

2021 Price Utah Day 1 Written Statement

Thank you for responding to our mine emergency.

You are located in the Fresh Air Base in 4 Right section. The entries are numbered from left to right 1, 2 and 3.

Fresh air is sweeping across the FAB from # 1 to # 3 then going out to the EXHAUSTING mine fan on the surface, which is running, guarded and cannot be reversed. The # 2 entry has a stopping outby so no air will come in or go out it.

A Command Center has been established outby.

Last night, 4 miners were working in this section. They called out reporting a rock burst and flooding. We have had no contact with them since.

This mine has some difficult roof conditions, methane, water and hydrogen sulfide.

All power into the mine is locked out.

If power is required to energize any equipment in the mine, switches will be available at the command center.

All officials and backup teams are present.

The mine map is up to date.

Price Utah 2021 Day 1
Written Problem

Explore all of the mine necessary to account for the 4 missing miners if it can be done safely.

Bring any live miners to the FAB.

Your team has 100 minutes to complete this problem.

Price Utah 2021 Day 1 Judges Instructions

Initial openings' checks of entries at FAB. 1 E has low O2, 3 E has low O2 and unsafe roof.

Team can enter 1 or 2 entries - (50' apparatus check required at stop).

1. Team stop 1, 2 - in 1E at XC 1 – diagonal unsafe roof in intersection.

2. Team stop 2, 1 - in 2E at XC 1 – diagonal unsafe roof in intersection with low O2 extending into unsafe roof. Clear air in XC between 2 and 3 entries. VERBAL CONTACT MADE WITH PERSON IN BARRICADE IN XC 1 BETWEEN 2 AND 1 ENTRIES. TEAM HAS NO MATERIALS TO GET TO BARRICADE. Team can tie across to 3 E.

3. Team stop 3 – in 3E at XC 1 – Unsafe roof outby, nothing inby. Team can advance in 3 E.

4. Team stop 4 – in 3E at XC 2 - stopping to left in XC with 2 lunch boxes each with notes and 1 BC, ignition source found inby in 3 E and water roofed. Team must airlock into stopping in XC 2.

5. Team stop 5 – in 2 E at XC 2 – ignition source found outby, stopping w/door open to left and 2 BC found inby. Team must tie across.

6. Team Stop 6 – in 1 E at XC 2 – explosive mixture found outby and inby side of cave. Ignition source found inby. Team can advance in 1 E. NO MATERIAL AVAILABLE TO TIMBER INTO UNSAFE ROOF IN XC 1 OR IN 1 OR 3 ENTRIES. The 2 XC limit does not apply as team is blocked.

7. Team Stop 7 – in 1 E at XC 3 – Zig-zag RR test required through and around wrap-around unsafe in intersection. Cave found inby. Open XC to right. Team can tie across.

8. Team Stop 8 – in 2 E at XC 3 – open outby, unsafe roof found inby, water roofed in XC to right. Team can advance in 2 E.

9. Team Stop 9 – in 2 E at XC 4 – zig-zag RR test required as advancing in 2 E. open XC to left, explosive and irrespirable mixture outby a permanent stopping inby, ignition source to right in XC. LC found. Team can tie across either to 1 E or to 3 E. TEAM CAN BREACH STOPPING USING AIRLOCK IN 2 ENTRY INBY XC 4 WITHOUT VENTING CONTAMINENTS (RULE 35). IF DONE, BODY FOUND, BC FOUND AND FACE FOUND.

10. Team Stop 10, 11 – in 1 E at XC 4 – cave outby, explosive and irrespirable found inby and face.

11. Team Stop 11, 10 – in 3 E at XC 4. irrespirable mixture found outby and water roofed, explosive and irrespirable mixture found inby and barricade with no response.

TEAM DOES NOT HAVE MEANS TO VENT BARRICADE. (Water in 3 entry requires pumping).

See Pump –

12. Team Stop 12 – in 3 entry at XC 3 – body found and 6 timbers found.

TEAMS HAVE MATERIALS AND CAN VENT BARRICADE in XC 1.

TIMBERS REQUIRED TO BE SET IN UNSAFE ROOF IN 3 ENTRY OUTBY XC 1, TIMBERS REQUIRED TO BE SET IN UNSAFE ROOF IN 2 ENTRY AT XC 1.

See Vent 1 –

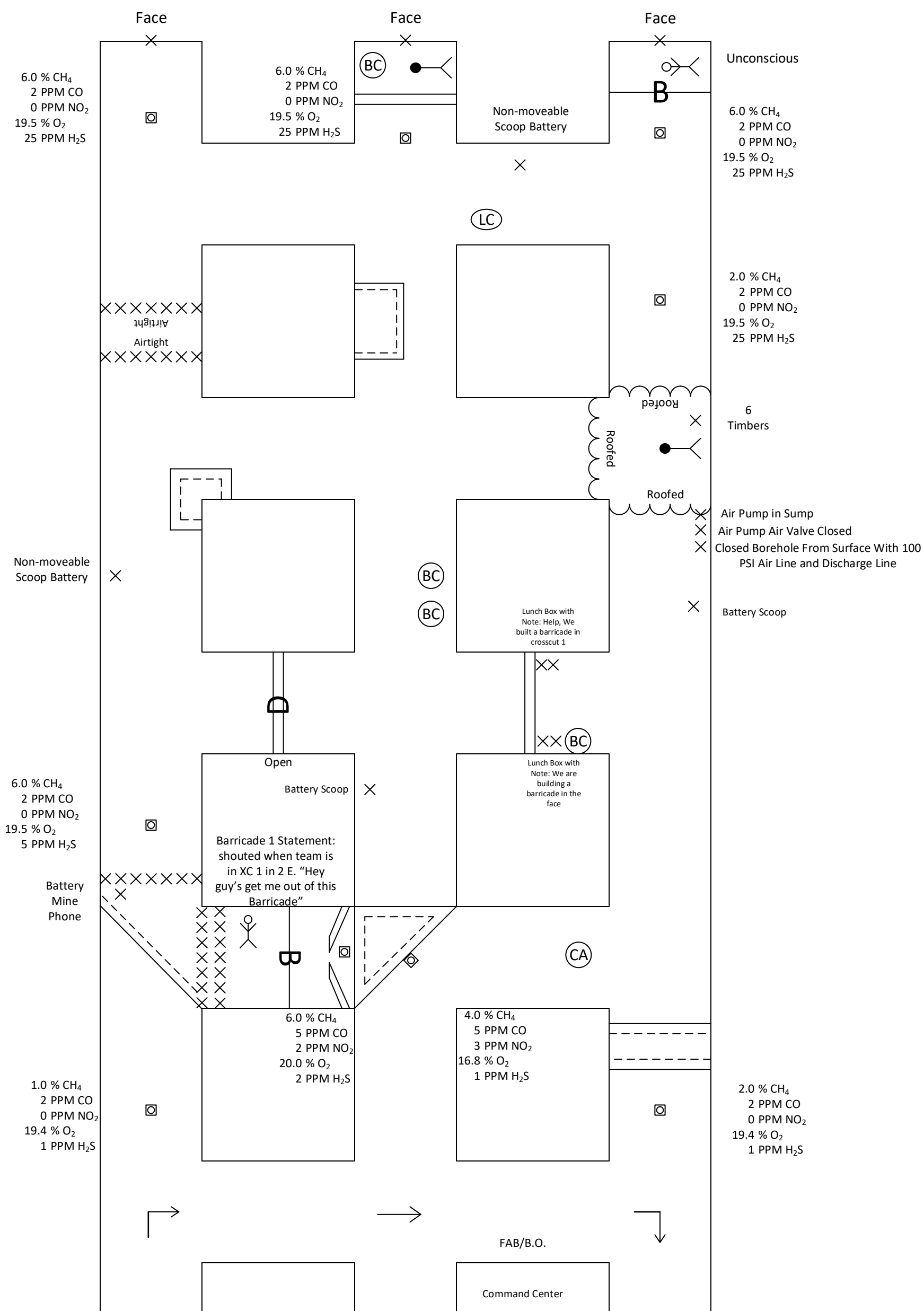
13. Team Stop 13 – in XC 1 between 2 and 1 entries. Barricade made, team must airlock into and can remove live miner to FAB walking.

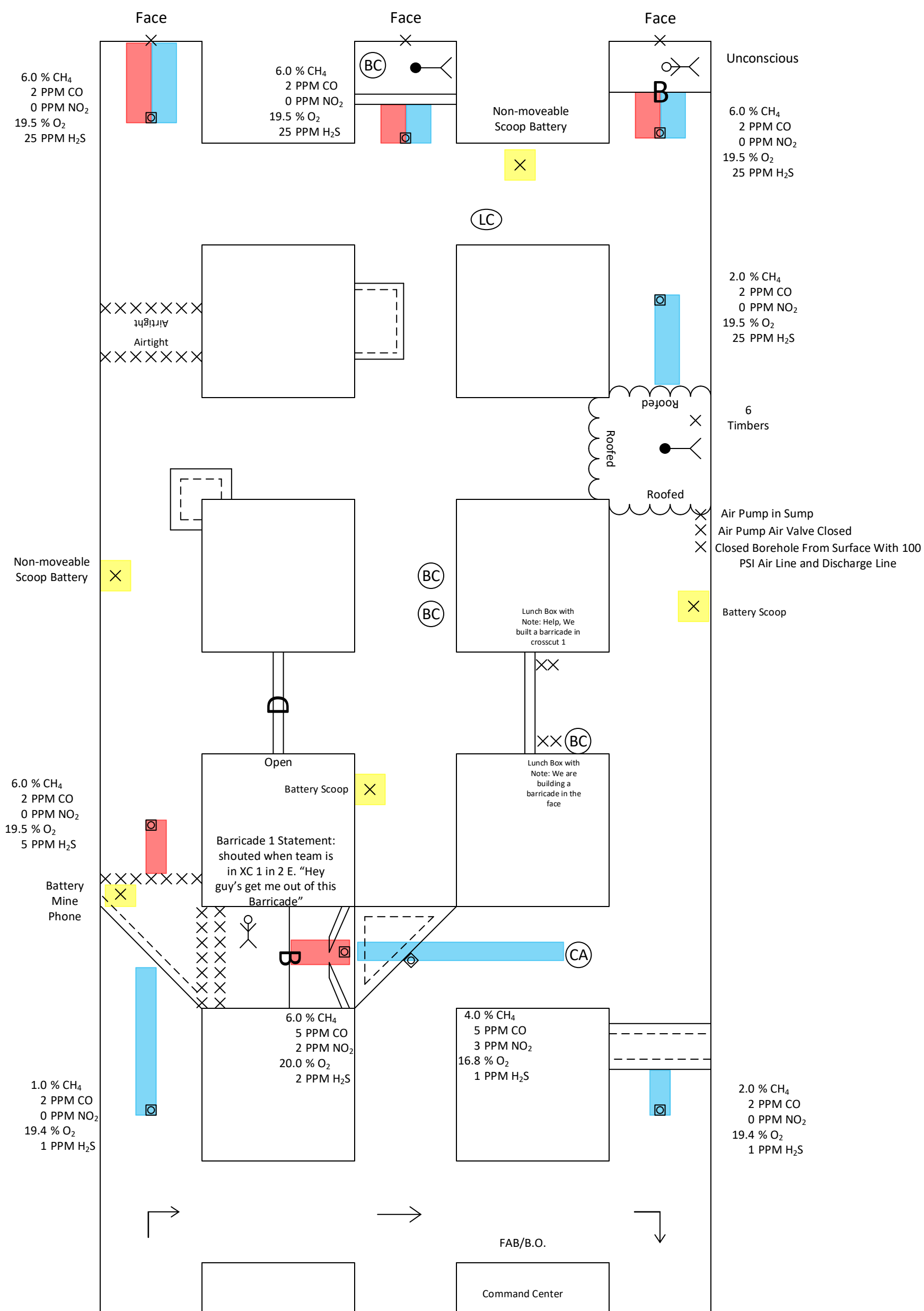
TEAM HAS ENOUGH MATERIALS AND INFORMATION TO VENT BARRICADE IN 3 ENTRY.

See vent 2 –

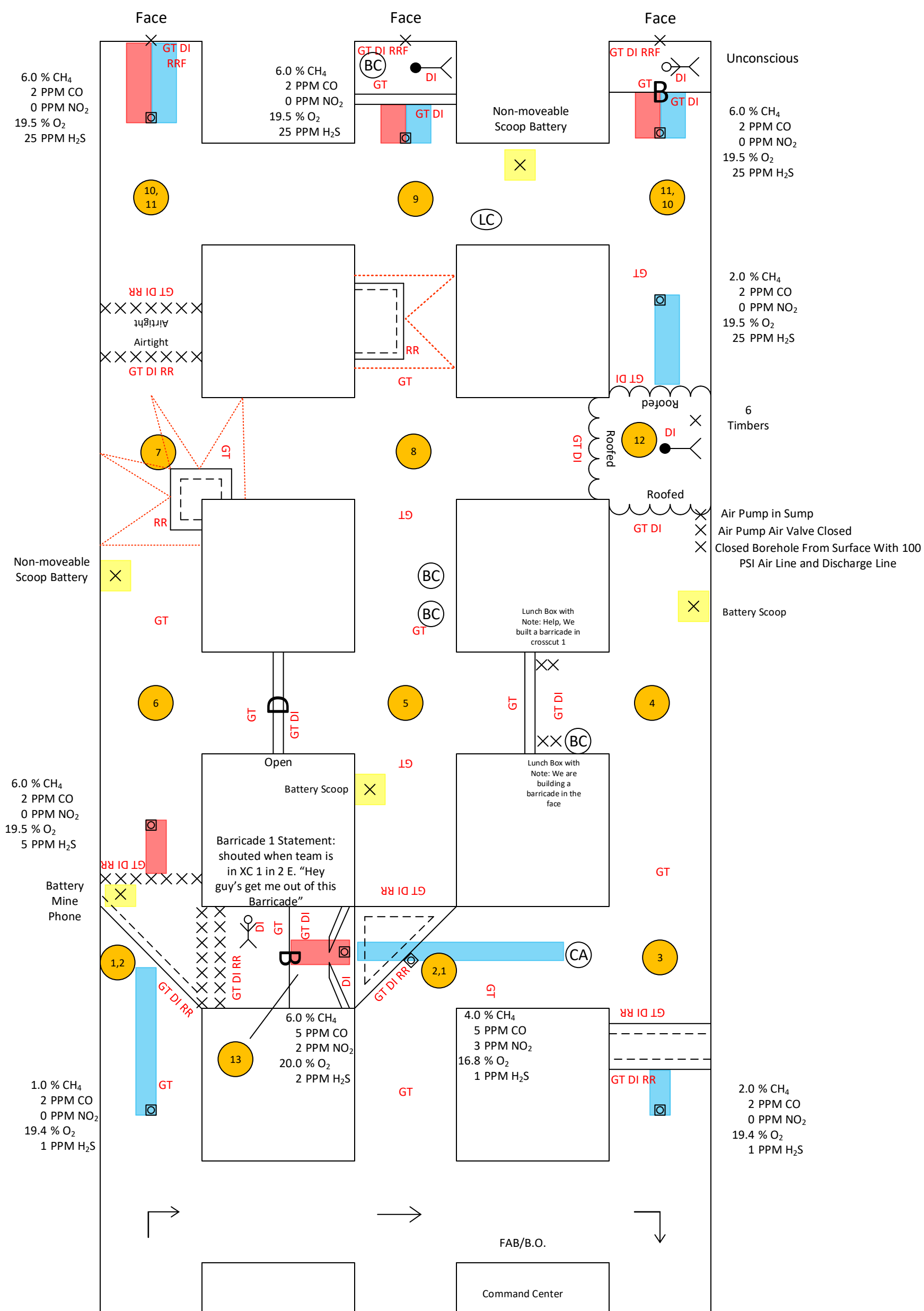
Teams can breach barricade in 3 entry with airlock, must assess Pt. and place on stretcher to remove to FAB. Face 3 made.

End of Problem

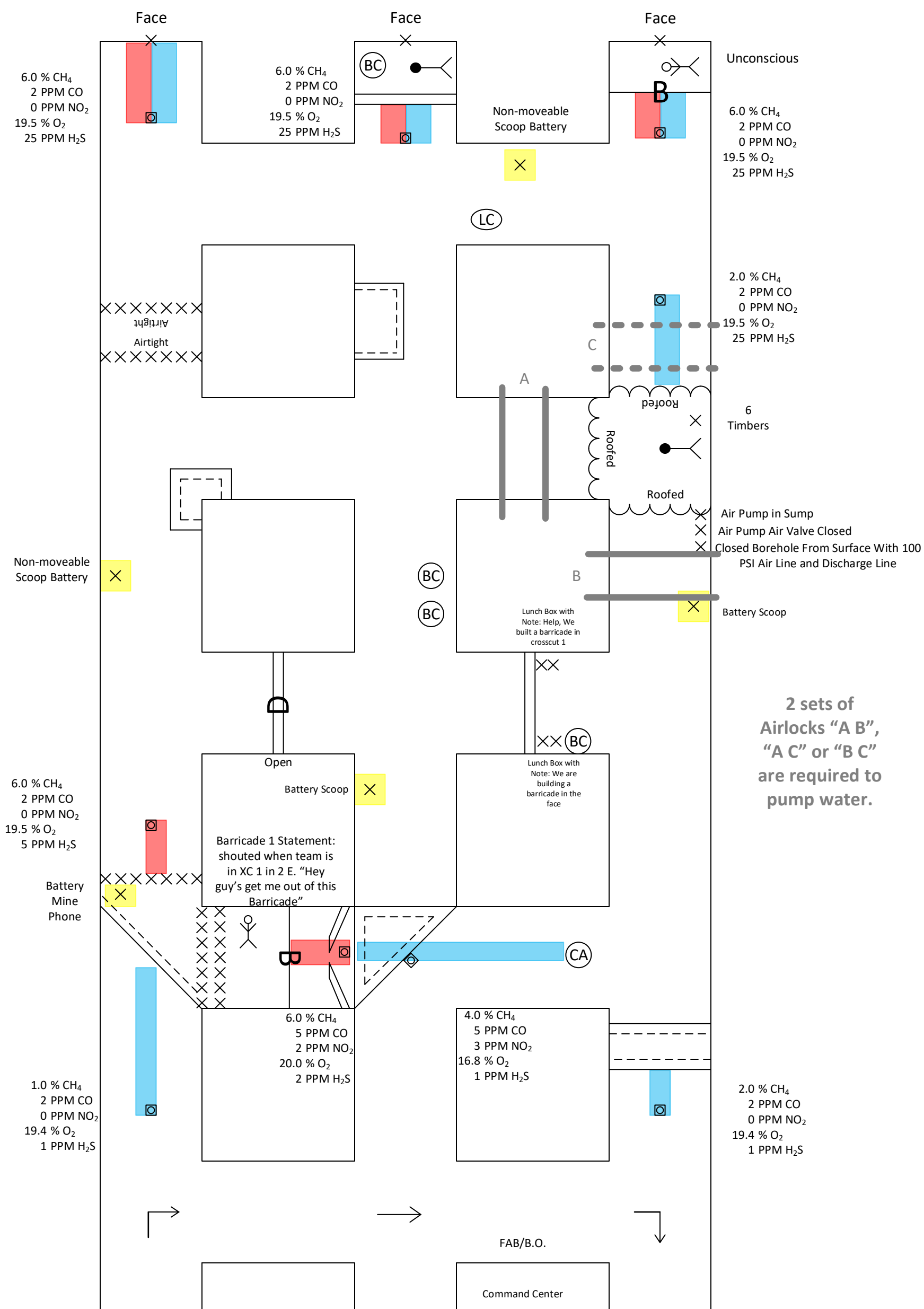




Judges Map

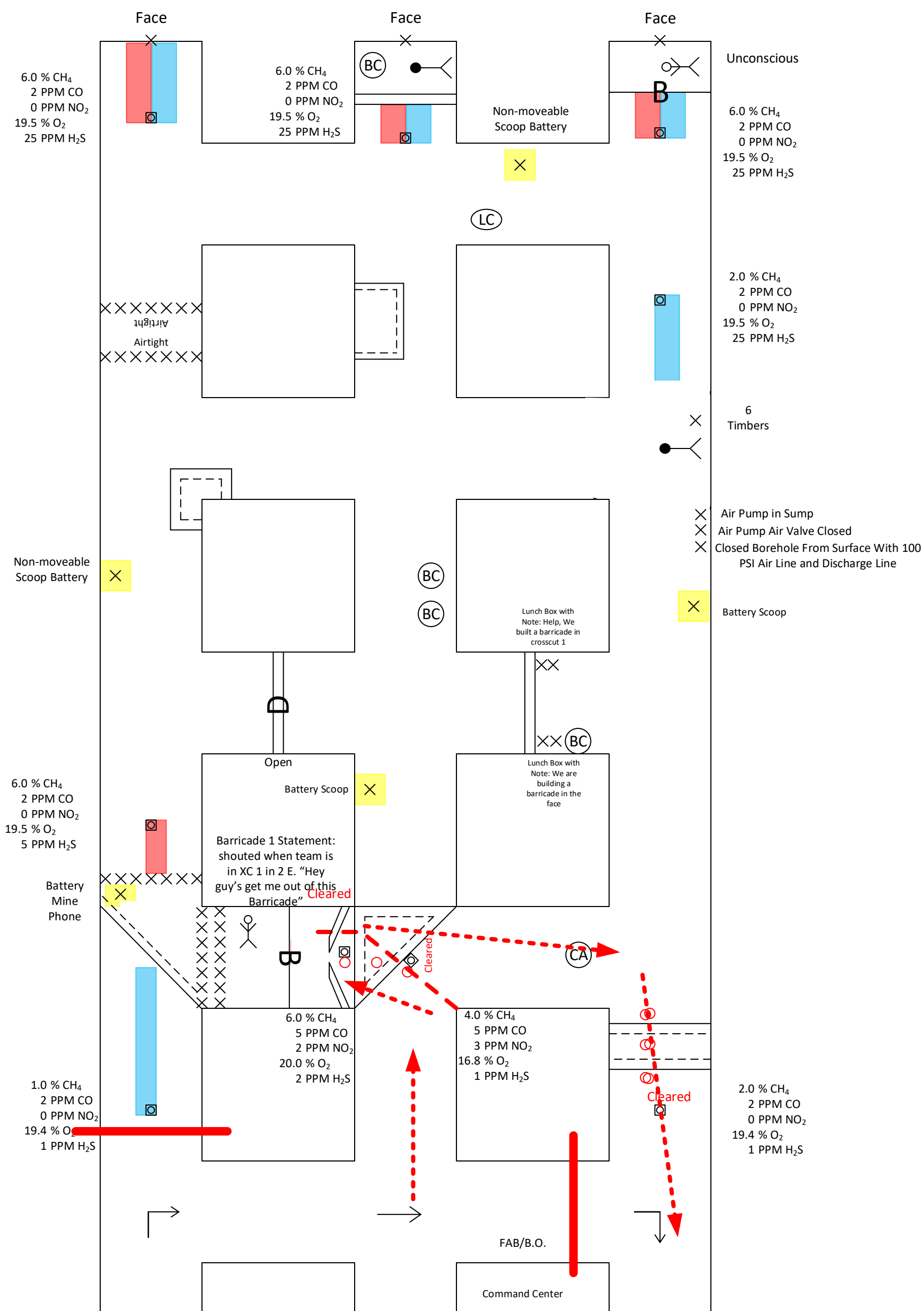


Pump

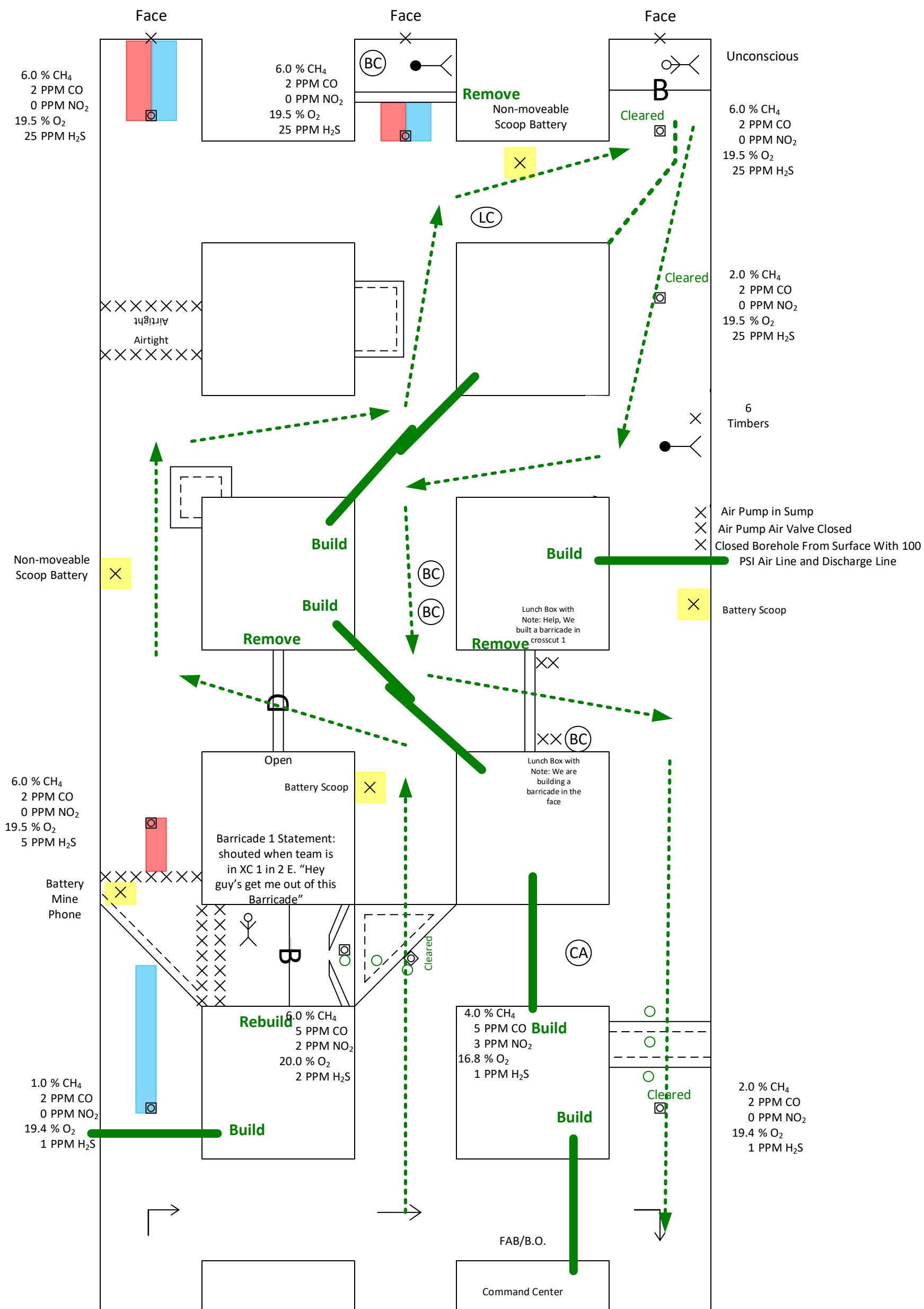


RULE 42: An equivalent airtight separation must also be maintained when pumping water roofed. If the water roofed is in an entry or crosscut one build is required; a 3-way intersection requires two builds. If there are two sides blocked, one airlock is needed. If there are three sides blocked, two airlocks are needed. **This 3 way intersection has 3 sides blocked, 2 builds AND 2 airlocks are required.**

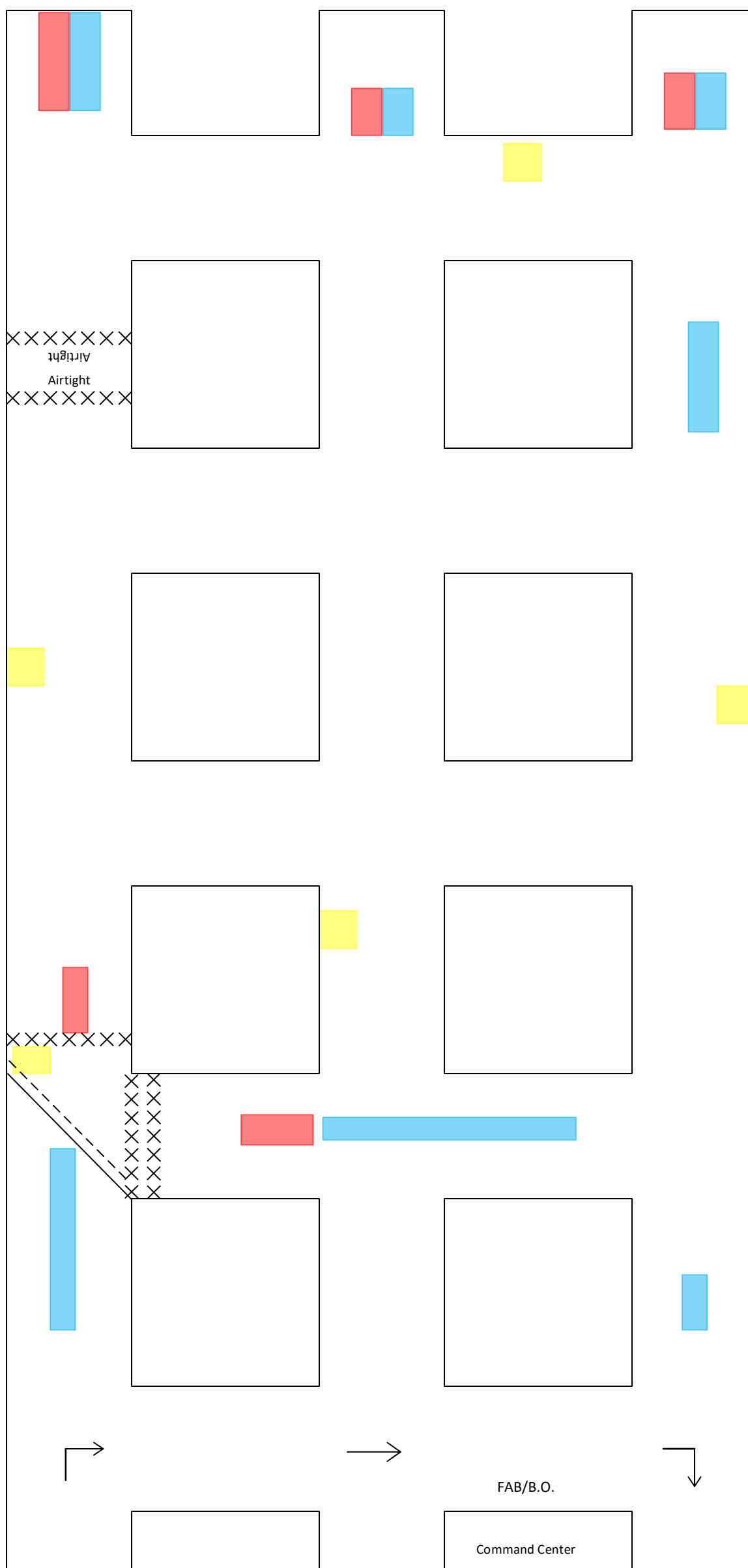
VENT 1



Vent 2



Judges Vent Map



Final Vent

Team Name

Judge Name

Captain Sig

