

## Statement

Welcome to the “What’s Next Coal Mine” this statement will inform you to the situation as we now know it. Last night we had a three man crew servicing equipment and setting the section up for Monday production shift. This three man crew was to set the miner up in the number three face and if they had time load the shuttle car and feeder at the end of their shift. This is a three entry system that is mining toward an intake shaft that was put in over a year ago capped and airtight. We are sure that we are close to mining into this shaft but there seems to be a problem with our measurements underground because we have not mined in it as of the last production shift last Friday. At about 7:00 am a member of the three man crew called out and reported that they had started to mine the # 3 face, but there was a lot of water starting to come through the binder band of the coal, he also said that the brakes of the scoop were smoking badly from where he was scooping at the feeder in # 1 entry he would call the surface later and let them know if there were any more problems before coming out. This was the last we heard from them, and they never reported to the surface. In a short amount of time after their last call out AMS alarms started sounding and we could not get anyone to respond on section to our calls. This is when we called in rescue teams all agencies are on site to assist with this rescue operation.

We have had our rescue team explore up to a location within two breaks of the faces that were reported as of last Friday. There they developed apparatus problems and decided to establish a fresh air base there before exploring inby due to their apparatus being low on air. They have put up ventilation walls between # 1 & # 2 entries, and # 2 & # 3 entries where they have directed the air through an open mandoor to the return, and just inby the fresh air base in # 2 and # 3 entries walls were erected as shown on the maps that you will be given. The intake air is being supplied up the # 2 entry from the intake shaft across the fresh air base through an open mandoor located in a stopping between #2 & # 3 entries and over to # 3 entry and out the return to the exhaust fan located on the surface. The # 1 entry is a neutral since the outby belt regulator has been closed to prevent any air movement outby in # 1 entry. The fan is running and we do not want it stopped or reversed for any reason. The mine maps are not up to date, but close as of last Friday. We have had problems with bad roof, water accumulations, and rolls in the coal seam. The mine is supported by fully grouted roof bolts and the mining height is 48” but does vary. All entries have been explored outby up to the fresh air base in entries # 1, # 2, & # 3, they are safe to ventilate through and all items, equipment, and conditions that have been found at the fresh air base are shown on the maps you will be given. There is a section of unsafe roof between # 1 and # 2 entries that is not posted in the fresh air base but both sides have been examined.

## **PROBLEM**

**Explore the entire mine if it can be done safely with the materials provided**

**Please establish communications with the command center before the team enters the mine**

**Account for all missing miners and bring all survivors to the fresh air base**

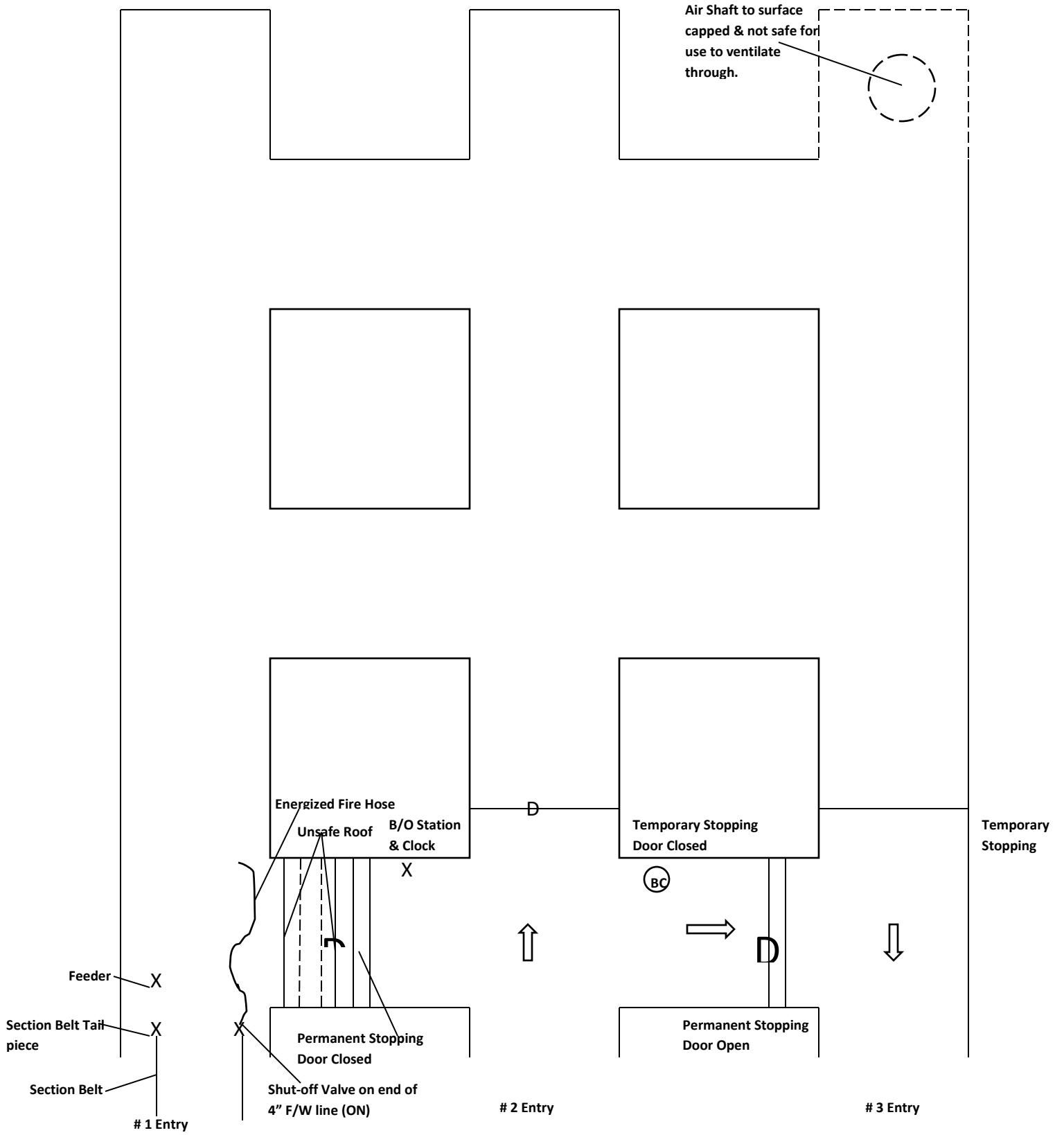
**Leave the mine ventilated and clear of any irrespirable gases or smoke for barefaced recovery crews**

**The new air shaft is capped and cannot be used for ventilation**

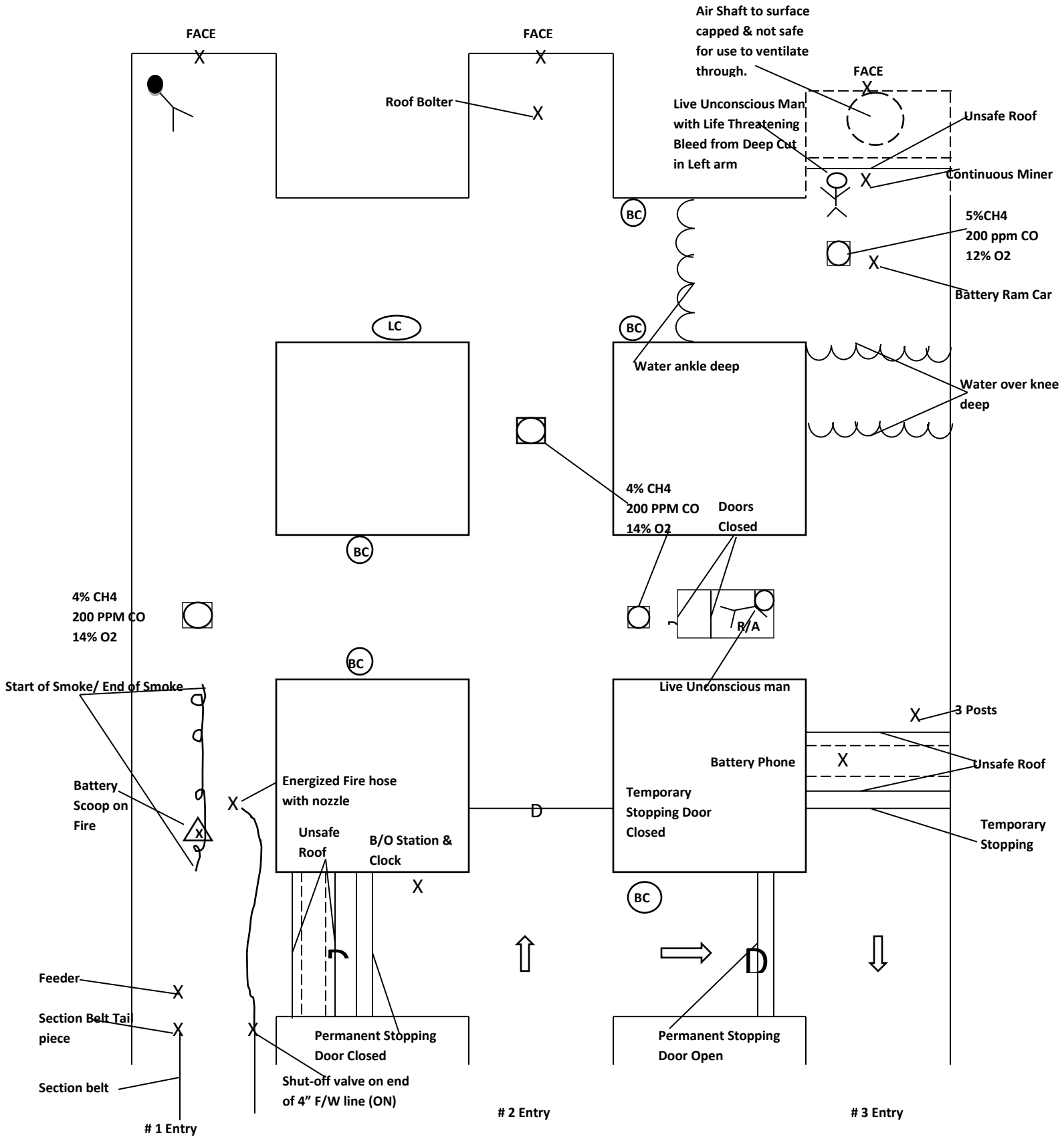
**Any patient loaded onto a stretcher must be carried to the fresh air base not rolled on the stretcher's wheels to get to the fresh air base**

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

# Team Map

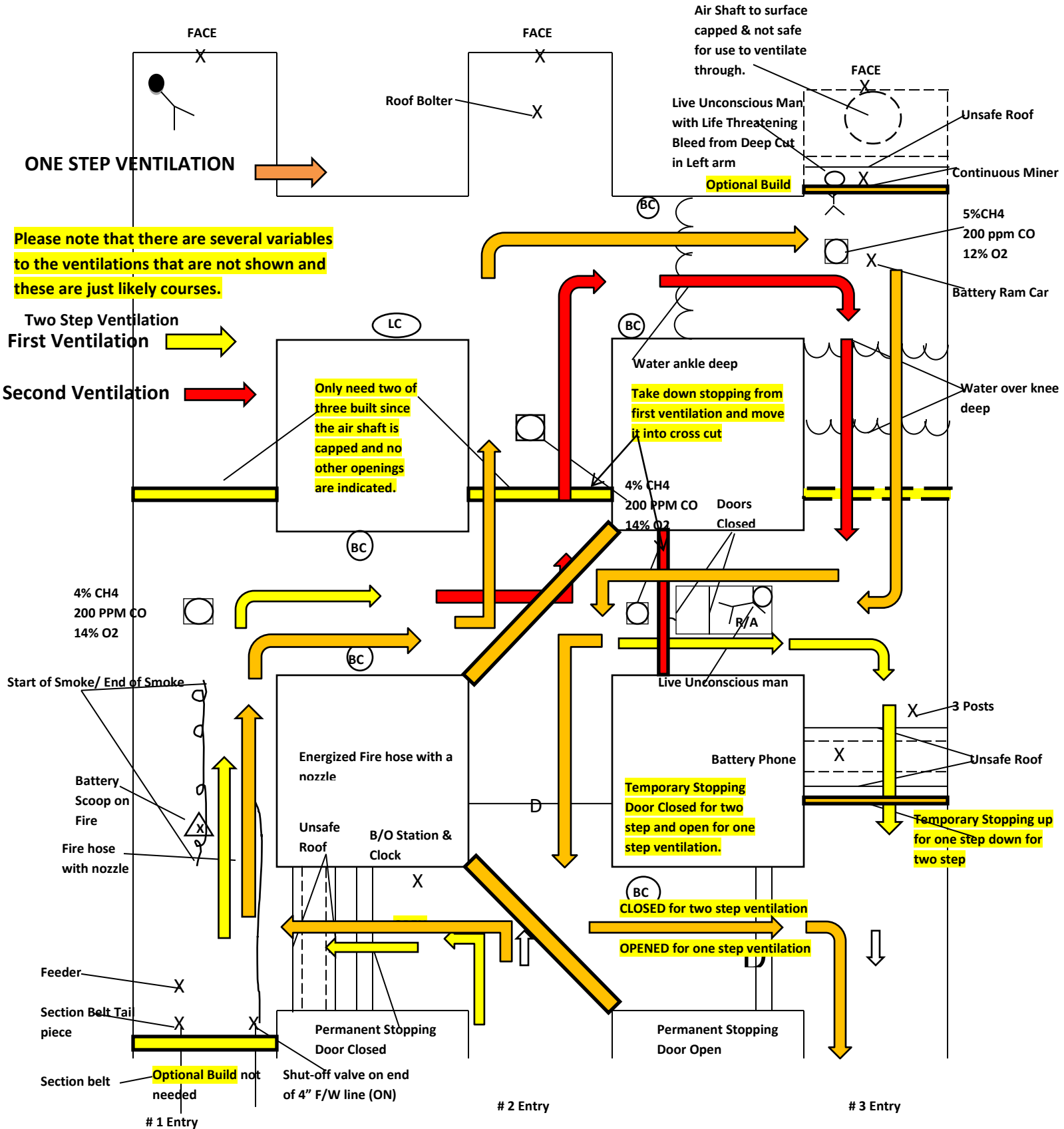


# Contest Map





# Ventilation Map



## Judges Instructions

When the team reports to the Fresh Air Base please identify yourself as the superintendent and inform the team that they have 4 minutes to start the clock or it will be started for them.

After the clock has been started give the maps and problem to the team and then the team will examine their gas detectors, establish communications with the briefing officer and the command center as instructed by the problem the team received with the maps. They will sometime before leaving the fresh air base don their apparatus (Rule #6) and check the portals under (Rule # 24). **Note that due to unsafe roof located across the entry in the fresh air base between # 1 and # 2 entries the team will not be able to examine the entrance to # 1 entry from the fresh air base side but has been informed that a previous team had examined that area.**

Team Stop #1 will be just inby the fresh air base in # 2 entry between the fresh air base and A-Line so the team can build an air lock in order to open the door in the temporary stopping located there under (Rule # 43). A gas test is required at the stopping and another gas test will be required once the Captain opens the door under (Rule # 24) along with a date and initial at the stopping under (Rule 27). The 50 foot pack check is required here also under (Rule # 28) since the # 5 man has entered the mine and stopped.

Team Stop #2 will be in the # 2 entry of A-Line here gas test are required in all openings in the cross cut toward # 3 entry the team will encounter an irrespirable gas placard then a R/A which will require the captain's date and initial at the door and there will be (NO) response from inside the R/A. The team may choose not to enter the R/A from this stop since there is no response. If the team chooses to enter the R/A a gas test will be required inside both doors once they are opened by the captain under (Rule 24 & 34). Once inside the inner door the team will find an unconscious man the captain is required to make contact by hand under (Rule 32) and date and initial him under (Rule # 27). An assessment must be made under (Rule 12), and completed before the person is loaded or moved. Under (Rule 36 paragraph 6 the patient maybe moved out of the R/A to be loaded onto the stretcher), however he must be protected from the irrespirable atmosphere outside of the R/A before being moved by use of CareAvent or SCBA not a self- rescuer since he is unconscious under (Rule # 34 A) and since he is unconscious he must be placed on the stretcher to be removed from the mine under (Rule # 11). **Note that in the problem given to the team they are instructed in writing to remove any person loaded on a stretcher by carrying the stretcher out. If the team fails to comply with this discount them under (Rule #51).**

From this team stop the team will encounter an irrespirable mixture up # 2 entry toward B line. Since the team has encountered an irrespirable in the cross cut 2 to 3 the team is require to travel through the contaminated open cross cut toward # 3 entry before traveling over toward # 1 entry under (Rule 45 C) before exploring anywhere else.

Team Stop # 3 will be in A-Line in # 3 entry where the team will be require gas test in all openings to the intersection and outby at the unsafe roof a roof and rib test will be required, along with the captain's date and initials. **Note the team may choose to timber through this unsafe roof if they have not yet tied the**

**outby side of the unsafe upon initial portal exam, however they can continue to explore inby without timbering at this time.** Inby the intersection the team will encounter water over knee deep across the entry where the captain will need to date and initial.

Team Stop # 4 will be in # 1 entry of A-Line where the team will required gas test in all openings of the intersection. The team will either need to be at a team stop before any team member reaches into smoke while attached to the link line or the # 5 man must tie off in air clear of smoke before traveling into the smoke, if using radios (Rule 22). There the captain will explore outby into smoke and find a fire which will require a Roof and Rib test, a gas test and a date and initial along with extinguishing the fire on the battery scoop (Rule # 23). Once the fire is out the captain may explore outby to tie to the fresh air base in # 1 entry. The irrespirable gas that is encountered in the intersection is just in the intersection.

Team Stop # 5 can be in either B line in # 2 or in B line of # 1 entry, if it is # 1 entry the captain will encounter a body near the face which will require his touch by hand (Rule 32) and date and initial. There is a face that requires a roof, face, and rib test, a gas test, and a date and initial. The opening toward # 2 will also require a gas test.

Team Stop # 6 would be in # 2 entry if Team Stop # 5 was in # 1 entry but remember they can be reversed. In # 2 entry the team will be require gas test for all openings and at the face a roof, face, rib test, a gas test and date and initial. Note that the cross cut toward # 3 entry has water just ankle deep and this will not stop the team from advancing into it.

Team Stop # 7 will be in the intersection of # 3 entry of B-line where the team will find a gas mixture that is irrespirable with methane in the explosive range, but with oxygen below the supporting limit of an explosion in the intersection only. The live unconscious man with a life threatening bleed in the left arm is in the intersection with his head inby the imaginary line this means that he is in good air as he is positioned. The captain will need to touch the patient and date and initial him he then can turn him over to someone else to make the assessment under (Rule 12) and treat the life threatening bleed under (Rule 34). The captain then can check the unsafe roof and make his gas test and date and initial there inby. Outby he then can find the water over knee deep and date and initial there. The rest of the team after the patient has been treated for the life threatening bleed and before he is moved must put the CarEvent on the patient to properly protect him from the irrespirable atmosphere in the intersection under (Rule 34). The patient since he unconscious must be removed from the mine by stretcher under (Rule 11), **and under Written instructions the patient and stretcher must be carried out of the mine not rolled, please discount under (Rule 51) if the team fails to do this.**

Once the patient has been removed from the mine the team will need to return and ventilate out the irrespirable gases and smoke for barefaced crews as per written instructions they received. They should before clocking out, if they have not yet done it, use the three timbers in one of the areas of unsafe roof to by written instructions explore all areas that can be explored safely with the materials provided. Since it is only a two cross cut problem they can explore the entire mine and not exceed the two break limit and then it is possible that the area in # 3 entry just inby the fresh air base may not be explored.