2012 Post 5 Mine Rescue Contest

Statement

Welcome to the Dolittle Mine and thank you for responding to our emergency. This mine is a one unit mine ventilated by one exhaust main fan. The five man section crew entered the mine this morning and production began as normal. At about 11:00 AM the fan alarm activated. The fan was checked and found that the explosion doors had been blown open, and there was damage to the fan. We began attempting to contact everyone underground without success. We then began notifying mine rescue teams and the authorities. At about 1:00 PM the section foreman came to the surface and said he had been walking the belts when there was a tremendous rush of air that knocked him down and apparently knocked him out. When he regained consciousness there was a lot of dust in suspension. He was disoriented and could not see very far; he just followed the beltline to the surface.

Mine Rescue teams have explored to within a few breaks of the section faces and have established a fresh air base where you now are.

We were going to complete mining in the section today. Yesterday we intersected the 3-foot bleeder shaft in No. 2 entry. We plan to install a bleeder fan on this shaft for second mining, but it has not yet been installed.

We are mining near the Second Left sealed area. This area has just recently been sealed off from the active area of the mine; however the bleeder shaft within the sealed area has not yet been sealed and is still open to the surface.

The main fan is currently off and is being repaired which should be completed shortly. The fan can be turned on, stopped or reversed by notifying the superintendent.

The briefing officer's designated area is located in the fresh air base. The briefing officer's area becomes a self-contained, airtight chamber when the door is closed. To accomplish this, attach the curtain on the briefing officer's blind on both sides.

The mine is walking height, and we have encountered adverse roof conditions, water and methane. All electrical circuits have been de-energized, locked and tagged out inby this point.

You will have a maximum of 80 minutes to work the problem. Mine maps (up-to-date as of the end of midnight shift this morning) and the written problem will be given to you when you are ready to begin.

2012 Post 5 Mine Rescue Contest Problem
(Written Instructions)

EXPLORE ALL AREAS OF THE MINE THAT CAN BE SAFELY EXPLORED

ACCOUNT FOR ALL MISSING MINERS AND BRING SURVIVORS TO THE FRESH AIR BASE

THE TEAM MAY NOT CARRY MORE THAN TWO (2) BRATTICE CURTAINS AT ANY ONE TIME

YOU HAVE A MAXIMUM OF 80 MINUTES TO WORK THE PROBLEM

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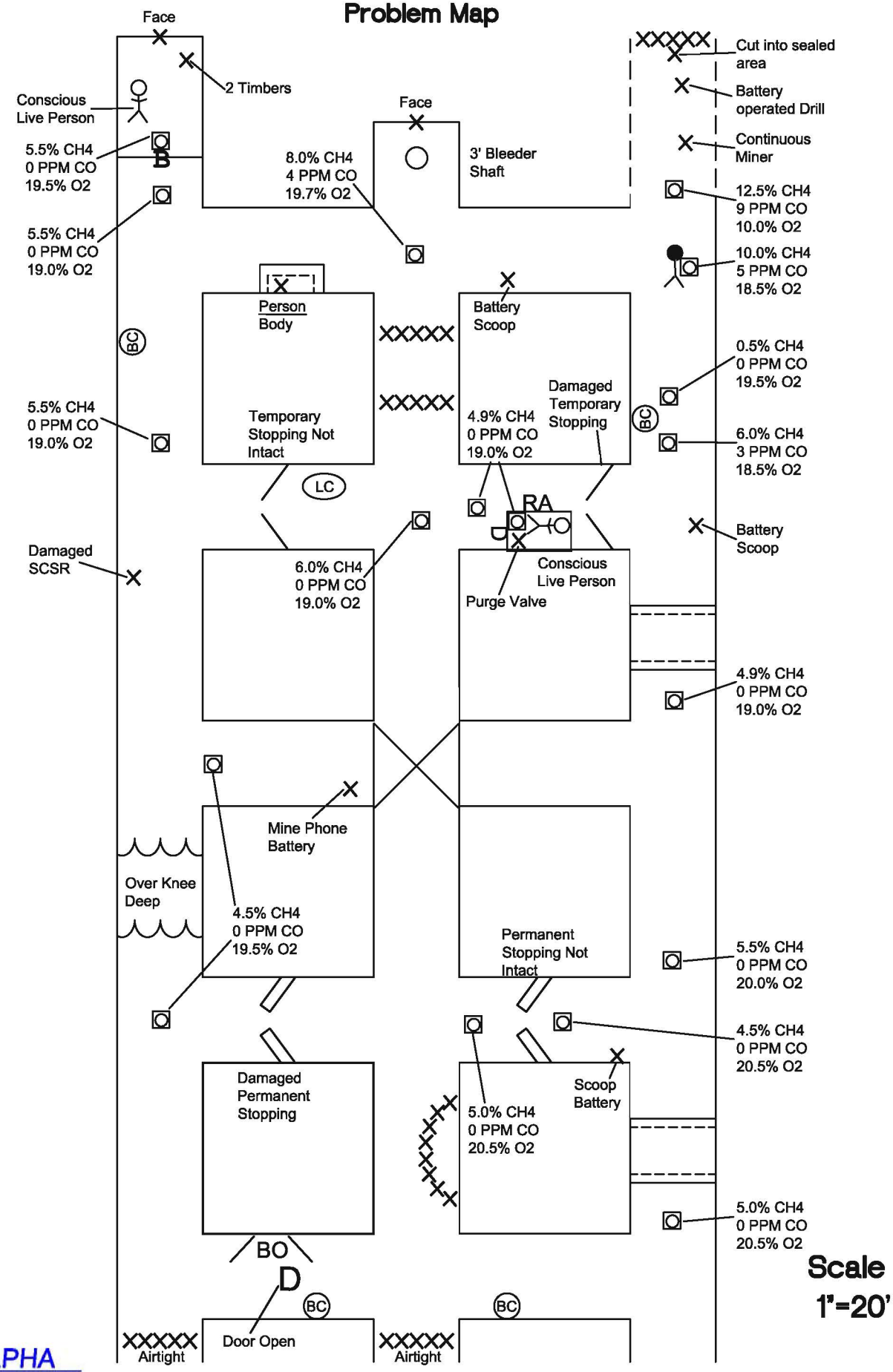
Problem Map



Scale
1"=20'

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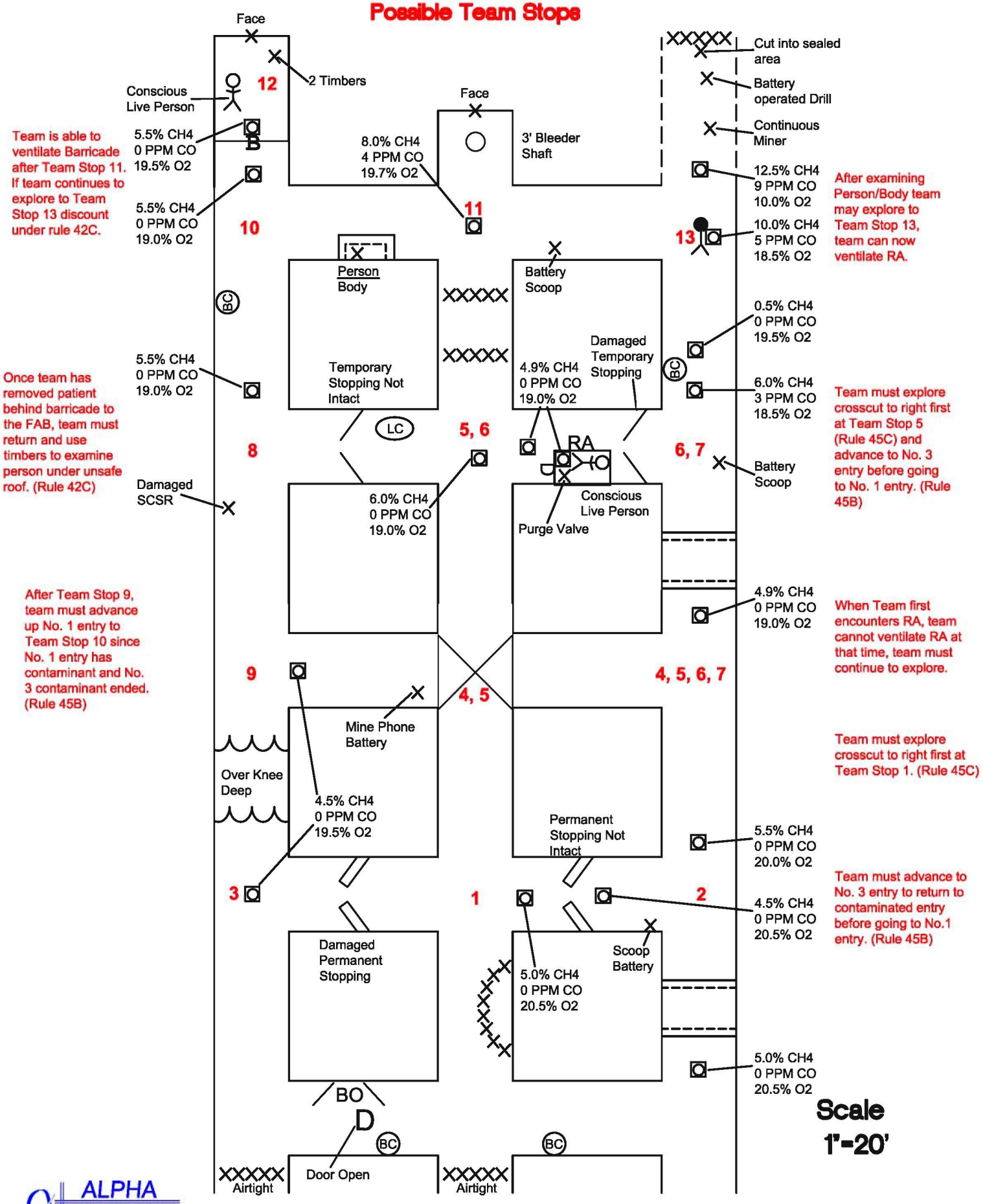
Possible Team Stops



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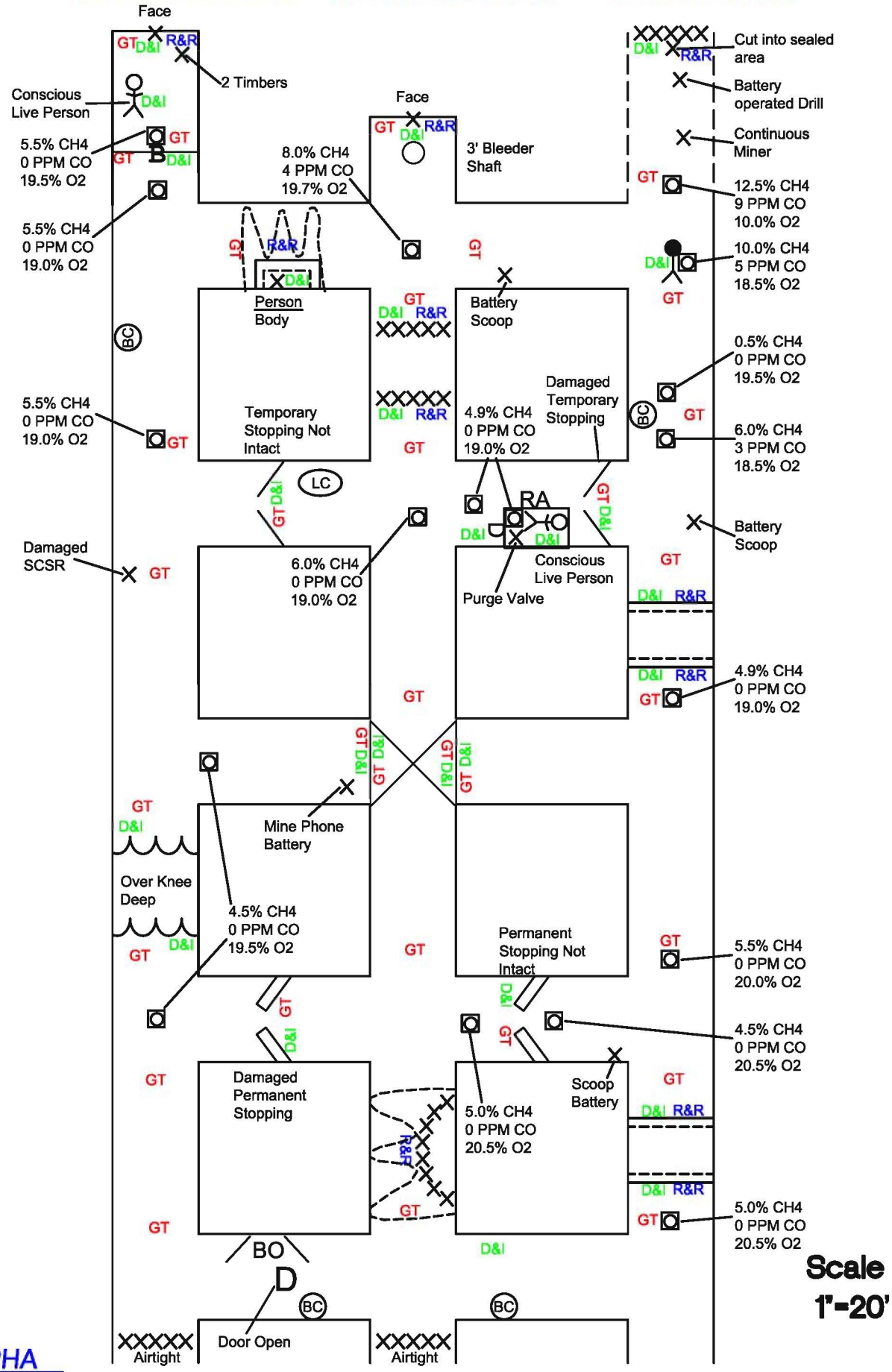
R&R Roof & Rib Test GT CH4-O2-CO Test D&I Date & Initial



Scale
1"=20'

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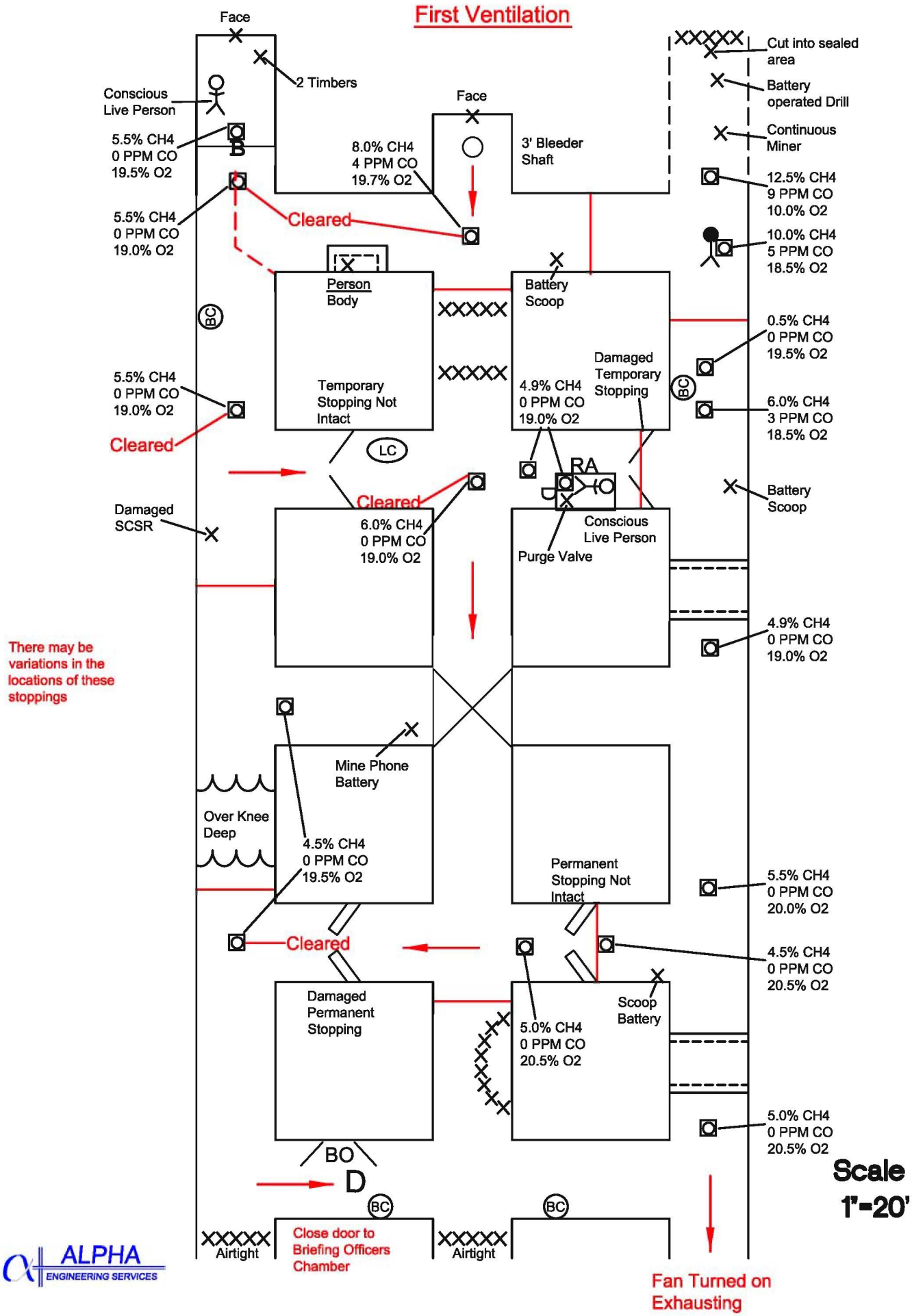

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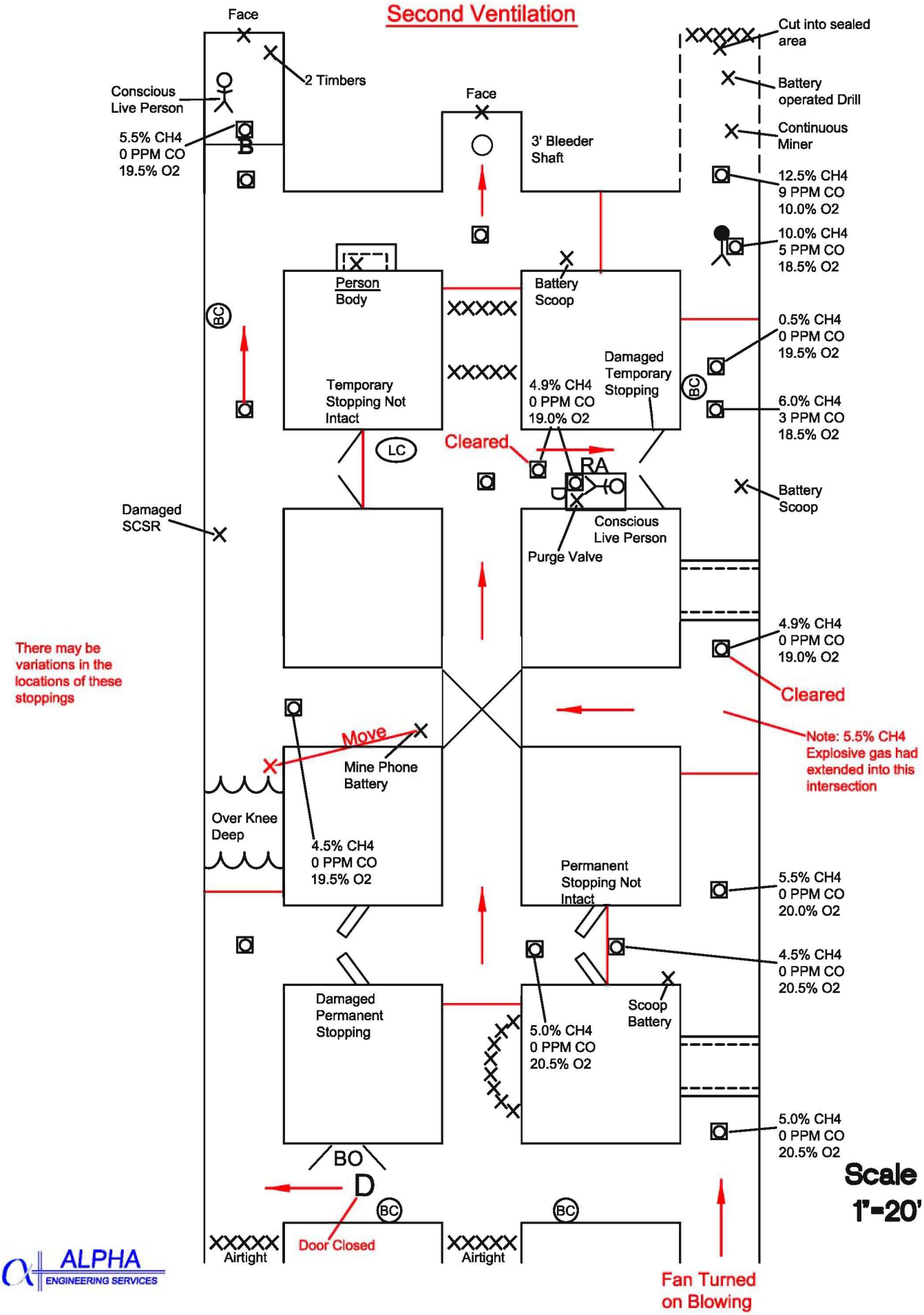

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RA Patient Statement

Help, get me out of here!

Barricade Patient Statement

Help get me out of here. It is airtight behind me!

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Team member name: _____ Team # _____

Please circle the correct answer.

1. It's recommended teams should not travel through water that is over _____ deep (less in low coal).
   a. ankle
   b. knee
   c. waist
2. Electrical fires are _____ fires.
   a. "Class D"
   b. "Class B"
   c. "Class C"
3. Normal air has a specific _____ of one.
   a. density
   b. atomic weight
   c. gravity
4. Sometimes what seems like an _____ is actually a major roof fall, or a rock bump or rock burst.
   a. explosion
   b. ignition
   c. outburst
5. The fresh air base should be situated where it can be linked to the command center by means of a _____ system.
   a. wireless
   b. hard wire
   c. communication

6. When taking a reading with an anemometer, a commonly used method is to _____ the airway.
    a. crisscross
    b. traverse
    c. bisect
7. Air containing 4 to 74.2 percent hydrogen will explode even when there is as little as _____ percent oxygen present.
    a. 4.5
    b. 12
    c. 5
8. Gas layering is like smoke rollback with Methane and _____ the likely gases to form layers during a fire.
    a. Carbon Monoxide
    b. Hydrogen
    c. Carbon Dioxide
9. Carbon monoxide can be detected by means of carbon monoxide detectors, multi-gas detectors, or by _____ analysis.
    a. chemical
    b. computer
    c. stain-tube
10. An airlock consists of two doors or two stoppings with flaps or doors in them which are in close proximity to each other in the same _____.
    a. entry
    b. passageway
    c. crosscut

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Answer Sheet

1. b. knee (32)
2. c. “Class C” (4)
3. c. gravity (72)
4. a. explosion (20)
5. c. communication (17)
6. b. traverse (62)
7. c. 5 (88)
8. b. Hydrogen (59)
9. a. chemical (84)
10. b. passageway (63)