

# 2016 Southern Regional Mine Rescue Contest

New Iberia, LA.

May, 2016

Problem Solution Day #1

(See Solution Maps)

## **FAB**

The teams will arrive at the FAB and have introductions, the team will also be informed that they will be able to string out their communication line but will not be able to check functionality until they have started the clock. Once the clock has been started the team will receive all of their maps and information.

## **Team Stop #1**

Teams will explore and check the #1 Intake shaft (team should check for damage or the presence of fire or flooding), the gas placard will indicate "Air Clear"

## **Team Stop #2**

Teams will explore and check the #2 Exhaust shaft (team should check for damage or the presence of fire or flooding), the gas placard will indicate "Heavy Smoke" and the team will elect to enter the mine by way of the #1 intake Shaft.

## **Team Stop #3**

The team will cage down to the 1300' level to begin exploration in the mine. Travelling north they will identify that they are in "Light Smoke", and identify a "phone". When tested they get no answer and the team will most likely conduct a 50' check. Exploring west they identify "unsafe Roof", exploring north they identify "Unsafe Roof" as well in entry #1. The team does not have the means to support the areas and will need to retreat to surface.

## **Team Stop #4**

The team will retreat and travel to the 1300' level by way of the #2 shaft. Once underground the team will identify another "Phone", "Heavy Smoke", and a permanent stopping with an open regulator. Exploring west the team will identify "Caved Tight" and a "Lunchroom Door (open)". The team will enter and discover "Dak - 001", the miner is deceased upon assessment. The team will also identify "Roof Jacks (3)", which will be used to support the unsafe roof.

## **Team Stop #5**

The team will reenter the #1 shaft and will most likely use the roof jacks to support the unsafe roof in the first crosscut. The team will support the area per techniques outlined in the rule book. The team will then continue exploration, checking entry 2 & 3 west through "Light Smoke" until they reach the backside of the permanent stopping.

## **Team Stop #6**

The team will travel north in entry 3, checking the second crosscut intersection. Exploring west they will identify "Caved Tight" and 3 more "Roof Jacks". Exploring north they will identify two set of "ventilation doors" with the first being open and the second closed. Exploring east the team will identify a "Permanent Stopping" and 1 set of "Building Materials".

### **Team Stop #7**

The team will retreat to entry 2 and explore the intersection, identifying the backside of the “Permanent Stopping and another “Permanent Stopping” north in entry 2. Travelling east the team will identify the “Electric Shop Door”, knocking on the door they will hear “Don – 002”, he will shout “Help, the air in here is good and I’m sealed in but I can’t breath and I think I’m having a heart attack” Don will say this twice and then there will be silence. The team should recognize that they must enter the electric shop to rescue Don but, the concentrations outside of the shop will require the team to ventilate first.

### **Team Stop #8**

The team will be able to explore east to tie in the unexplored area prior to the first ventilation change. Travelling east the team will identify the other side of the “Unsafe Roof” and exploring north they identify another set of “Ventilation Doors” with again the first door open and the second door closed, creating a complete separation from the north side of the mine. The team will utilize the roof jacks to support through the area and tie in the remaining section in entry 1. The team will now be able to complete the first ventilation change.

### **Ventilation Change #1 to enter the Electric Shop (See attached map)**

The team will request the ventilation change, once granted the following step will be required to clear the electric shop door.

- Build a temp stopping between entry 1 and 2 in crosscut 1, to course the air north and around the electric shop door. Air will move in front of the shop door, through the regulator and out the #2 shaft.

### **Team Stop #9**

The team has cleared the electric shop door and should recheck the entries along their route of travel. The team will now enter the shop and identify “Don-002”, Don has found his inhaler and is doing just fine, and he will be able to walk out with the team.

### **Team Stop #10**

After the team transfers care, they will reenter the mine and continue exploration in entry 1. The team will be able to use the ventilation doors as an airlock by closing one door and opening the other. They will explore north and identify that they are now in “Heavy Smoke” and should count off. They also identify “Unsafe Roof and Rib” and “Caved Impassable”. They will not have the means to support the area and will retreat to entry 3.

### **Team Stop #11**

The team will travel north in entry 3 through the ventilation doors, they will identify that they have reentered “Heavy Smoke” and identifying that the intersection has been supported with roof jacks. Exploring west, they identify “Caved Tight”, exploring north they identify “Unsafe Roof”, they do not have roof jacks to support the area and they should not attempt to use the roof jacks that have been set used to support the intersection.

### **Team Stop #12**

The team will continue exploring east to the next intersection, identifying “Equipment Blocks (4)”, north in entry 2 they identify a “Overturned Unsecured Haul Truck”, exploring east they identify the backside of the “Unsafe Roof and Rib”, and south in entry 2 they identify the other side of the “Permanent Stopping” . The team will realize that the only access north will be under the overturned haul truck and they will have to utilize the equipment blocks in order to support the truck. They will be able to utilize the blocks anywhere underneath the truck bed and the truck will be considered supported.

### **Team Stop #13**

The team will crawl under the truck and continue exploration north in entry 2. The team will explore the intersection and tie in to the face.

### **Team Stop #14**

The team will continue east, identifying the “Utility Shop Door”, knocking on the door they will identify “Dave-003”, he will shout “get me out of here, the air in here is ok, I’m not hurt and I’m sealed in. the team will most likely decide to continue exploration since they know the conditions inside and Dave is unharmed. Continuing exploration north the team will identify “Roof Jacks (3)” and the face. Exploring south in entry 1, the team will find the backside of the “Caved Impassable”.

### **Team Stop #15**

The team will travel west until they reach the intersection in entry 3, continuing west the team will identify “Caved Tight”, north in entry 3 the team will find an “Upcast Ventilation Raise” and this will their furthest point of advance. The team will identify the backside of the “Unsafe Roof” in entry 3. The team will utilize the roof jacks that they found to support through the unsafe roof area and tie in the remaining area in entry 3.

**The team only has the section between entry 1 and 2 in crosscut 3 unexplored and do not have the means to support the unsafe roof and rib. The team may request additional roof jacks but their additional material have not arrived at the mine yet. The team will have the resources to complete ventilation change #2 to rescue Dave from the Utility Shop.**

### **Ventilation Change #2 to enter the Utility Shop (See attached map)**

The team will request the ventilation change, once granted the following step will be required to clear the utility shop door.

- Relocate the temp stopping to area between entry 1 and 2 in crosscut 3 in order to protect the unexplored area. (unsafe roof and rib).
- Request to have the ventilation raise uncapped
- Open the ventilation doors in entry1
- Close the regulator (must use all 10,000 cfm across the utility shop door).
- Turn on the fan

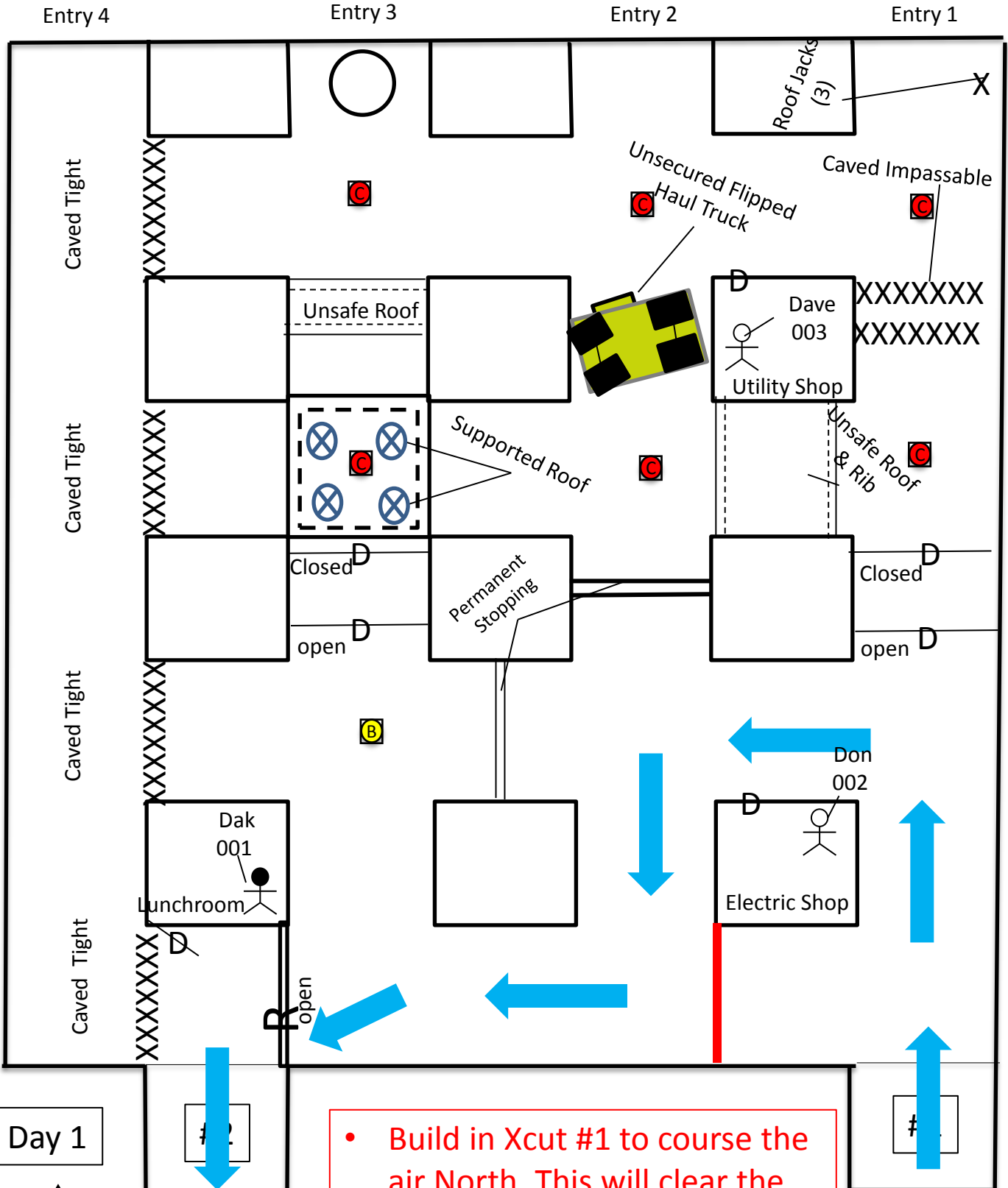
**Note: If the team fails to close the regulator, the ventilation will split (see map of the split) and the gas placards will change to light smoke but the concentrations will remain above the barricading standards. Once the team closes the regulator the placards on the ventilation route will change to “Air Clear”.**

### **Team Stop #16**

The team will recheck gases along their route of travel and enter the “Utility Shop”. The team will find a “BG4” and Dave. **(Note: the team should recognize that the BG4 has no oxygen and they will not be able to utilize it on Dave)** Dave is unharmed and will be able to walk out with the team. The team should remember that they will be travelling back through an area of irrespirable atmosphere and should provide Dave with respiratory protection for the transport. **Note: Team will need to follow standard donning procedures and unit activation when providing respiratory protection for Dave. Once the team is ready for transport, the judge will acknowledge the team and inform them that they can remove the hoses and turn off the oxygen supply but will have to leave the mask on.**

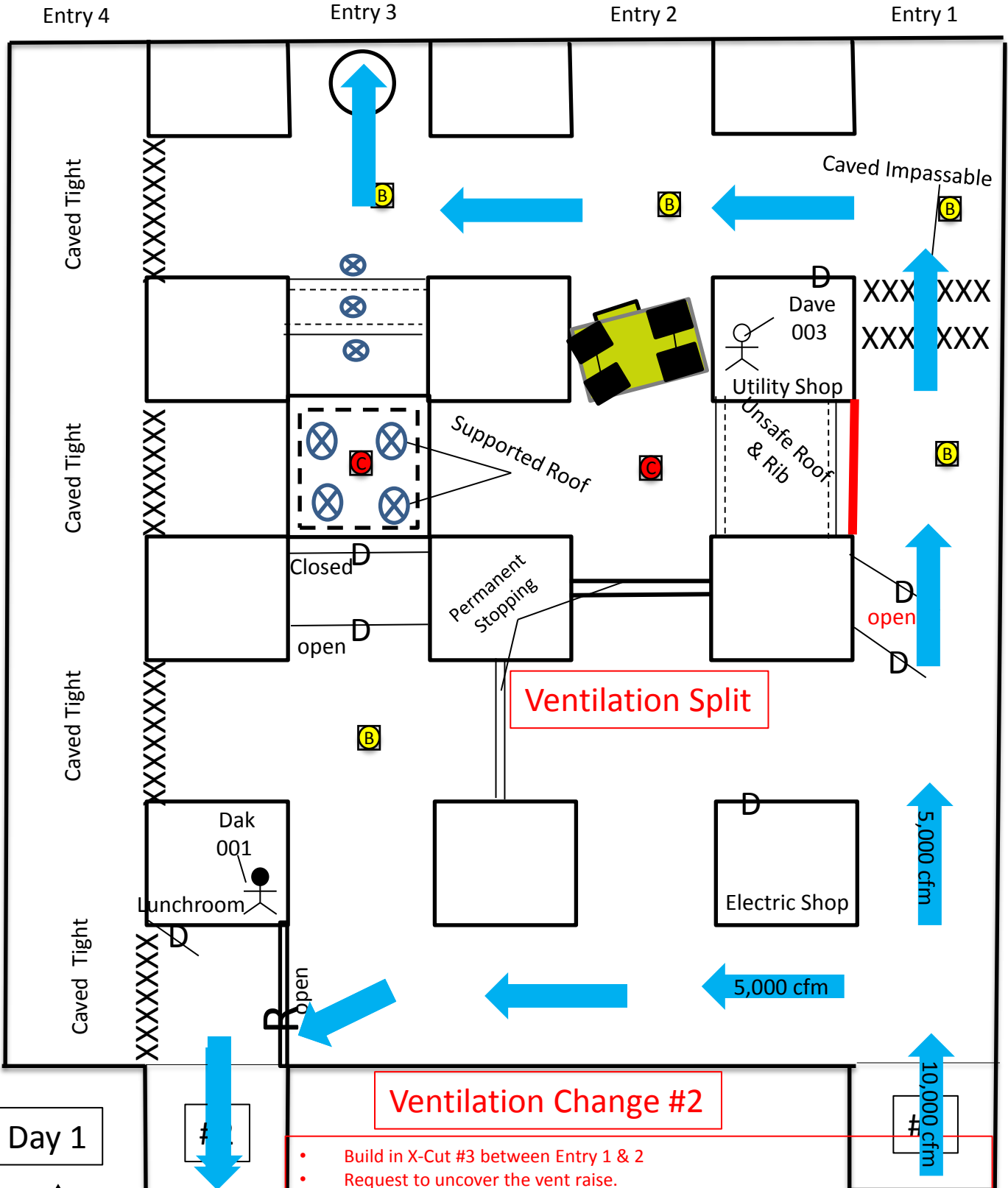
The team has now explored what they could inside of the mine, they still have 3 miners unaccounted for and an area of unsafe roof and rib that they did not have the means to support. They will convey this information to the mine manager and stop the clock. THE END





- Build in Xcut #1 to course the air North. This will clear the Elec. Shop door.

Ventilation Change #1



**Ventilation Change #2**

- Build in X-Cut #3 between Entry 1 & 2
- Request to uncover the vent raise.
- Open air doors and turn ON the Fan.
- Air will blow down the #1 shaft , north in Entry 1 and up the vent raise. If the team leaves the Regulator open, the ventilation will split to the #2 shaft. The gas concentratins in front of the door will not completely clear. Judge will change to B placards.
- Team will need to close the regulator in order course all of the air across the Utility Shop door. Placard will change to air clear.

Entry 4

Entry 3

Entry 2

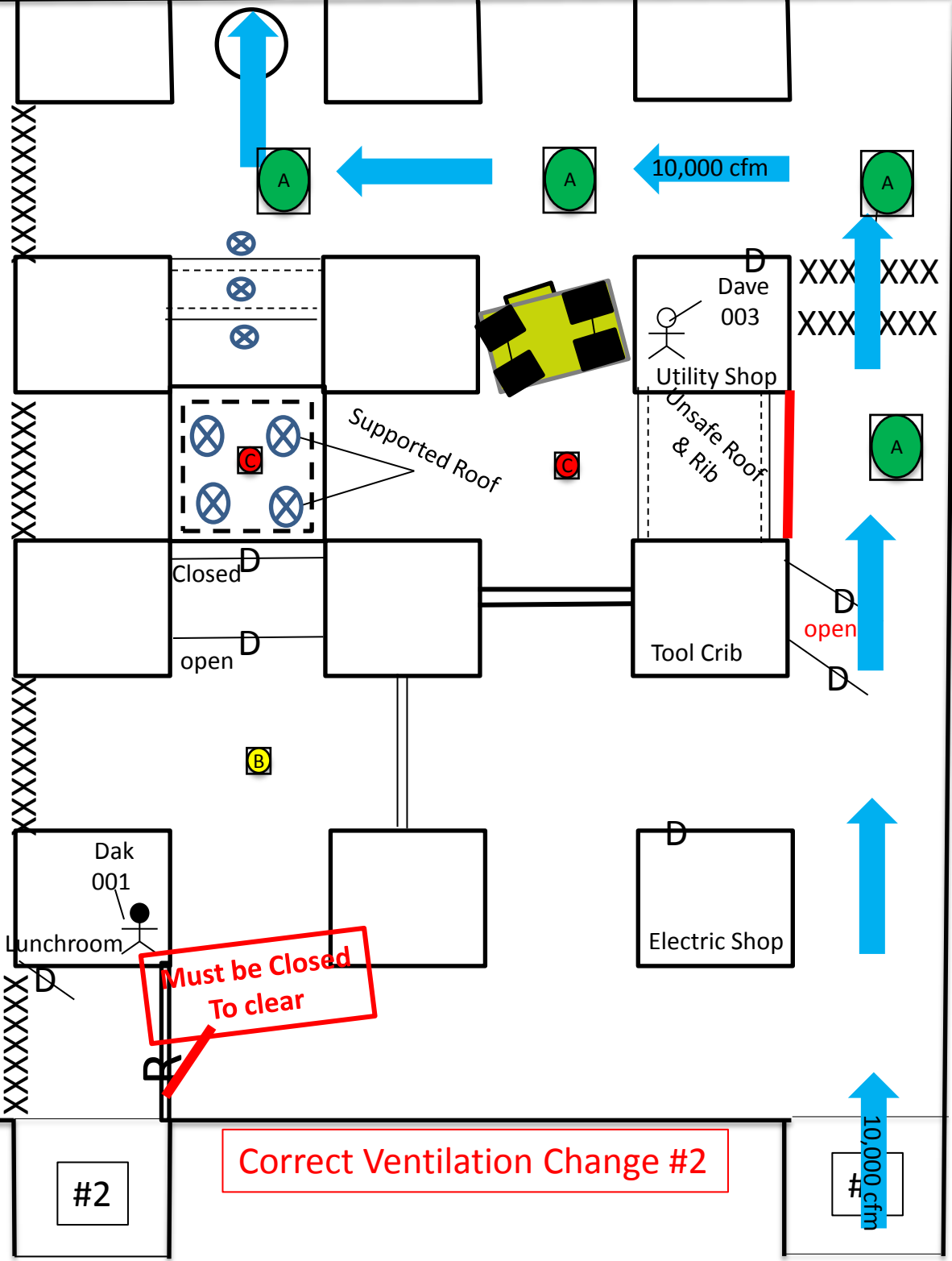
Entry 1

Caved Tight

Caved Tight

Caved Tight

Caved Tight



**Must be Closed To clear**

**Correct Ventilation Change #2**

10,000 cfm

Day 1

#2

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