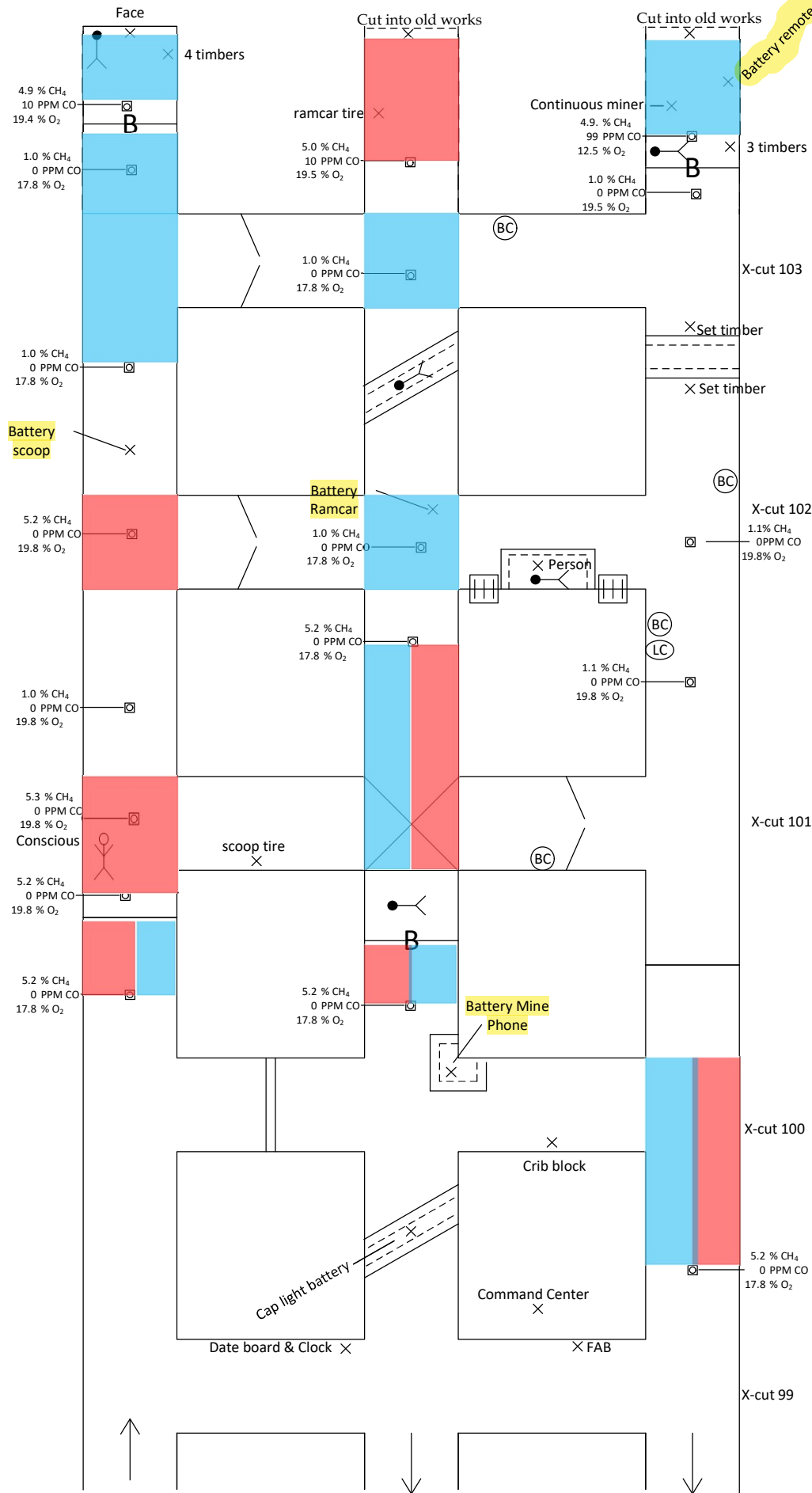




**Day 2 Coal Field Problem**

# Gas extent map



A video presentation will be given to the team prior to their arrival at the fresh air base, the presentation will state the following.

Welcome to the Wildcat Mine and thank you for responding to our emergency. You are in crosscut 99 where this fresh air base was established by another team prior to your team's arrival to the mine site. This mine is a one-unit mine ventilated by an exhaust fan that is located on the surface in the number 3 drift. This fan is currently running. Intake air enters the mine by the number one entry and exits the mine through entries 2 and 3. Our day shift crew of 11 miners and their foreman entered the mine as normal to produce coal yesterday morning. At about 11:00 AM the fan alarm activated. The fan was checked by our outside employee and found that the explosion doors had been blown open. The outside employee tried contacting the miners underground by our communication system but was unsuccessful. The outside employee checked our tracking system and found it not working. The outside employee then placed a call to the safety manager for the mine who then called to report to MSHA and other official agencies. The safety man reported to what he knew at the time to all agencies and proceeded to call the companies mine rescue team members that were not already at the mine underground. Around 11:40am three of the miners that were working outby crosscut 99 made their way to the surface and reported they had felt an air blast that knocked them off their feet. Thinking something was not right the three traveled down the primary escape-way to the surface by following the lifeline. Mine rescue teams throughout our local area responded to help us. Teams were able to explore up to crosscut 99, while clearing all the mine for ventilation purposes up to this point. These teams were able to locate and remove three more of our miners during these explorations. The mine is walking height, The map is not up to date inby crosscut 103. This mine has encountered adverse roof condition, and methane. All electrical circuits have been deenergized, locked and tagged out here on the surface at the substation.

Good Luck.

The person in charge of the fresh-air base will introduce himself or herself to the team captain immediately upon arrival of the team at the fresh-air base.

The team will have 4 minutes to position their equipment, lay out lifeline across the fresh-air base or distribute radios and have the SD card loaded in their computer and ready for use.

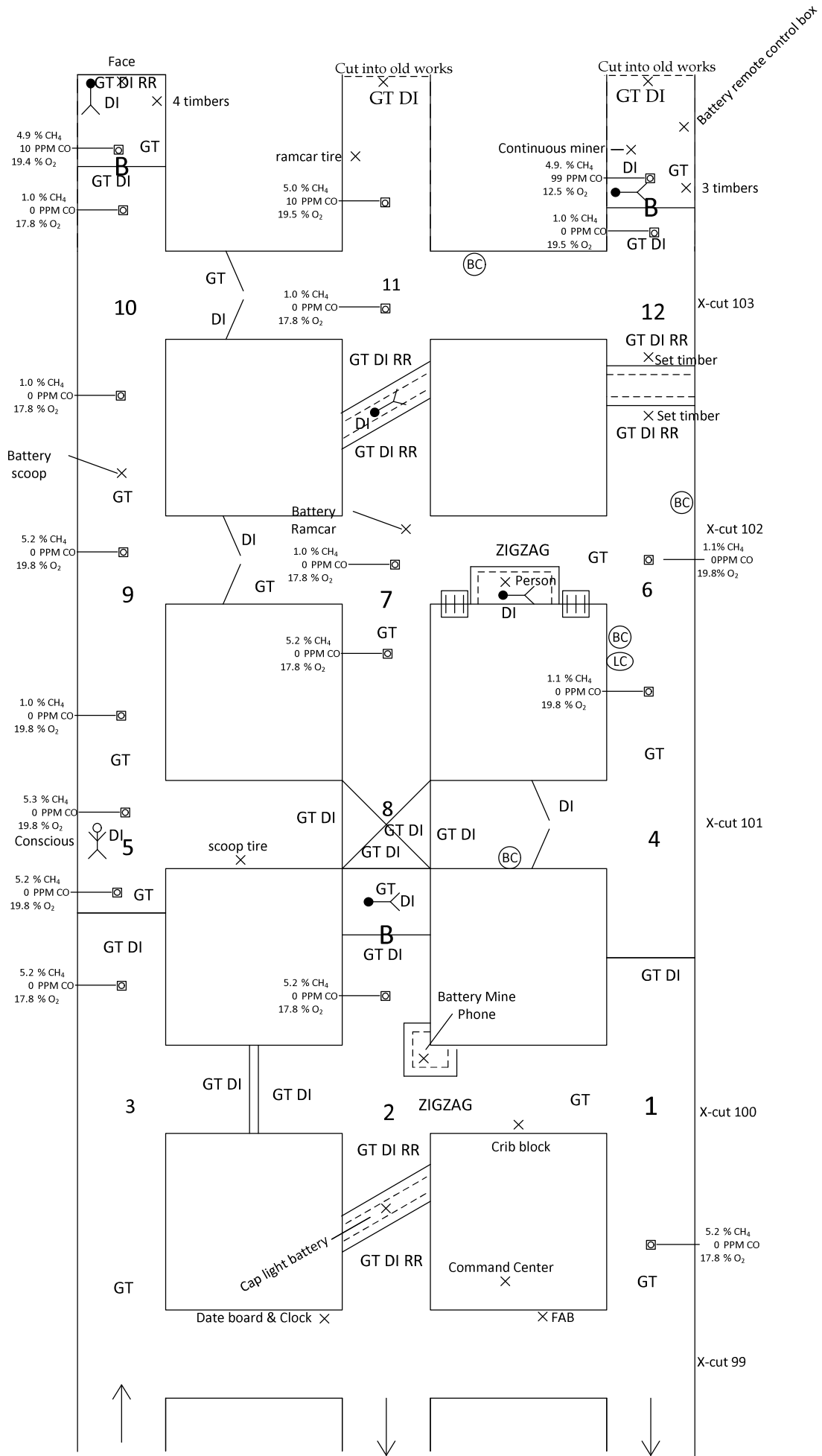
If the captain fails to start the clock at or before the 4 minutes has elapsed, the clock will be started for them, and the team will be discounted under Rule 49.

The blank maps and problem will be given to the team immediately after the captain or judge starts the timing device. The written instructions will state the following: Explore all areas inby crosscut 99 that can be done safely. Account for the remaining miners and bring survivors to the fresh air base if it can be done safely. The fan cannot be stopped, stalled, or reversed. All work to be performed in the fresh air base will be conducted by your team. You will have a maximum of 75 minutes to work the problem. Good luck.

Captain must legibly mark date, initials, and team number on check board after clock is started but before the entire team travels inby the fresh airbase. Rule 26.

The following equipment must be examined after the clock is started and before the entire team goes underground or inby the fresh-air base. The communication system and all gas detecting instruments used or taken inby the fresh-air base must be examined in the presence of a judge. (After

## Team stop map



examining, gas detecting instruments may be turned off during the working of the problem). Rule 14.

The team will now go under oxygen prior to checking the three openings inby fresh air base. Rule 9.

The captain will examine gauges, and apparatus and have his or her examined before going inby the fresh air base. Rule 6.

A proper apparatus examination will include a verbalization that the person performing the apparatus examination is checking the gauge, facepiece, hoses, and determine by sight or feel, that the protective cover is secure. If the gauge has a protective holder, the gauge must be put back into the holder after viewing. The team member making the check must obtain assurance from the person being checked that the person is all right. A verbal response from the person that he or she is all right will suffice. Rule 7.

All three openings will now be checked, and a gas test will be conducted. Rule 24C.

Number 1 entry – gas test.

Number 2 entry-gas test, D&I & roof test at the diagonal unsafe roof.

Number 3 entry-gas test.

Team will travel up number 3 to first team stop due to this is the contaminated entry and the adjacent entry is blocked by the unsafe roof. Rule 44B.

**Team stop number 1.**

The team will conduct a 50-foot check at this team stop. Rule 28.

Gas test & D&I at the temporary stopping inby.

Gas test in crosscut.

**The team will now advance through the open crosscut to team stop number 2. Rule 44D.**

A zigzag roof test will be conducted for the unsafe roof found on corner that has a battery mine phone in it.

Gas test, D&I at barricade inby. The barricade having low oxygen in front of it cannot be breached by the team. Rule 35.

Gas test, D&I & roof test at the diagonal unsafe roof outby.

Gas test, D&I at permanent stopping in crosscut.

Team cannot remove the permanent stopping until they have made both sides. Rule 42.

**The team will retreat to the fresh air base to advance to team stop number 3.**

Gas test, & D&I at permanent stopping in crosscut.

Gas test, & D&I at temporary stopping inby.

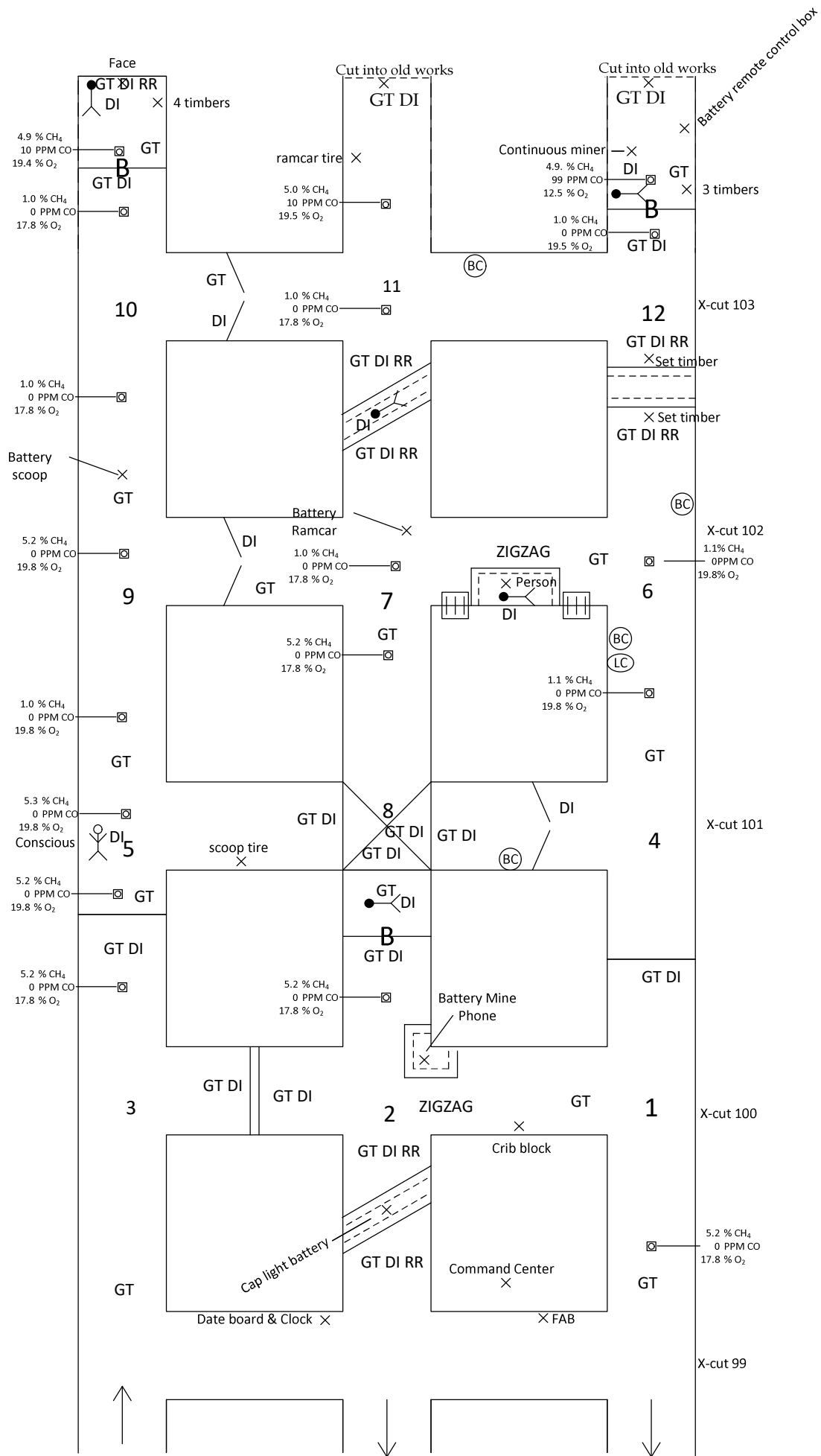
When the team is at the temporary stopping a person behind the stopping will verbally state, "HELP ME".

The person will be standing in the intersection as shown on the map.

The team cannot breach the stopping due to having an irrespirable atmosphere immediately outby, the team must remove the irrespirable before breaching the structure. Rule 35.

The team not having means to rescue the person will continue to explore to team stop 4.

## Team stop map



The team can now remove the permanent stopping and use it to airlock to advance to stop 4. Rule 42.

Roof & rib test must be conducted before building the temporary stopping and a gas test on back side by the captain after breaching the temporary.

The captain must mark the date and his or her initials at team-built stoppings, at each location where they are constructed, and after the building process has begun, but before the clock is stopped or the stopping is moved. Rule 27.

#### **Team stop 4.**

Gas test in opening in by.

D&I at temporary stopping not intact.

Gas test & D&I at wall of overcast.

The team must now stop due to having the necessary means to rescue person talking behind temporary stopping they heard at stop 3. Rule 41C.

The team knowing and realizing the fan cannot be stopped, must airlock back out of the area due to it being a dotted line map, and if not, air will be drawn from the cut into old works located in number 2 face area. Rule 42

(See first vent)

The battery cap light is not an ignition source. Rule 31D.

The battery mine phone is an ignition source, and the explosive mixture cannot be ventilated over it. Rule 31D.

The 17.8% O<sub>2</sub> cannot be ventilated over the briefing officer designated location in the FAB. The BO has table & chair to sit in between number 2 & 3 entries at X-cut 99. Rule 30H.

After vent is completed, the team must airlock to breach temporary stopping. Rule 42.

A roof test must be made by the captain prior to building temporary stopping. Rule 23.

Captain must do a gas test after breaching stopping. Rule 24D.

#### **Team stop 5.**

The team must stop, and the captain examine, by touching with his or her hand, the missing person, prior to any team member passing the location of the missing person. Rule 32.

An initial assessment must be conducted on the **live** person. The assessment should commence once the captain has physically contacted the person. Any of the five working team members may be utilized to conduct the assessment. However, the team member starting the assessment of the live person will continue and complete the assessment.

When assessing a conscious live person, a team member must physically contact the patient and verbalize the following assessments.

1 Ask if he or she is okay; asking person if he or she is "alright" will suffice.

2 Looking for life threatening injuries. Rule 12.

D&I at location of person.

Gas test in by intersection.

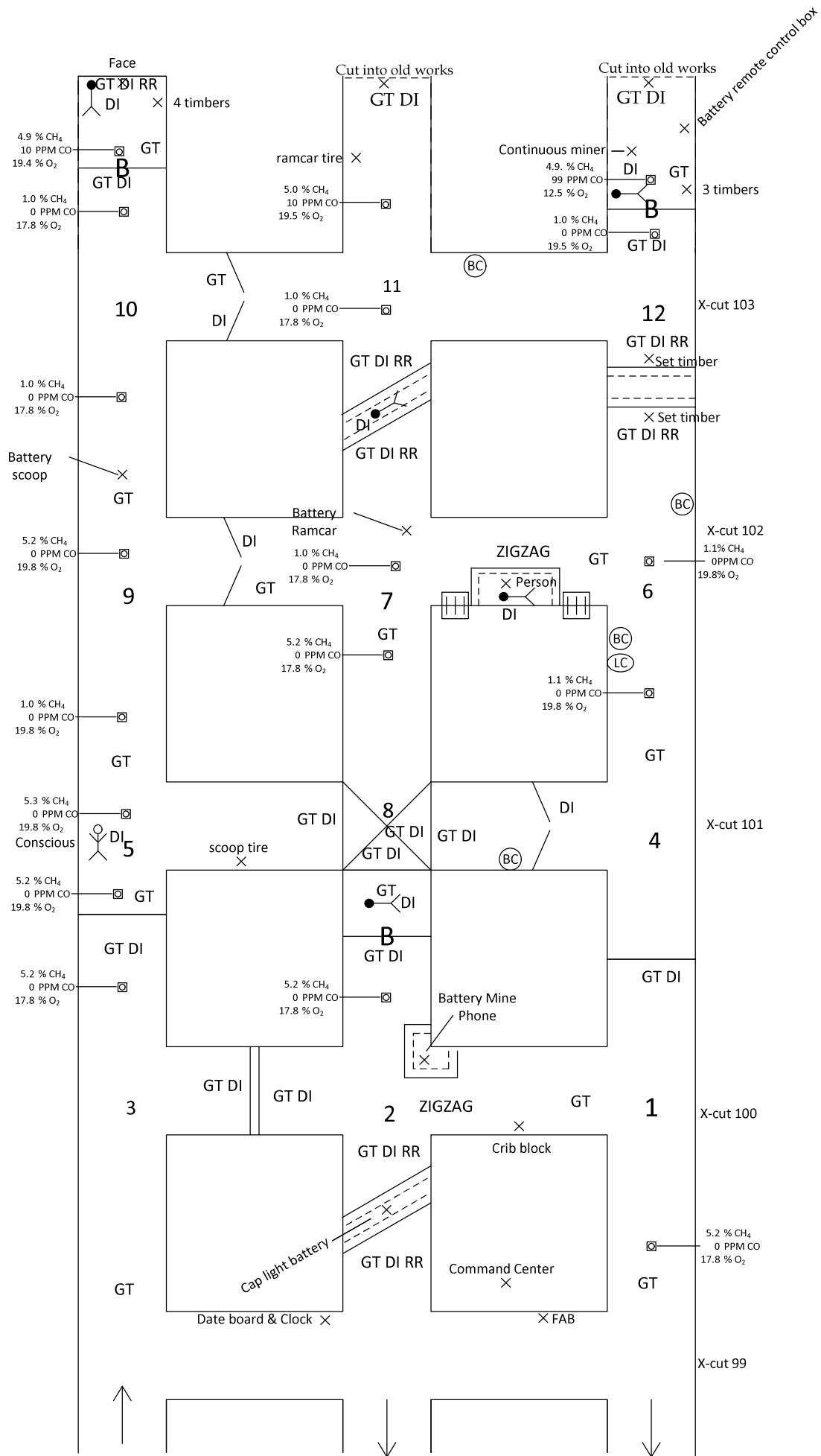
Gas test & D&I at wall of overcast.

The team will now take person to the fresh air base.

The team knowing and realizing the fan cannot be stopped, must airlock back out of the area with person due to dotted line map, and if not, air will be drawn from the cut into old works in face area of number 2. Rule 42.

After dropping off person at fresh air base, the team must go back and airlock into number three entry due to it is the contaminated entry having 1.1% CH<sub>4</sub> on the placard. Rule 44B.

## Team stop map





**Team stop 6.**

Gas test, D&I & Roof test at unsafe roof inby intersection.

The team will find a timber already set on both sides of the unsafe roof.

Team cannot use these timbers to safely travel through the unsafe roof. Rule 30. (1d).

Team cannot remove these timbers already found set. Rule 30 E.

The crib block placard located in the unsafe will be face down.

Gas test in intersection & a zigzag roof test by the elongated unsafe roof that has unsafe ribs on both sides of the unsafe roof.

The person placard will be face up in the unsafe roof. The team will find timbers later to timber into the person placard. 4 timbers must be used to timber into the person placard due to the unsafe ribs.

The captain must timber perpendicular to the rib by setting two timbers outby the unsafe roof no more than 5 feet apart staying between the timbers and then set two timbers in the unsafe roof staying between the two rows of timbers.

Rule 30 (3b).

**Team stop 7.**

Gas test outby the intersection.

Gas test in crosscut & D&I at temporary stopping not intact.

Gas test, D&I & roof test at diagonal unsafe roof inby. The body placard located in the unsafe will face up.

Team must now explorer outby first to team stop 8 as shown on the map. Rule 44D.

**Team stop 8.**

Gas test & D&I at both walls of overcast.

Gas test & D&I at temporary stopping outby.

The team must make the area behind this temporary stopping before the number 5 man travels inby the imaginary line of the intersection at stop number 9. Rule 44E.

The team must airlock just inby the overcast to breach the temporary stopping. Rule 42.

The captain must gas test after breaching stopping. Rule 24D.

D&I at the body.

D&I barricade and gas test.

**Team stop 9.**

Gas test outby.

Gas test inby.

**Team stop 10.**

Gas test in crosscut & D&I temporary stopping not intact.

Gas test & D&I at barricade. When team is at the barricade a person will state from behind the barricade, "HELP ME I'M HAVING PROBLEMS BREATHING".

The team cannot breach the barricade due to having low oxygen in front of it. Rule 35.

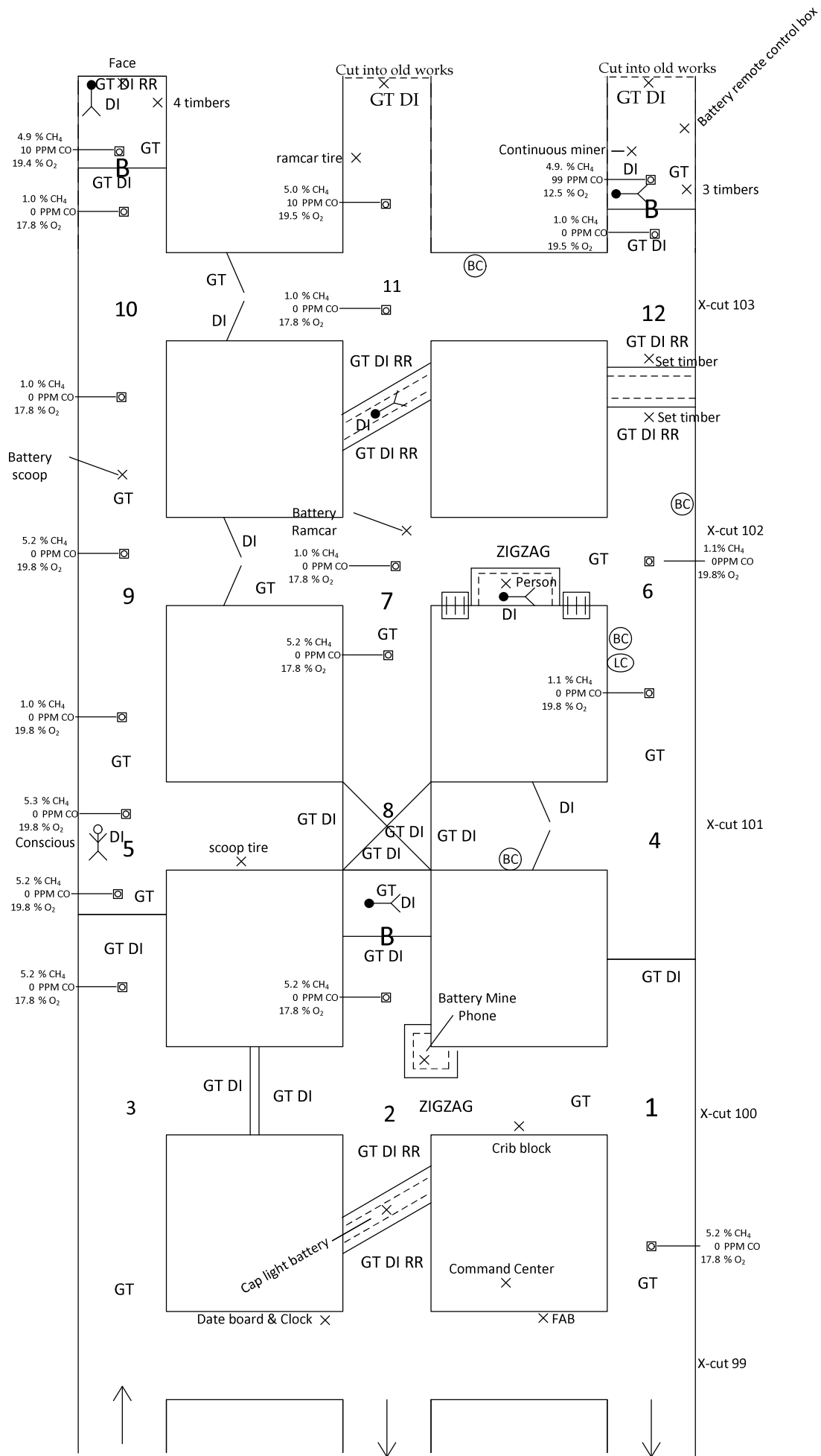
Team not having means to ventilate the barricade will continue to explorer to team stop 11.

**Team stop 11.**

Gas test, D&I & roof test outby at diagonal unsafe roof.

Gas test in crosscut.

## Team stop map



Gas test & D&I at cut into old works. The team will probably build a temporary in opening at this time to seal off the cut into old works. The team must now stop and not explorer to stop 12 due to having means to rescue person they have verbal response with behind the barricade. Rule 41C. SEE VENT MAPS 2 & 3.

After the team has completed all vent changes and the barricade is ready to be entered the team must airlock. Rule 42.

The captain must due a gas test on back side of the breached barricade, they will only find a body placard. D&I at location of body, Gas test, D&I and roof test at face.

The team now having 4 timbers must now go to check person located in the elongated unsafe roof. Rule 41 (C1).

When the captain timbers into the person placard, he or she will find a body. D&I at location of body.

### **Team stop 12.**

Gas test & D&I & roof test outby at unsafe roof.

Gas test & D&I inby at barricade.

The barricade has 19.5% oxygen in front of it, all the team needs to do is airlock to enter the barricade.

Note: If team quits when finding the gas placard with 4.9%Ch<sub>4</sub>, 99part per million carbon monoxide and 12.5% oxygen and doesn't explorer on inby the gas placard they will be discounted under rule 44 A, This should be assessed for not exploring all areas of mine that can be explored without endangering team if problem requires entire mine to be explored, also rule 32 will be assess for failure timber into the body located in the diagonal unsafe roof before stopping the clock.

The team should airlock back out of the number 3 face area due to the cut into old work or this will be a vent change.

If the team does not complete the problem within the 75-minute time limit: Rule 3 on the A card.

1. Stop the team, allow no more work.
2. Discount team for everything not mapped, written instructions not followed, and any rules related to patients or missing persons.
3. Discount team additional.
  - a. 15 points if problem was not completed, or
  - b. 5 points if exploration was completed and team is traveling out of the mine, or.
  - c. 30 points if the captain stops the clock and doesn't try to finish the problem because time is running out.

If the team stalls the fan. Rule 50. Team failed to follow written instructions.

The maps given to the team will not be labeled, and the team will be responsible for labeling the Team map and Briefing Officer Map. Failure to identify will result in a 2-point discount per map on the A card. At the end of the problem and clock has been stopped, the field judges shall check to see that the maps are identified before the team leaves the field and if not, mark the maps so that the map judges can correctly judge the

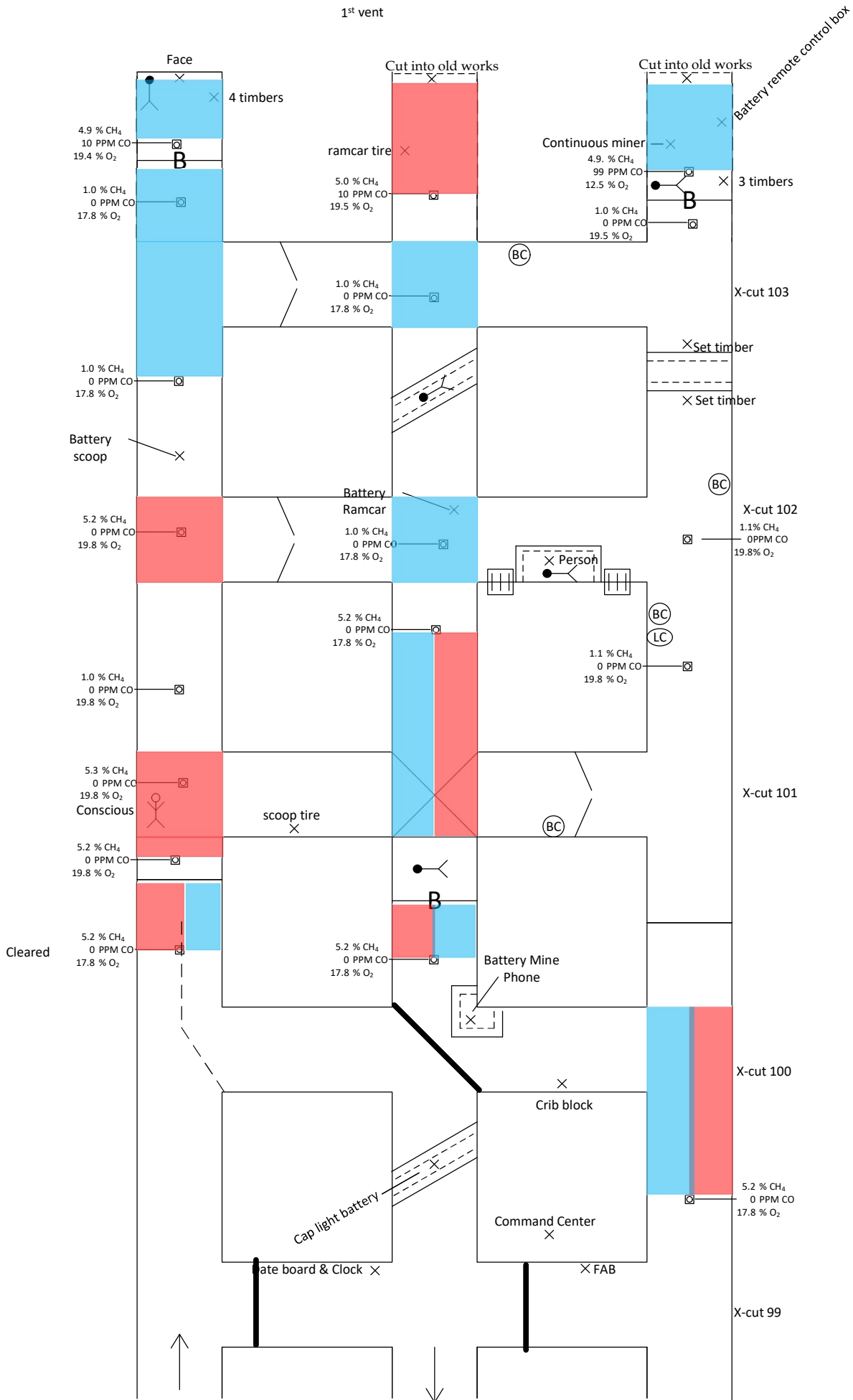
maps. The team will still be discounted for not identifying the maps.

The time judge will record the working time at end of problem. The judges will gather all maps, and SD card and place back in packet at end of problem.

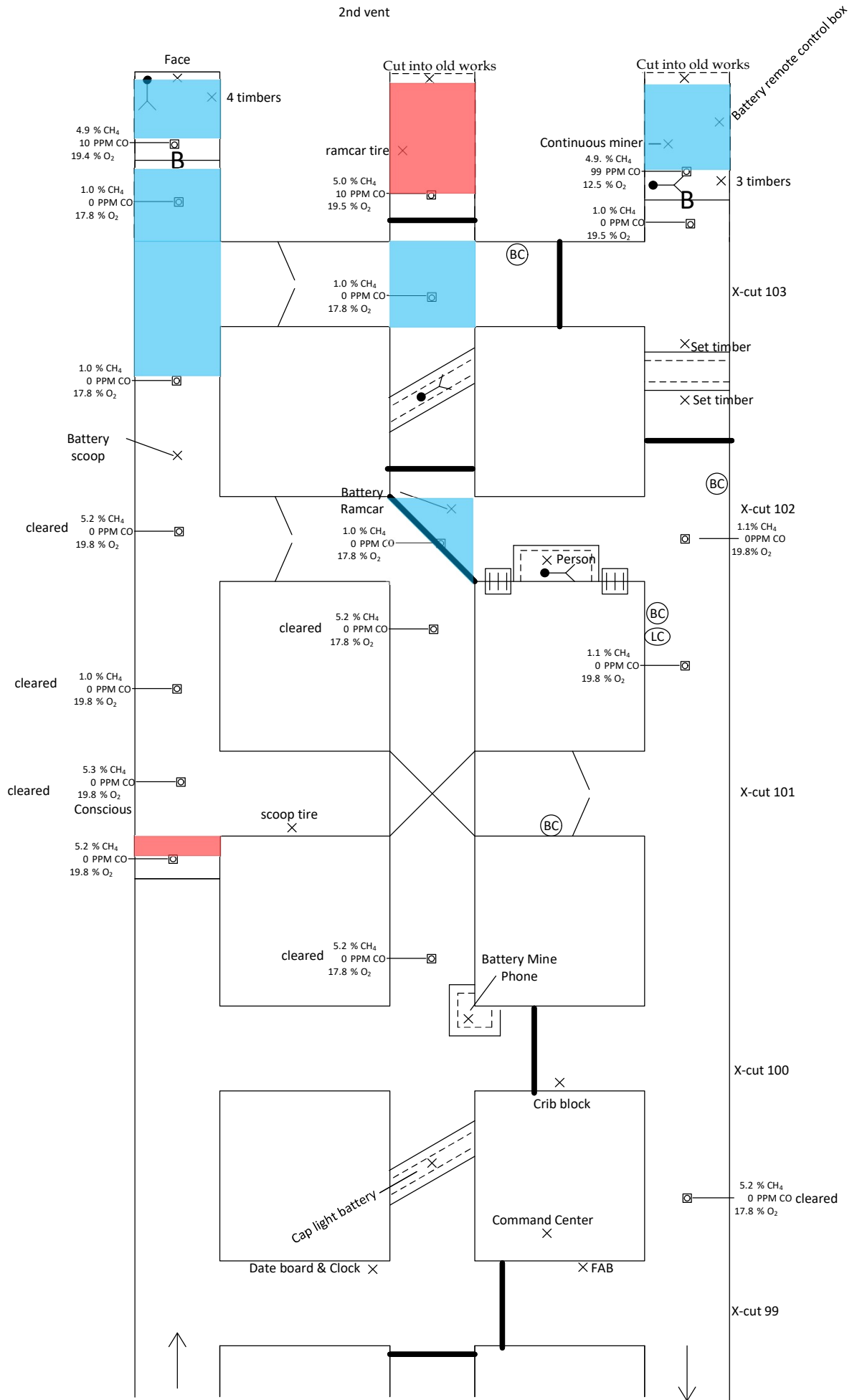
A judge will walk the field with a team member marking the final map. Showing all vent controls still intact and all timbers that were set by the team.

Thanks.

1<sup>st</sup> vent

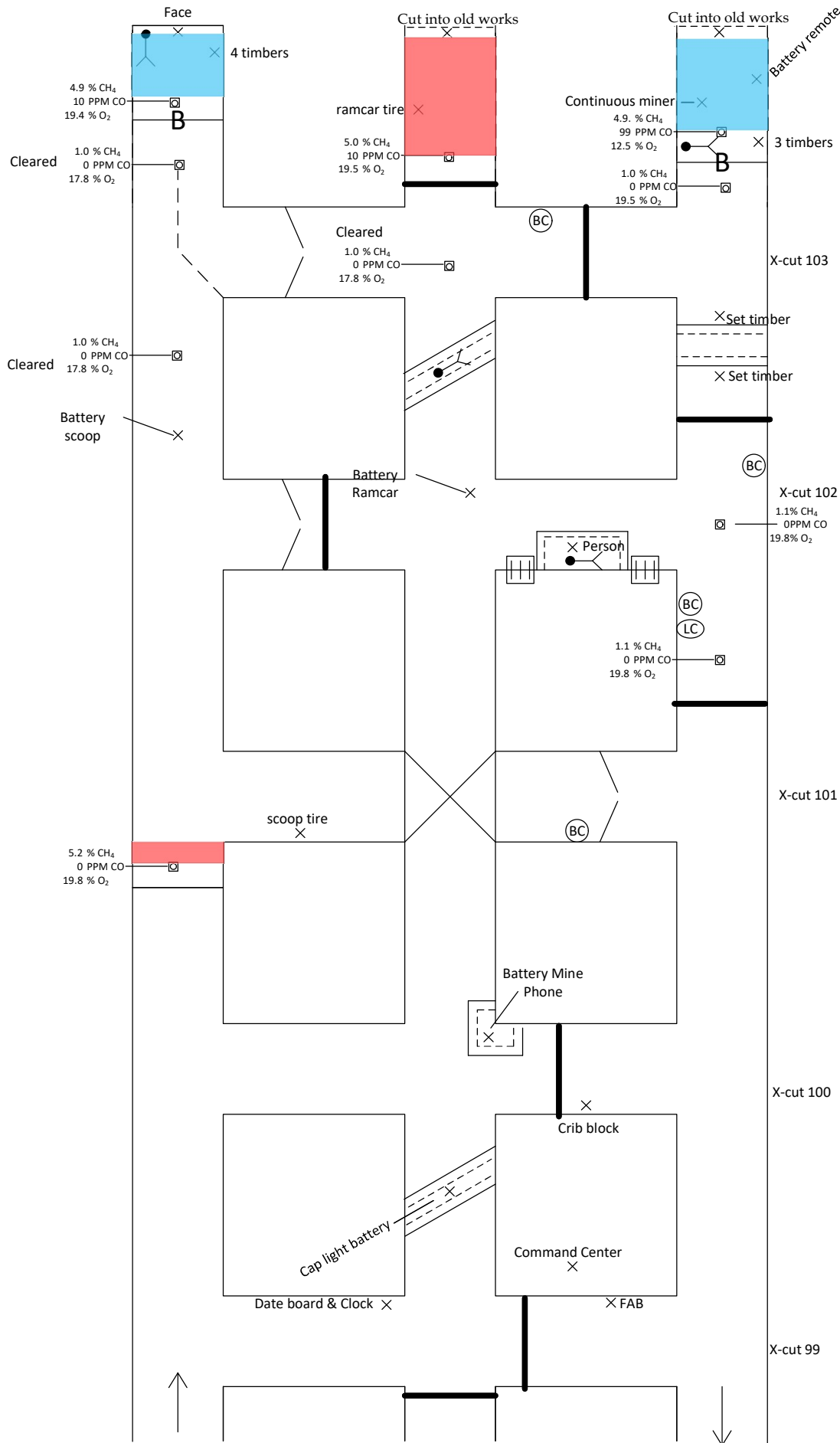


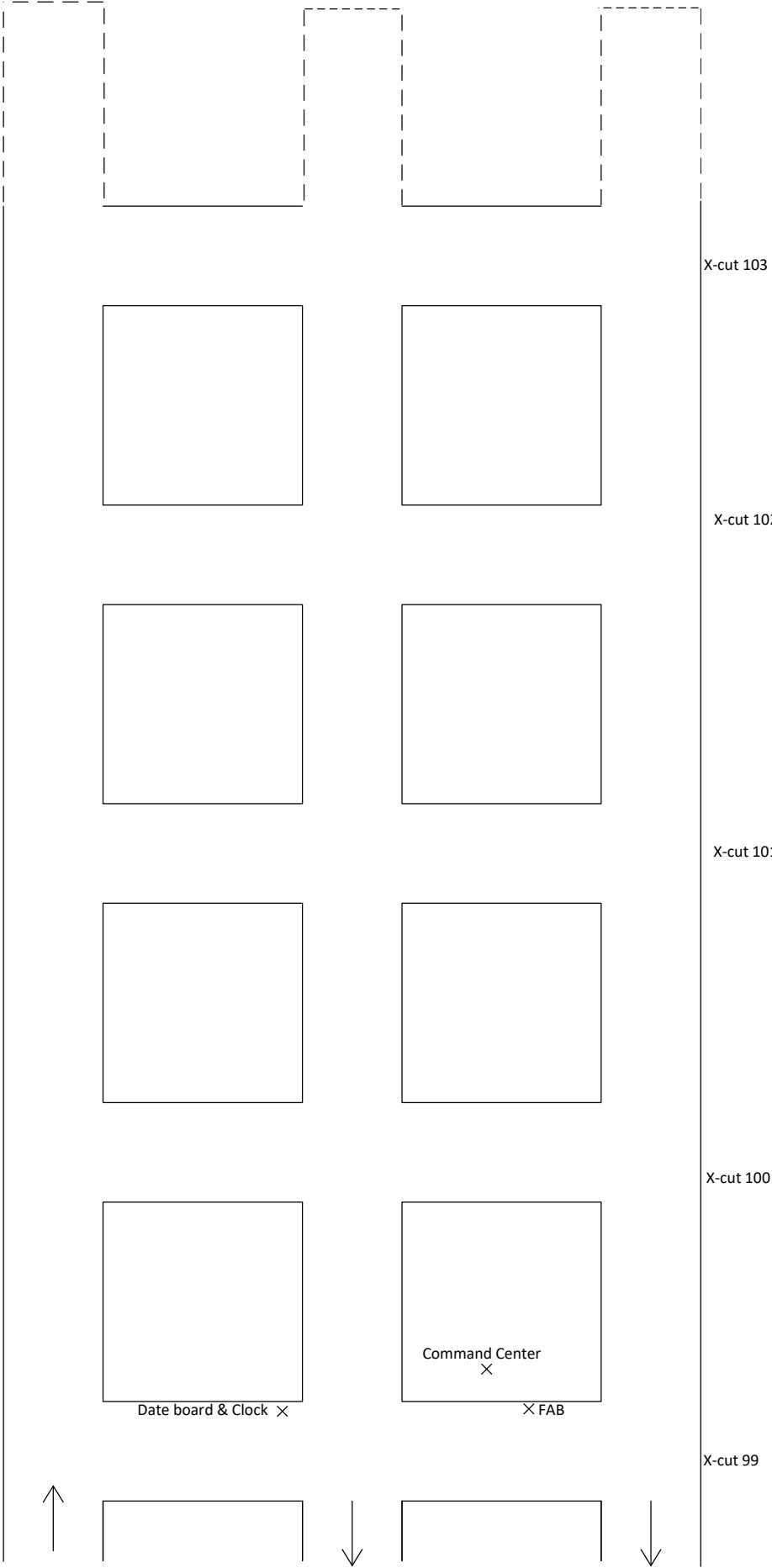
2nd vent



3rd vent

Battery remote control box







Final Map

Show all stoppings still intact  
and where all timbers were  
set by the team.

