

2021 Craig, CO Day 1
Written Statement

Thank you for responding to our mine emergency.

You are located at the Fresh Air Base we established in 2nd Right section. Fresh air is moving across here from 1 to 3 entry. The entries are numbered from left to right 1, 2 and 3.

Last night, 1 miner was working in this section. The AMS attendant observed high CH₄ alarms and called the Shift Supervisor. The Supervisor traveled here with another miner and we have not heard from any of them at all. Our mine rescue teams, MSHA and the State were called. Before power in this area of the mine was cut, the electronic tracking system reported their location here at the FAB. Other miners attempted to enter this section but encountered high methane. This mine has methane, is wet and has bad roof and ribs in places.

The map we have for you is up to date.

The BLOWING mine fan on the surface is running, guarded and cannot be reversed or turned off. A command center has been set up outby.

All officials and backup teams are present.
Good Luck.

2021 Craig, CO
Day 1
Written Problem

1. You have 90 minutes to complete this problem.
2. Explore 2nd Left section and account for the 3 missing miners, if it can be done safely.
3. Bring any live miners to the FAB.
4. Your team cannot move any battery powered equipment or associated batteries.
5. Your team cannot reverse or turn off the main mine fan.

2021 Craig, CO Day 1 Judges Instructions

Initial opening checks entries at FAB. (explosive found in 1 and 2 entries, low O2 found in 3 E).

Team can enter any entry.

1. Team Stop 1,2,3 - at XC 1 in 1 E. 50' Apparatus check, team in explosive mixture, OKD water found inby XC 1.
2. Team Stop 2,3,1 - at XC 1 in 2 E. Team in explosive mixture, Clear air found inby XC 1.
3. Team stop 3,2,1 - in 3 E at XC 1. Team in low O2, ignition source found in XC. Xc 1 is tied in.
4. Team stop 4 - in 2 E at XC 2. Water OKD in XC 2 between 1 and 2 E. Explosive and low O2 found in Xc 2 between 2 and 3 E. Teams must tie across to 3 E.
5. Team stop 5 - in 3 E at XC 2. 3 timbers found. Zig-zag RR test required in intersection. Explosive and low O2 continue inby XC 2 into 3 E for about 5 feet then AC. Teams must advance in 3 E. XC 2 is tied in.
6. Team stop 6 - in 3 E at XC 3. ignition source found in intersection. Water roofed found inby XC 3. Person under unsafe roof found in XC between 3 and 2 E. Timbers available to set then assess person. Two or four timbers can be set (figure 3 of rules). D&I required once accessible! Gloves required to be used to assess. Person is unconscious miner, required to be placed on stretcher with SCBA to be removed to FAB (moving through low O2).
7. Team stop 7 – in 2 E at XC 3. Teams must tie across to 1 E. -but have to tie in XC 3 to 3 E.
8. Team stop 8 – in 1 E at XC 3. Explosive, low O2 and Barricade with no response inby in 1 E. OKD water found outby XC 3 in 1 E. NOT ENOUGH MATERIALS TO VENTILATE.
9. Team stop 9 – in 2 E at XC 4. Zig-zag RR test required in intersection. RRF test required in intersection. 4 timbers and LC found in XC 4 between 2 and 3 E. Teams must tie across to 3 E.
10. Team stop 10 – in 3 E at XC 4 – RRF test required.

TEAMS HAVE MATERIALS TO VENT METHANE IN 2 E TO ENERGIZE PUMP CABLE.

Must timber through unsafe roof in 3 E between XC 1 and 2.

See vent 1

Teams must pump water in 1 E. ALL WATER AT 1 E AT XC 2 REMOVED WHEN PUMP STARTED, AND REMAINS PUMPED IF PUMP TURNED OFF..

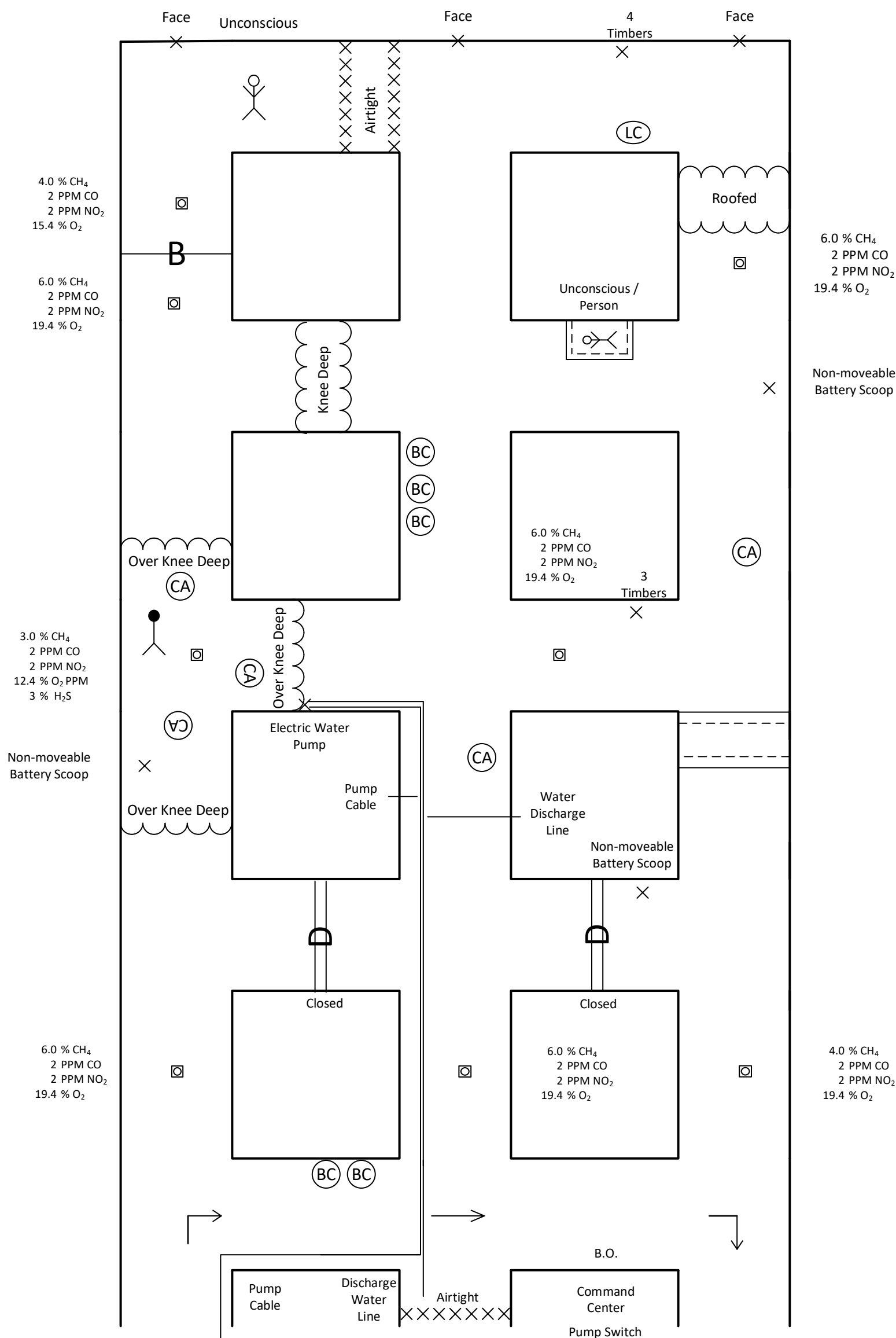
11. Team stop 11 – in 1 E at XC 2. Body found in irrespirable air (low O2 and H2S).

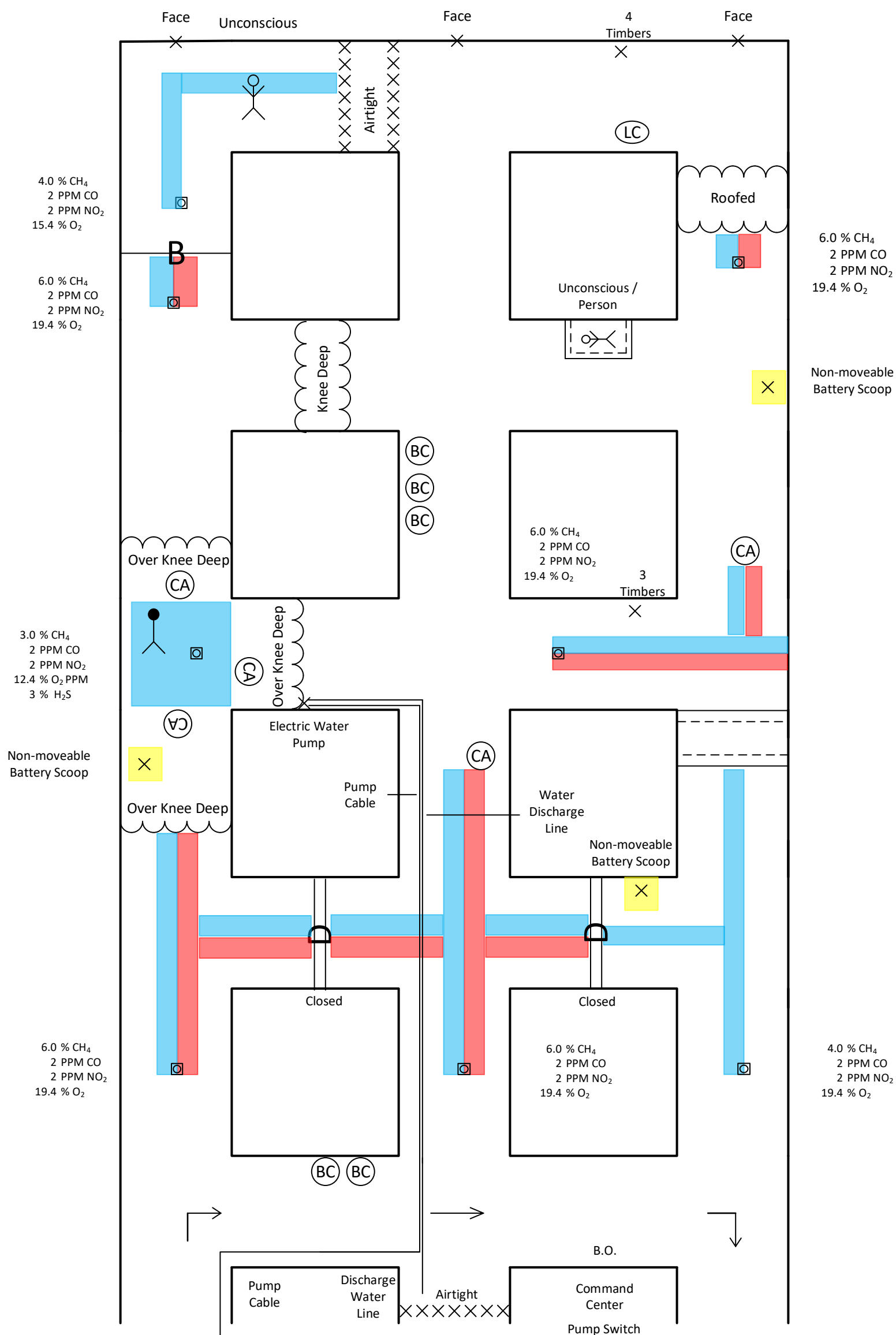
See vent 2

Team must airlock into barricade in 1 E.

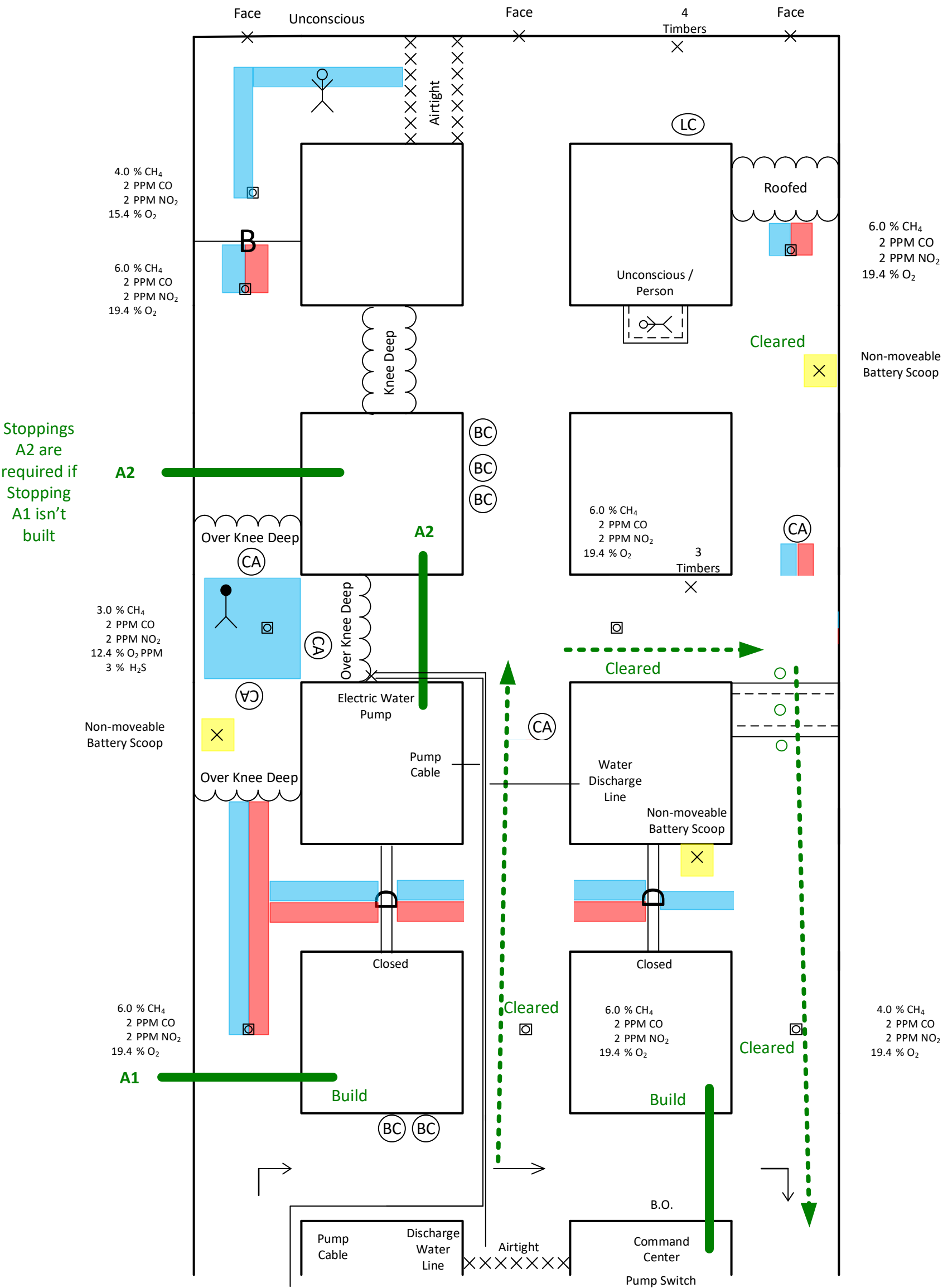
9. Team Stop 12 – in 1 entry at XC 4. RRF test required. LUM found, must be assessed. Team must place SCBA on LUM and remove to FAB on stretcher. RR test required at airtight cave in XC 4 between 1 and 2 E.

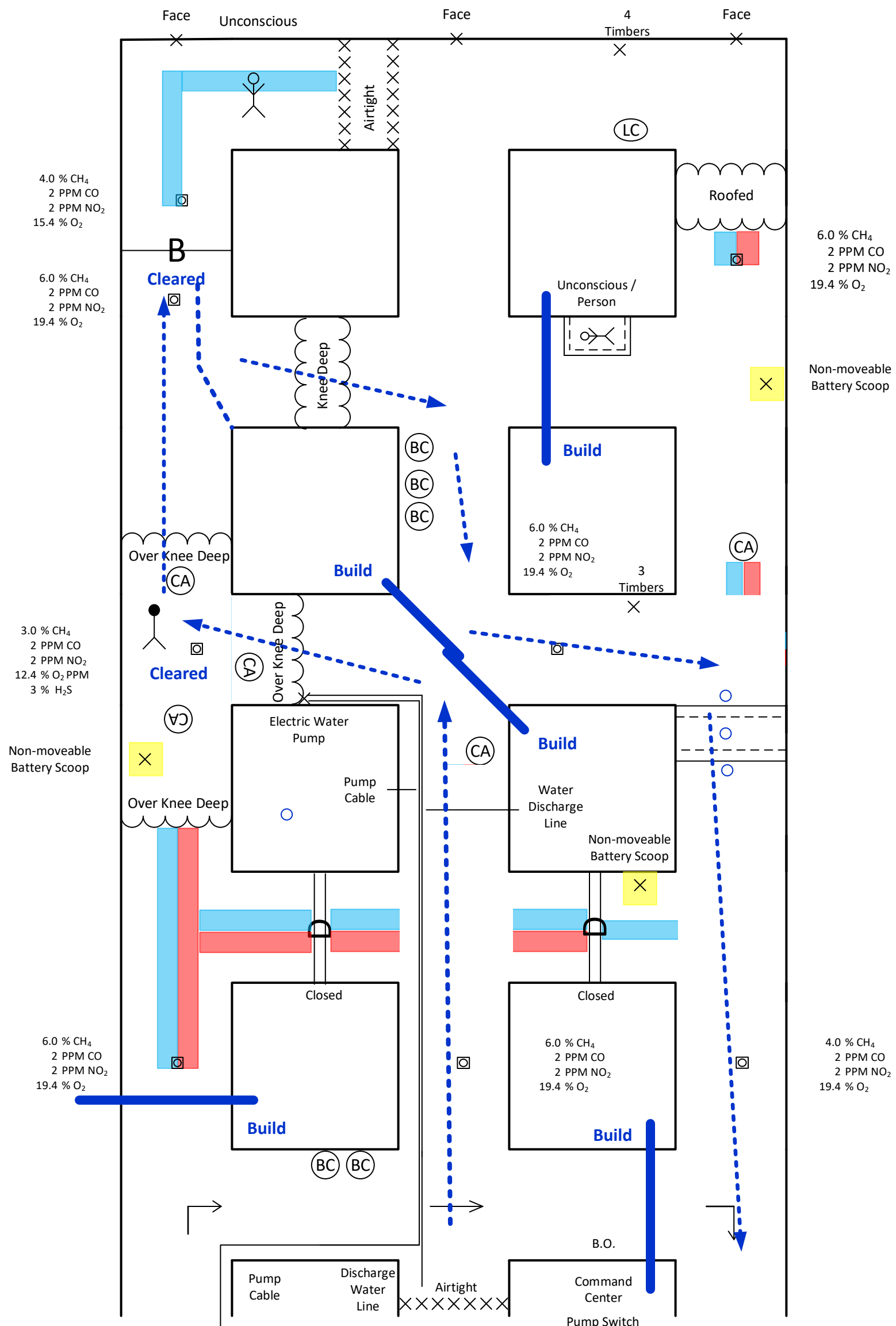
End of Problem

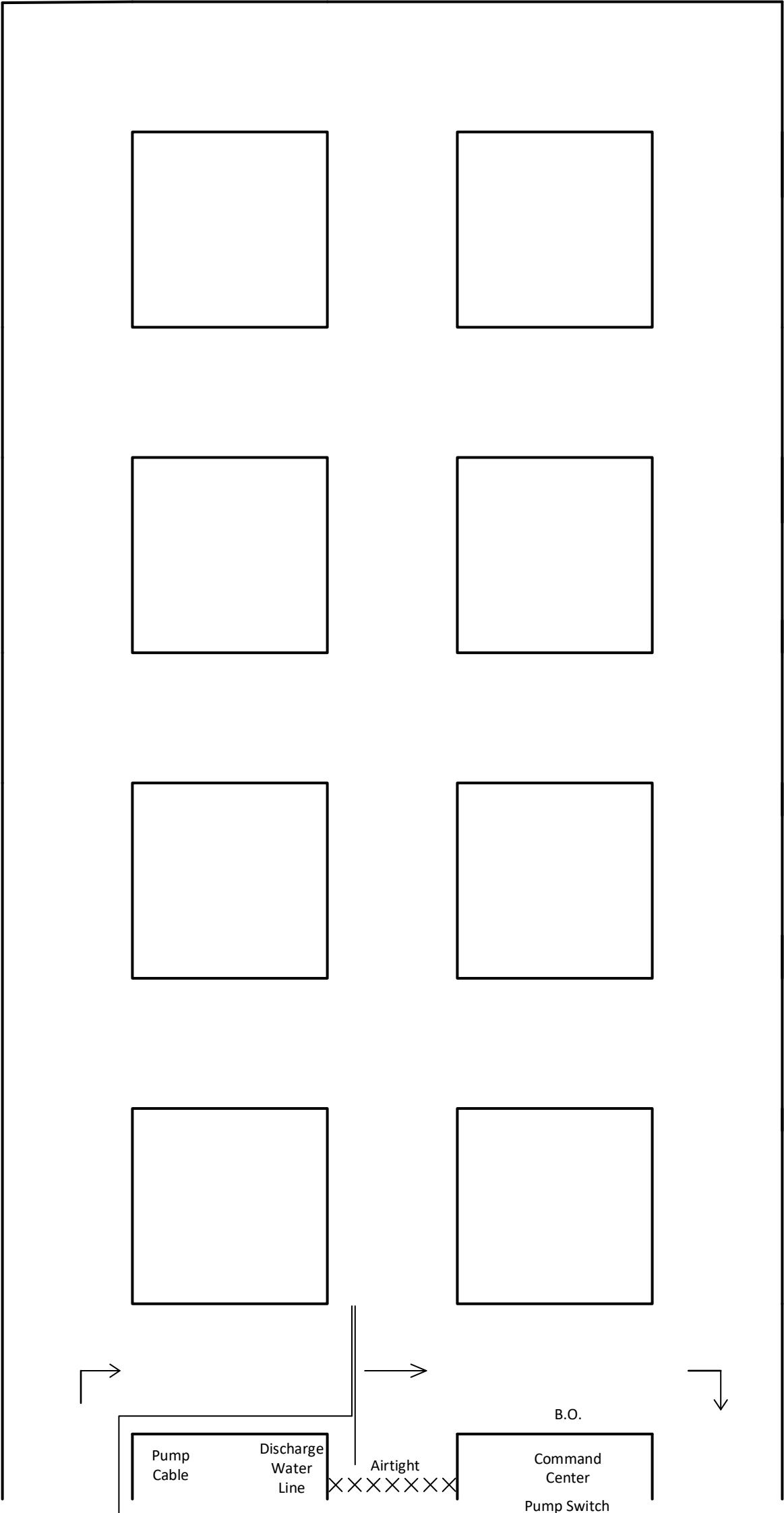




VENT 1

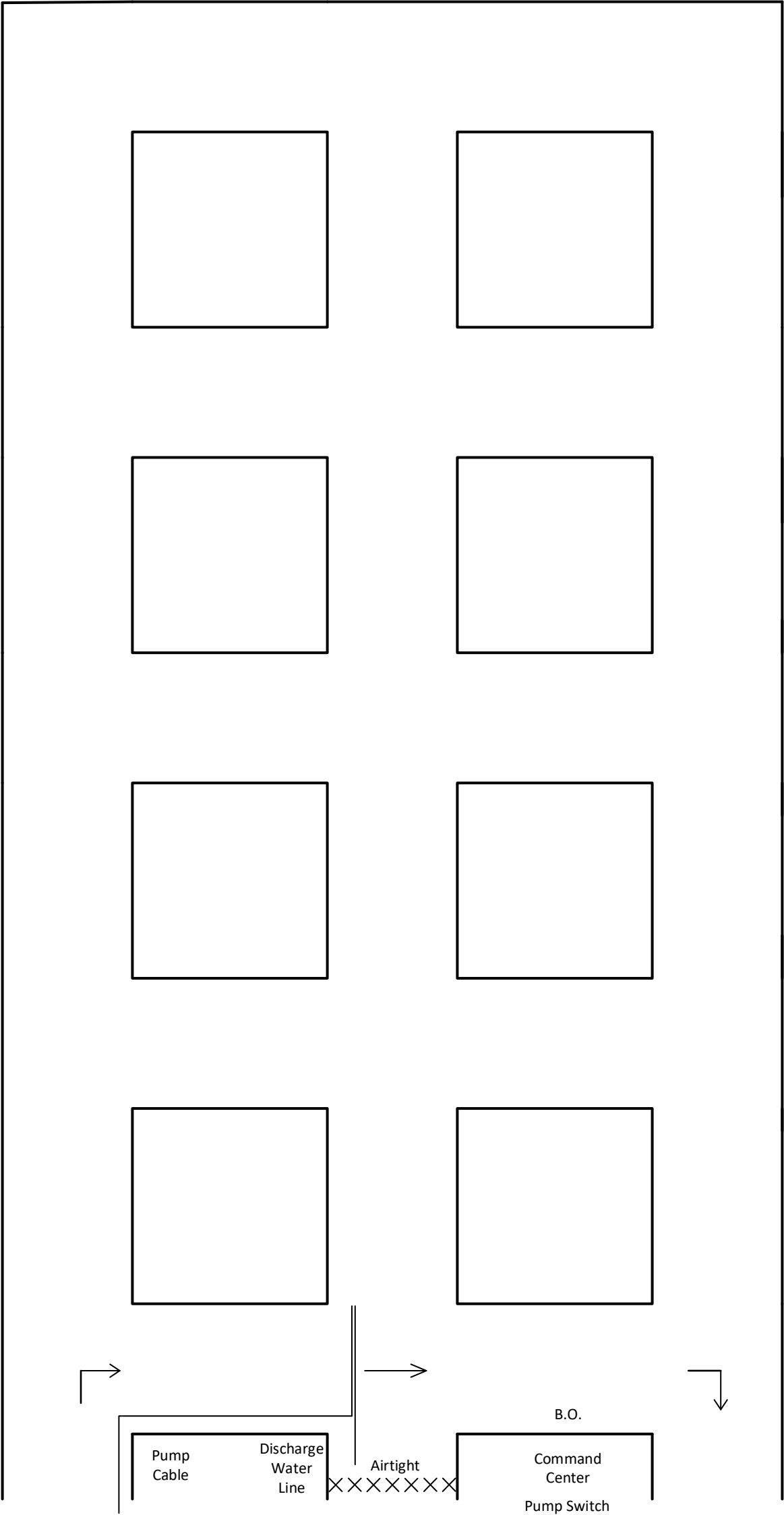






If The Box Below is
Marked, This Map Is
To Be Scored

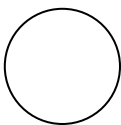
TEAM
MAP



The diagram illustrates a mine rescue system layout. Key components include:

- Top Section:** Features a "Face" area with "Unconscious" status, a "Taken out" person icon, and a "Knee Deep" water level indicator. A large rectangular box labeled "B" is shown with "Cleared" status.
- Middle Section:** Includes a "Pumped Over Knee Deep" water level indicator, a "Cleared" person icon, and a "CA" (Control Area) label. Below this is a box labeled "BC" (Battery Compartment) containing gas readings: 6.0 % CH₄, 2 PPM CO, 2 PPM NO₂, and 19.4 % O₂.
- Bottom Section:** Shows an "Electric Water Pump" connected to a "Pump Cable" and a "Water Discharge Line". The pump cable leads to a "Closed" valve, which connects to a "Command Center" and a "Pump Switch". The discharge line leads to a "Non-moveable Battery Scoop" and another "Closed" valve. Arrows indicate the flow of water from the pump to the discharge line and the flow of air/cables between components.

The following are not required on BO/Attendant maps; Conveyor belts / feeder breaker, continuous miners, bolters, rock dust, oil cans, ladder, surveying eq., parts car, picnic table, timbers found, power center, foam pack, etc. see rule 6 (A card)



6 ft

