

# 2015 Missouri Mine Rescue Contest

Rolla, MO.

Sept. 28 – Oct. 1, 2015

## Problem Solution Day #1(Surface)

(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. The mine manager

### Team Stop #1

After examining the entry to the portal the team will enter and travel inside the mine until they reach a gas placard and permanent stopping. If the team asks about tearing down permanent stopping at any point in the field problem they will be told that it take several hours to complete.

### Team Stop #2

The team will continue exploration in the north access until they reach an intersection where they will identify gas placard indicating “Heavy Smoke”, stretching south the team will identify another permanent stopping.

### Team Stop #3

The team will continue exploration in the north access until they reach an intersection and identify a gas placard; stretching west they find “Unsafe Roof” but do not have any roof jacks to support the area. If they ask they do not have any available on surface.

### Team Stop #4

Continuing exploration south the team will identify a “Temporary Stopping Not Intact” and continue identifying a gas placard indicating “Light Smoke” in the intersection. Stretching west the team will identify another area of “Unsafe Roof” and again will not have roof jacks to support the area

### Team Stop #5

The team will continue exploration east in the south access until they identify another gas placard indicating “Light Smoke”. Examining north the team will find a “Tool Crib” with door closed, the team will knock on the door and Jeff (Miner) will respond telling the team that he is unharmed and the air inside the tool crib is good (repeat upon questioning). The team will most likely continue east to tie in the remaining access, identifying one set of “Building Materials”, an exhaust shaft, and the other side of the “Permanent Stopping”.

### Team Stop #6

The team will be unable to continue exploration due to the unsafe roof areas; the team will elect to enter the tool crib and will be able to do so without an air lock. The team will identify “Jeff” and “(6) Roof Jacks” inside of the tool crib. Based on the concentrations that they will encounter on their travel back to the Fab the team will be required to provide the miner with respiratory protection. (BG4/BIO/SCSR).

### Team Stop #7

The team will reenter the mine and utilizing (3) of the roof jacks they will support the unsafe roof in the north access and continue travel west. The team will check the intersection identifying that they are still travelling in “Heavy Smoke”, stretching south the team will identify a “Permanent Stopping”, stretching west the team will identify a “Temporary Stopping”.

### **Team Stop #8**

The team will travel north until they identify a “Barricade”, the team will also identify a miner behind the barricade named “Jed”, Jed will inform the team that he is unharmed and the air behind the barricade is ok but he wants to get out. Based on the gas concentrations outside of the barricade the team will need to ventilate in order to enter the barricade.

### **Team Stop #9**

The team will continue west until they identify an “Air Door (open)”, travelling north the team will identify “Water Over Knee Deep” preventing them from continuing south. Stretching south the team will identify “Light Smoke” and “Unsafe Roof & Rib”, the team has (3) timbers but should realize that this will not be enough to support the area.

### **Team Stop #10**

The team will retreat travelling through the “Temporary Stopping (not intact) until they reach the unsafe roof. Utilizing the remaining (3) roof jacks the team will support the area and continue west to the intersection, identifying that the team is now travelling in “Light Smoke”, stretching north the team will identify the other side of the “Permanent Stopping”.

### **Team Stop #11**

The team will continue exploration west and then north until they identify a “Booster Fan W/Vent Bag”, stretching east the team identifies “Transformer #1”, and stretching north identifying the other side of the “Unsafe Roof & Rib”.

### **Ventilation Change to enter the Barricade (See attached map)**

The team has explored all accessible areas of the mine to this point and do not have any additional roof jacks to support the unsafe roof & Rib area. The team might request more roof jacks but will be told that there are no more roof jacks on surface. The team will however have the means to ventilate in front of the barricade to rescue “Jed”.

- Repair the “Temp Stopping (not intact)”
- Close the air door in the north access by unsafe R&R
- Take down the “temporary stopping” next to the transformer
- Build a temporary stopping between the x-cut next to the barricade to prevent air flow over unexplored area.
- Contact the FAB and request the exhaust fan to be turned on
- Move the Booster fan into the south access and extend the vent bag up to the barricade (turn on the Booster fan)

### **Team Stop #12**

The team has cleared the barricade and since they know the conditions inside they can now enter, once inside they will identify a barricade on the backside but cannot continue into the other mine due to “Water over Knee Deep”. the team can transport the miner to the FAB and inform the Mine Manger that they still have 1 person unaccounted for and have an area unexplored but do not have the means to support the area for exploration. The team will be informed that another team is ready to continue and supplies will be at the mine shortly. The team will stop the clock. THE END