is now an unexplored area requiring the captain’s physical presence to be there before air migrates through there. If not blocked the air could migrate over the caved areas

13.

in #1 and # 2 entries with explosive mixtures as under Rule 31C and

This will possibly allow four explosive mixture to be ventilated over the energized cable if the area is not properly air lock in # 3 entry. If this happens and the proper air locks are not maintained the team should be discounted under Rule 31B. (Note that the power to the portable pump must be de energized before any explosive mixtures are passed over it or the cable).

See the possible ventilation drawing which shows possible one- step ventilation and the corresponding stoppings. There is also possible two- step ventilation which will require the first step being the step one ventilation.

Possible timbering options through diagonal unsafe roof

