

NATIONAL MINE RESCUE

KMI MINE RESCUE CONTEST

August 20, 2019

Thank you for answering our call for help! You are located at the Fresh Air Base of the Big Blue #1 Coal Company. It looks as though we may have ran into a problem. Here is the information that I have at this time.

A foreman and four others went in early this morning to make sure that the area around the new air shaft was ready. We have been having some problems with water accumulations around the new air shaft. Someone was supposed to lower a pump down the air shaft last night. I'm not sure if they got that done or not. We were hoping to start utilizing the new shaft today. When I arrived the mechanic had just came out said that the foreman had told him to bring the two pin men out to get some more supplies and for them to call him before they came back in case they needed anything else. The mechanic said that the top had been working in a number of places all night. All attempts to contact the section foreman or the miner man has been unsuccessful. That is when we called for help.

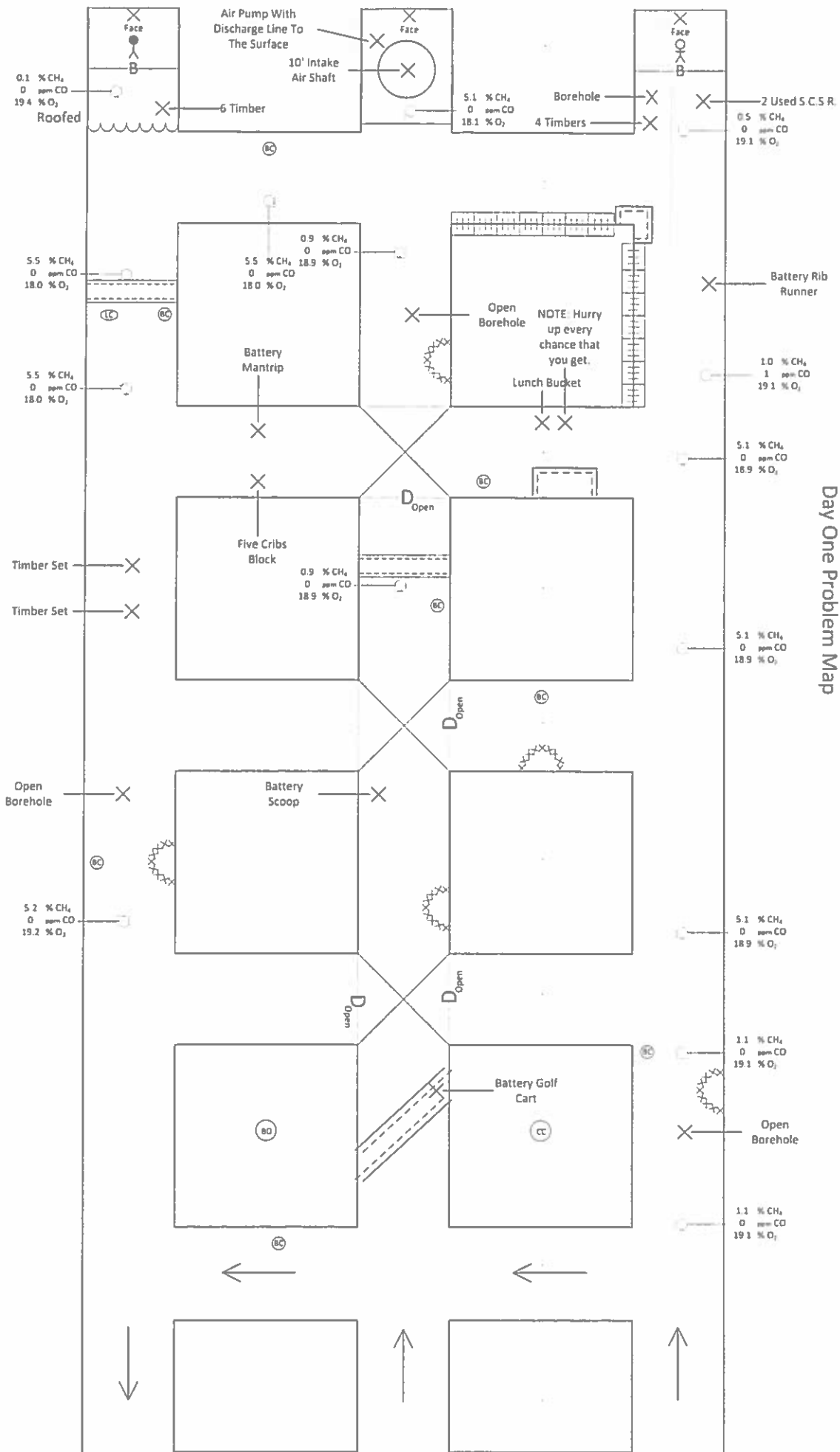
We have had our problems with bad roof & ribs, water and methane. We have a competent life line person to give and take life line signals if necessary.

The exhaust fan is outby in the #1 entry. It is currently running and is ventilating the FAB but we have checked and there is no air going inby the FAB, it is pulling the air up the #2 & #3 outby entries and across the F.A.B. All the power inby this area has been disconnected locked and tagged out and is being guarded. The mine is walking height. All of the regulatory agencies have been notified and have their personnel here. There are additional mine rescue teams here to serve as your back up. This is not a very big mines please help us find our missing miners. GOOD LUCK & BE CAREFUL!

MINE RESCUE

WRITTEN INSTRUCTIONS

- **ACCOUNT FOR ALL MISSING PERSONS**
- **BRING SURVIVORS TO THE FRESH AIR BASE**
- **THE EXHAUSTING FAN CANNOT BE STOPPED, STALLED OR REVERSED.**
- **IF THE TEAM FINDS A PUMP, THEY MUST NOTIFY THE B.O. OR C.C. OF ITS LOCATION BEFORE LEAVING THAT TEAM STOP.**
- **ANY PUMP FOUND CAN ONLY BE STARTED AND/OR STOPPED BY REQUESTING THE B.O. OR C.C. TO DO SO.**
- **THIS IS A COPY OF THE LATEST MINE MAPS THAT WE HAVE, OUR MINE ENGINEER IS WORKING ON GETTING EVERY THING UP TO DATE.**
- **LEAVE ALL MATERIALS PROVIDED FOR THE WORKING OF THE PROBLEM ON THE FIELD AND/OR IN THE FAB.**



2019 KMI
Day One Problem Map

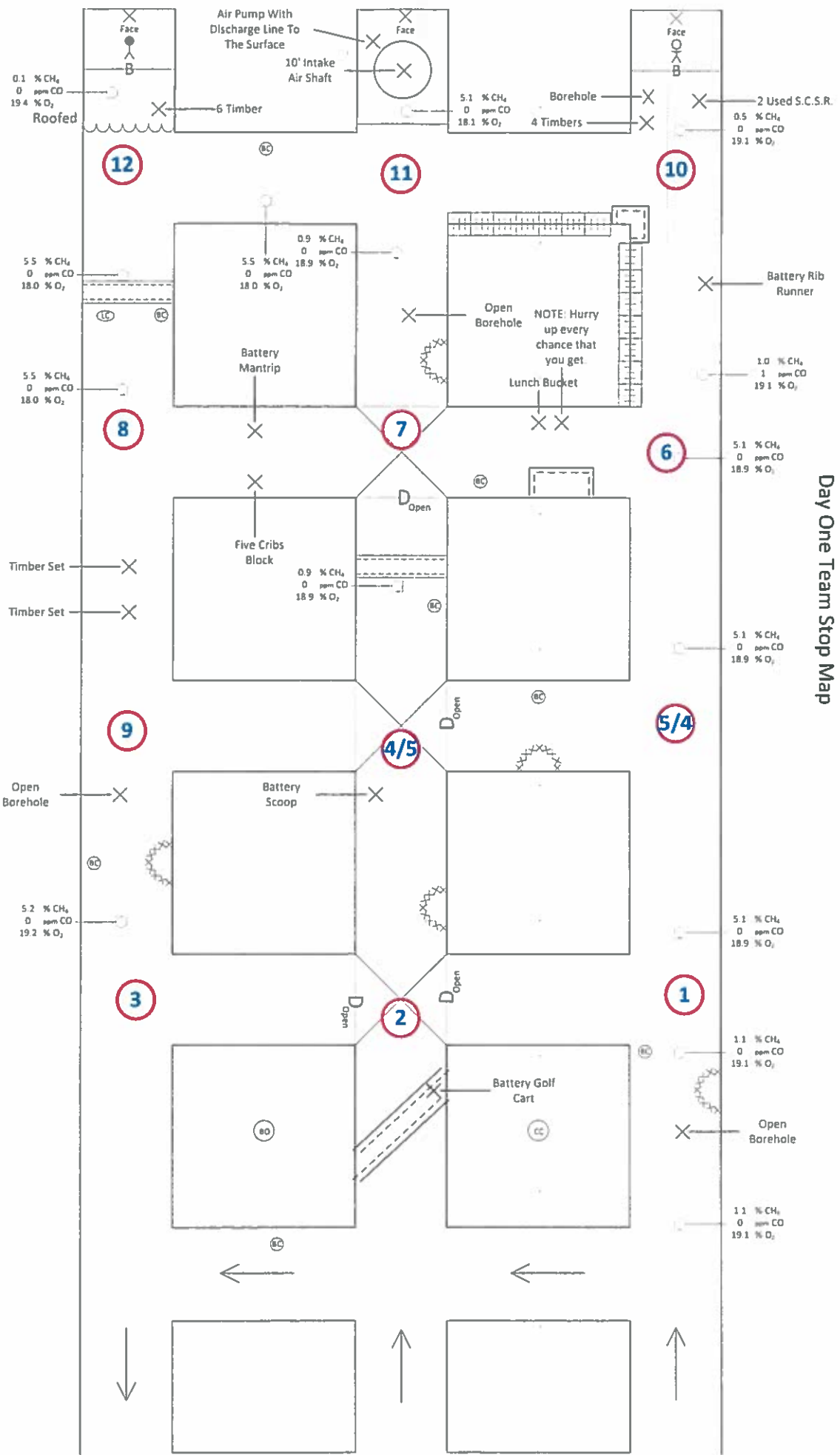
2019 KMI KENTUCKY STATE

MINE RESCUE CONTEST

AUGUST 20, 2019

WORKING PROCEDURES:

When the team enters the Fresh Air Base, the Superintendent will introduce himself to the team captain. The Briefing Officer and/or Command Center Attendant will report directly to the command center. The team will then have 4 minutes to arrange their equipment, lay out their lifeline etc. If the team captain does not start the clock within 4 minutes the Superintendent will start the clock. The team does not have to unload and test stretchers. They must however check their gas detectors after the clock has started as well as their communications between the team and the command center. Teams must go over standard lifeline signals with the lifeline judges unless wireless communications are used. Time for the briefing officer and the command center attendant to get set up is included in the 4 minute time.



2019 KMI
 Day One Team Stop Map

F.A.B.

The team is located at the underground F.A.B. The team should make all three entrances prior to the team advancing inby.

In the #1 entry, the team should make to the imaginary line of the next intersection, a GT is required in this area.

In the #2 entry, the team will find a diagonal area of unsafe roof, a R&R, & the captain's D&I and a GT is required at this location.

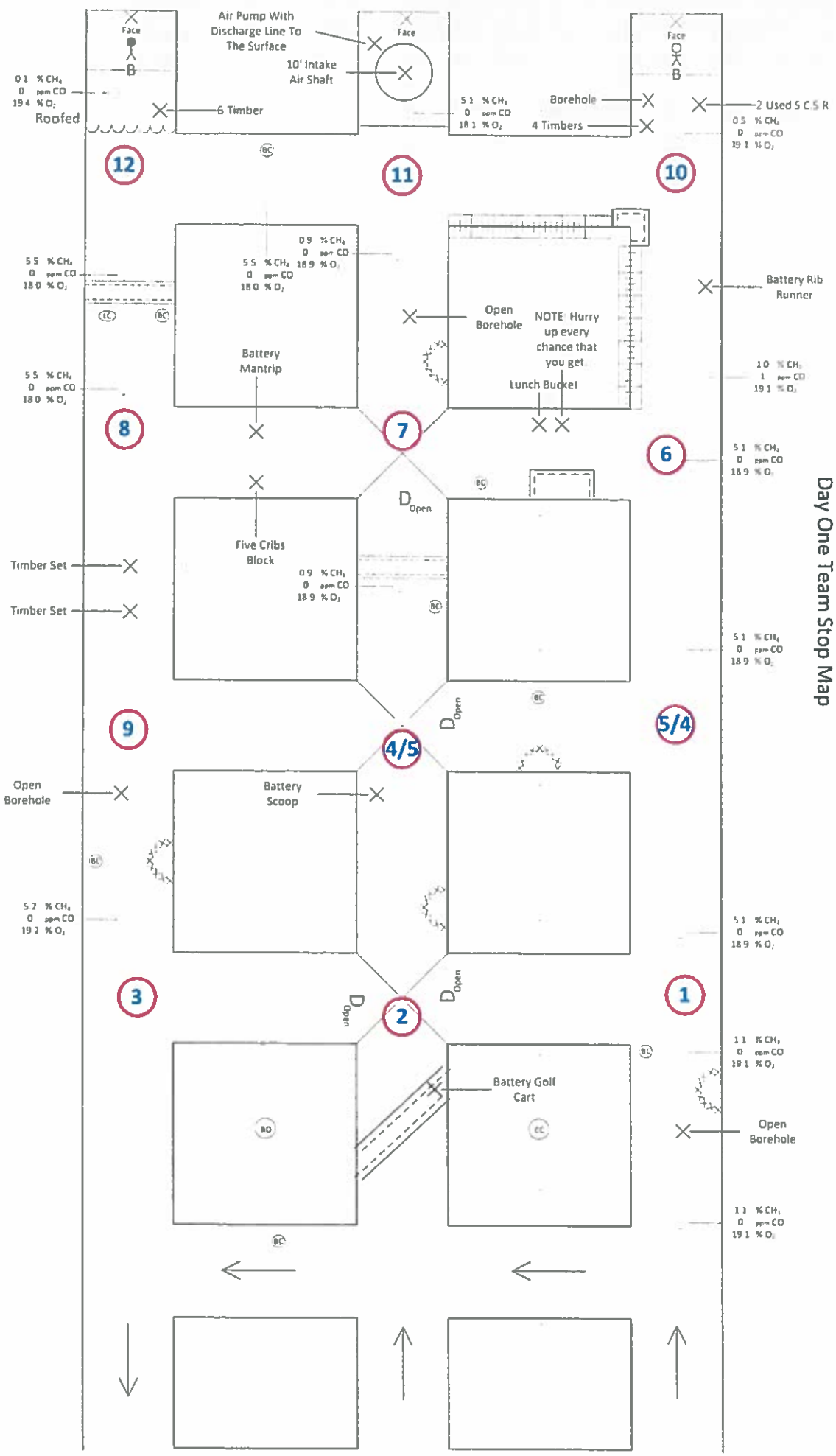
In the #3 entry, the team will find an irrespirable atmosphere extending to and open borehole, on the right rib the team will find a caved area, a zig zag R&R is required at this location. Inby that the team will find a brattice cloth on the left rib and an irrespirable atmosphere extending into the intersection, a GT is required in this area.

TEAM STOP #1

At team stop #1(#3 entry), an apparatus check must be made with all team members underground. Straight up the #3 entry the team should find an explosive & irrespirable atmosphere extending to the next intersection, a GT is required in this area. To the left the team should find the wall of overcast with a door that is open, the captain's D&I and a GT is required at this location.

TEAM STOP #2

The team should travel to the #2 entry, in the intersection of the #2 entry the team should find an overcast, the captain's D&I and a GT is required on both walls of the overcast. Inby the team should find a caved area on the right rib, a zig zag R&R is required at this location. Inby that the team should find a battery scoop on the left rib, a GT is required in this area.



2019 KMI
Day One Team Stop Map

TEAM STOP #3

The team should travel through the overcast door, the captain's D&I and a GT are required on that side of the overcast wall, the team should travel into the intersection of the #1 entry, inby the team should find explosive and irrespirable atmosphere extending inby to an open borehole, a GT is required at this location, on the left rib the team should find a brattice cloth, on the right rib the team should find a caved area, a zig zag R&R is required at this location.

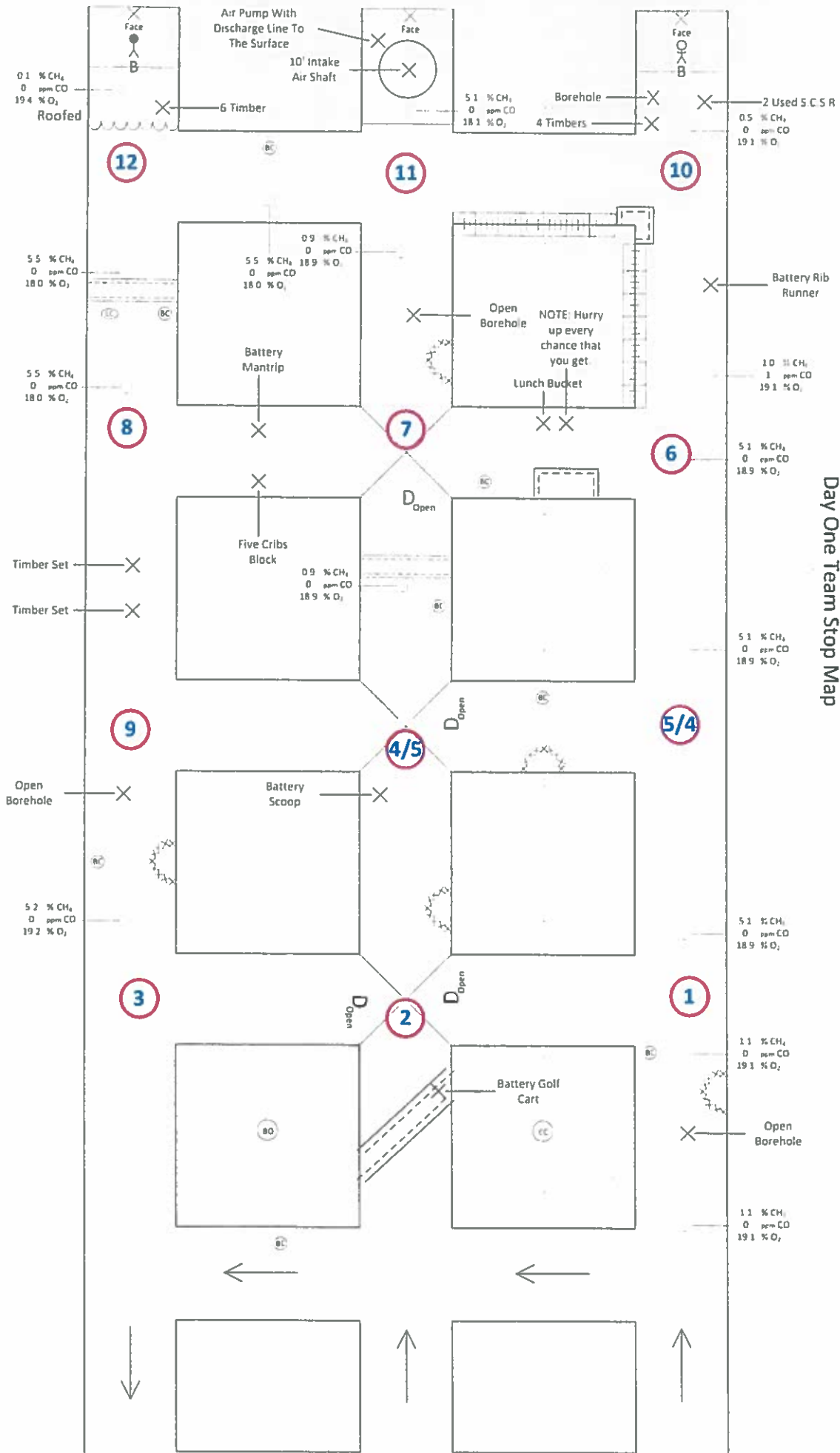
TEAM STOP #4

(Team Stops #4 & #5 May Be Interchanged)

The team may travel up the #2 entry the intersection of the second crosscut, in the intersection the team should find an overcast with a door open on the left, the captain's D&I and a GT is required on both walls, inby the team should find a brattice cloth on the right rib, inby that the team should find a irrespirable atmosphere extending into an area of unsafe roof extending across the entry, a R&R, the captain's D&I and a GT are required at this location.

TEAM STOP #5

The team should travel through the open door toward the #3 entry, the captain's D&I and a GT are required at the wall of overcast, on the outby rib the team should find a caved area, a zig zag R&R is required at this location, on the inby rib the team should find a brattice cloth, in the intersection the team should find an explosive and irrespirable atmosphere, inby the team should find an explosive and irrespirable atmosphere extending into the next intersection, a GT is required in this area.



2019 KMI
Day One Team Stop Map

TEAM STOP #6

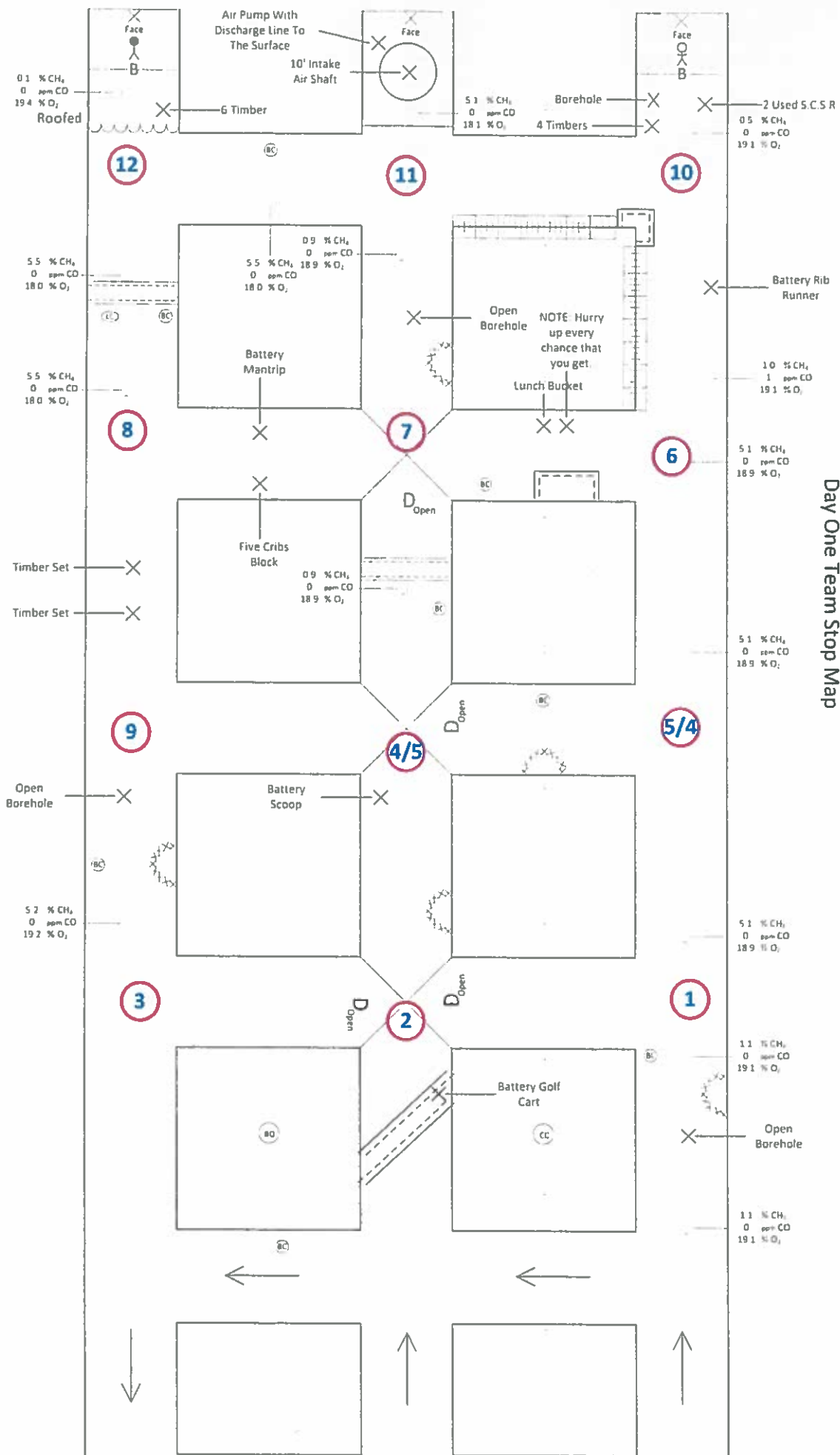
Inby the team should find a unsafe rib on the left side extending to an area of unsafe roof, a zig zag R&R is required at this location but the captain must not go inby the imaginary line at this team stop, the team should find an irrespirable atmosphere extending into the next intersection, inby the team should find a battery rib runner, a GT is required in this area, to the left the team should find an area of unsafe roof, a zig zag R&R is required at this location, the team should also find a brattice cloth on the outby rib, on the inby rib the team should find a lunch bucket with a note; (Hurry up every chance that you get) a GT is required in this area.

TEAM STOP #7

At this stop the team should find an overcast, the captain's D&I and a GT are required on both walls of the overcast, the team should travel through the door on the outby side of the overcast wall, the captain's D&I and a GT are required on that side of the over cast wall, outby the team should find an area of unsafe roof across the entry, a R&R, the captain's D&I and a GT is required at this location, the team should travel toward the #1 entry, on the inby rib the team should find a battery mantrip, on the outby rib the team should find five cribs block, a GT is required in this area,

TEAM STOP #8

Inby the team should find an explosive & irrespirable atmosphere extending to an area of unsafe roof across the entry, at the unsafe roof a R&R, the captain's D&I and a GT is required, on the left rib the team should find a line curtain, on the right rib the team should find a brattice cloth, outby the team should find two timber set, at GT is required in this area.



2019 KMI
Day One Team Stop Map

TEAM STOP #9

The team should travel outby and tie in, to the right (toward the #2 entry) the team should find the wall of an overcast, the captain's D&I and a GT is required at this location.

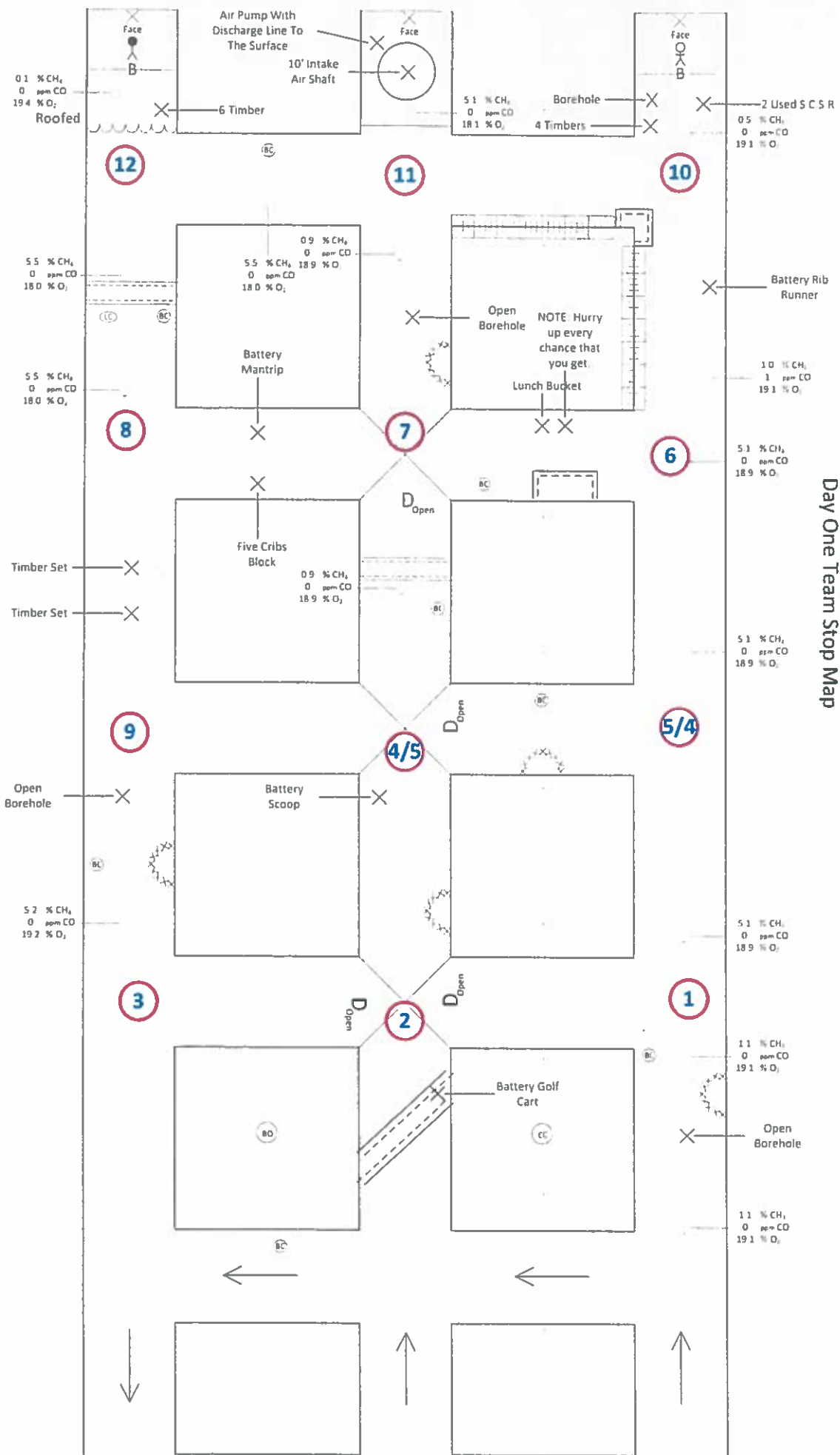
TEAM STOP #10

As the team enters team stop #10 the captain will need to continue their zig zag R&R and not pass the imaginary line toward the #2 entry, inby the team should find an irrespirable atmosphere extending to a barricade, on the left rib the team should find 4 timbers, inby that the team should find a borehole, on the right rib the team should find 2 used S.C.S.R., at the barricade the team should get a response, (Help get me out of here, my right guard has left me and it is airtight behind me.) a R&R, the captain's D&I and a GT are required at this location, as the team advances toward the #2 entry the captain will need to complete the zig zag R&R around the unsafe roof, the team should find the outby rib unsafe extending the length of the rib, a GT is required in this area.

TEAM STOP #11

When the team enters the intersection inby they should find a temporary stopping inby about a foot, the captain's D&I and a GT are required at this location, to the left the team should find a brattice cloth on the inby rib, on the outby rib the team should find an explosive and irrespirable atmosphere extending the next intersection, a GT is required in this area, outby the team should find an irrespirable atmosphere extending to an open borehole, at GT is required at this location, on the right rib (Toward the #3 entry) the team should find a caved area, at the wall of overcast the captain's D&I and a GT is required.

(At this team stop the team can ventilate the barricade without entering the face of #2 or advancing to the #3 entry)



2019 KMI
Day One Team Stop Map

BEHIND THE BARRICADE IN THE #3 ENTRY

(SEE FIRST VENT)

When the team breeches the barricade a GT is required, the team should find a conscious live man, the team should place the patient under some type of respiratory protection, inby the patient the team should find a face, a R&R, the captain's D&I and a GT is required at this location.

TEAM STOP #12

As the team enters the intersection of the #1 entry inby they should find water roofed, the captain's D&I and a GT is required at this location, outby the team should find an explosive and irrespirable atmosphere extending in an area of unsafe that extends across the entry, a R&R, the captain's D&I and a GT are required at this location.

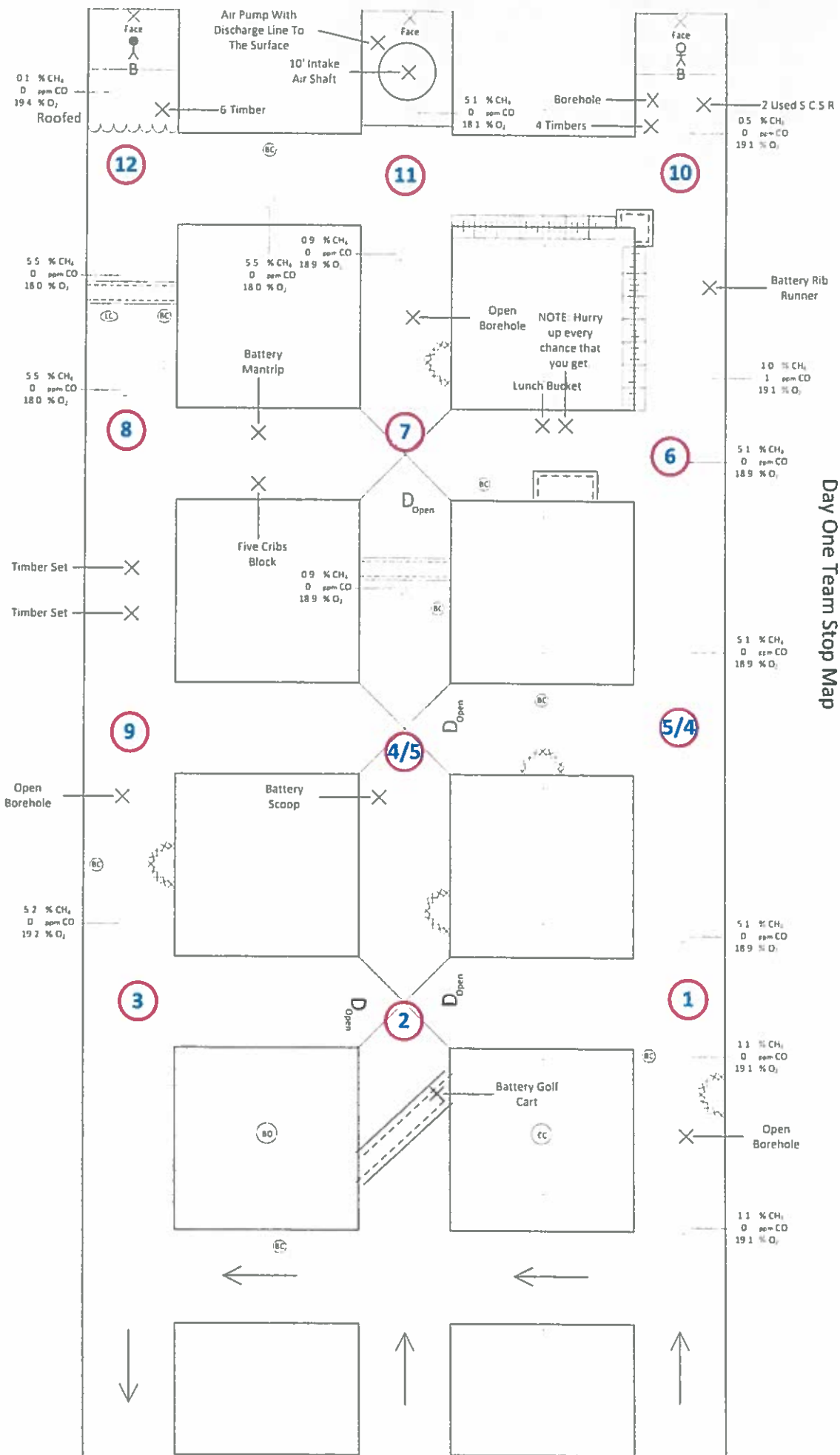
BEHIND THE TEMPORARY IN THE FACE OF THE #2 ENTRY

The team should find an explosive and irrespirable atmosphere extending to the face, the team should find a 10 foot intake air shaft, (Should already be on teams maps) inby the shaft the team should find an air pump with discharge line to the surface, then the team should find the face, a R&R, the captain's D&I and a GT are required at this location.

(To remove the temporary stopping the team should air lock. In order to air lock the should build a diagonal "there should only be one way to build the diagonal" and then build between the #1 & #2 entry)

BEHIND WATER ROOFED

The team should use the air pump from the face of the #2 entry to pump the water in the face of the #1 entry, when the water is pumped down a GT is required, the team should find 6 timber on the right rib, then the team should find an irrespirable atmosphere extending to a barricade, a R&R, the captain's D&I and a GT are required at this location, there is no response at the barricade so the team should remove the irrespirable before breaching the barricade.



2019 KMI
 Day One Team Stop Map

0.1 % CH₄
 0 ppm CO
 19.4 % O₂

5.1 % CH₄
 0 ppm CO
 18.1 % O₂

0.5 % CH₄
 0 ppm CO
 19.1 % O₂

5.5 % CH₄
 0 ppm CO
 18.0 % O₂

0.9 % CH₄
 0 ppm CO
 18.9 % O₂

1.0 % CH₄
 1 ppm CO
 19.1 % O₂

5.5 % CH₄
 0 ppm CO
 18.0 % O₂

0.9 % CH₄
 0 ppm CO
 18.9 % O₂

5.1 % CH₄
 0 ppm CO
 18.9 % O₂

Timber Set
 Timber Set

5.1 % CH₄
 0 ppm CO
 18.9 % O₂

5.2 % CH₄
 0 ppm CO
 19.2 % O₂

0.9 % CH₄
 0 ppm CO
 18.9 % O₂

5.1 % CH₄
 0 ppm CO
 18.9 % O₂

1.1 % CH₄
 0 ppm CO
 19.1 % O₂

1.1 % CH₄
 0 ppm CO
 19.1 % O₂



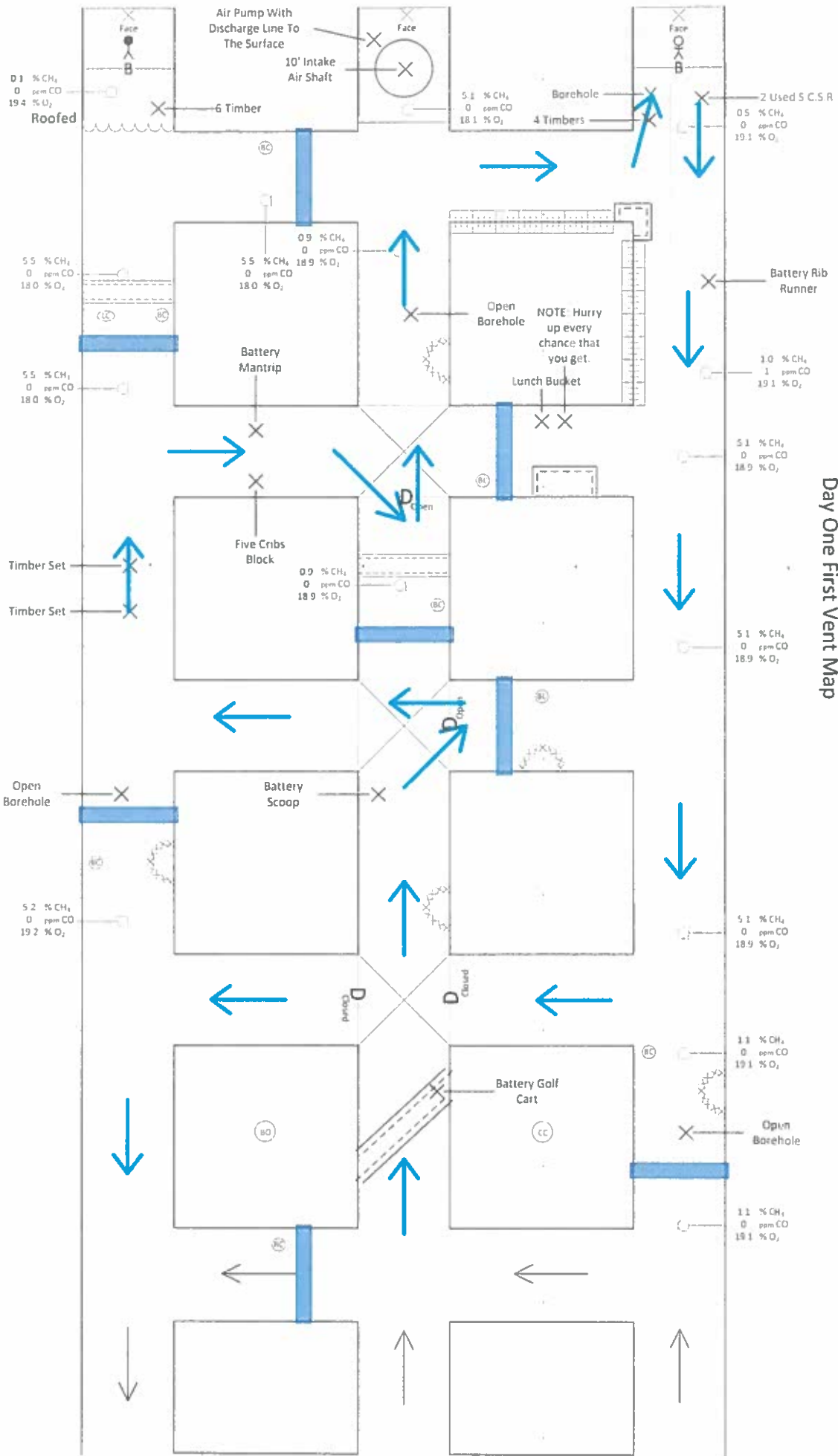
BEHIND THE BARRICADE IN THE #1 ENTRY

(See Second Vent)

The team should air lock in, when the team breeches the barricade a GT is required, the team should find a body, the captain's D&I are required at this location, at the face a R&R, the captain's D&I and a GT are required.

FIRST VENTILATION

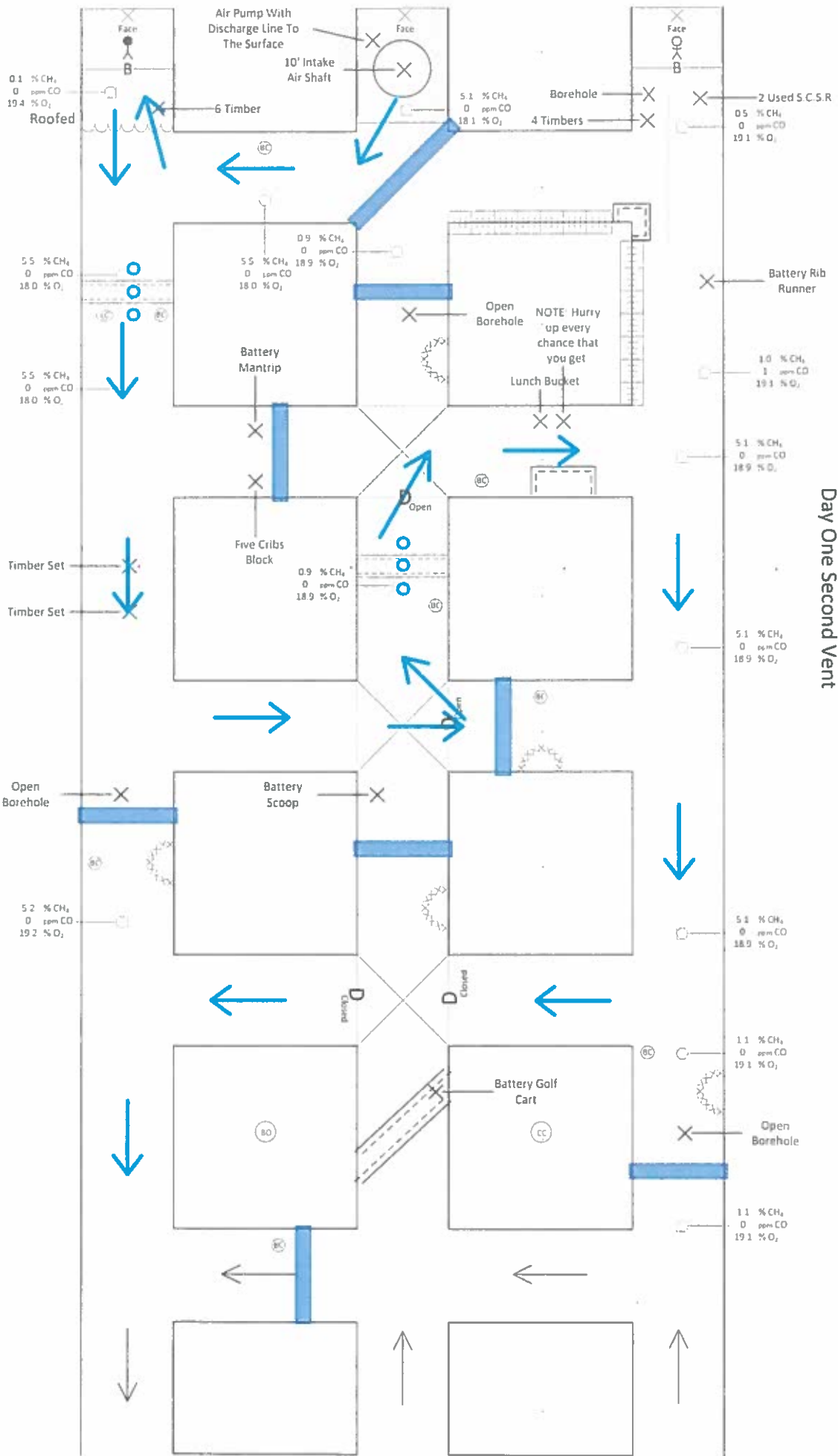
For the first vent, (Starting In The FAB In The #3 Entry) the team should build between the FAB and the first x-cut in the #3 entry to send the air over to the #2 entry, the team will need to build between the #1 & #2 entries in the FAB to put air in the mine, (this should be their last build) they should take the air up the #2 entry, through the first overcast, they should close the both doors on this overcast, take the air up to the second overcast, they should build inby between the 2nd & 3rd x-cut in the #2 entry, take the air through the door toward the #3 entry, they should build between the #2 & #3 entries in this x-cut to send the air back across the overcast to the #1 entry, they should build outby between the 1st and 2nd x-cut in the #1 entry to turn the air up the #1 entry, they should build inby the #3 entry x-cut between the 3rd & 4th x-cut to turn the air toward the #2 entry, take the air over to the #2 entry, they need to build between the #2 & #3 entry in the 3rd x-cut to take the air through the overcast door, the air should go back across the overcast to the face, the team should build between the #1 & #2 entries in the 4th x-cut to turn the air toward the #3 entry, the team should use the four timbers to make the corner safe to wing the barricade, take the air down the #3 entry to the #1 x-cut across the overcast to the #1 entry and out.



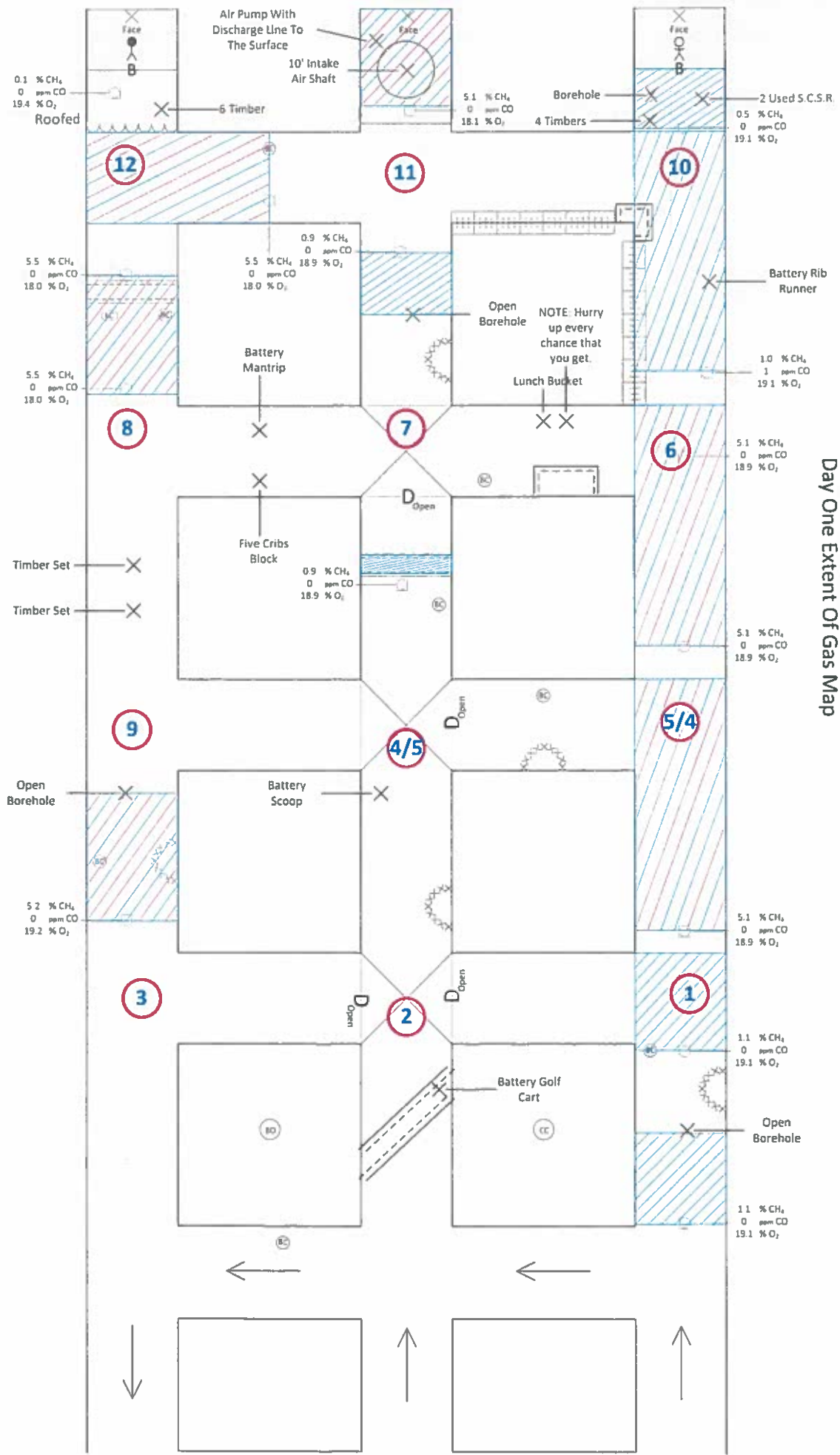
2019 KMI
 Day One First Vent Map

SECOND VENTILATION

For the second vent, (Starting At The Air Shaft In The #2 Entry) The team should bring the air down the air shaft, they should build a diagonal to turn the air toward the #1 entry, take the air over to the #1 entry wing the barricade, they should timber through the unsafe, they should build between the #1 & #2 entries in the 3rd x-cut, the team should build between the 1st & 2nd x-cut in the #1 entry to turn the air toward the #2 entry, take the air across the overcast and build in the 2nd x-cut between the #2 & #3 entries to send the air back through the overcast door, they should built outby in the #2 entry between the 1st & 2nd x-cuts to turn the air up the #2 entry, they should timber through the area of unsafe roof and take the air through the overcast door, they should build inby in the #2 entry between the 3rd & 4th x-cuts to make the air go through the door over to the #3 entry down to the 1st x-cut, they should build outby in the #3 entry between the FAB & the 1st x-cut to take the air across the overcast to the #1 entry and out.



2019 KMI
 Day One Second Vent



2019 KMI
Day One Extent Of Gas Map