

2015 Southwestern Regional Mine Rescue Contest
Ruidoso, NM
April 21-23, 2015

Problem Solution
(See Solution Map)

FAB

After the clock has been started the teams will be informed by the Mine Manager that the Team #1 map is now available & provide a copy. The Mine Manager will review the map changes with the team and show them where team #1 explored, established FAB, and where Team #1 constructed a permanent stopping. The Mine Manager must inform the team that the ventilation air flow in this map is from the normal ventilation system and the final thing that was requested by Team #1 before leaving the mine was to reverse ventilation. That request was at 3:00 pm, it takes 2 hrs. for the ventilation to completely reverse and it is now 5:00. Mine Manger does not know what that has done in the mine and will provide additional information as it comes.

Team Stop 1

The team will advance to entry #1, identify "Clear Air" and 2 set of air doors with the north doors closed. The team will only need to close the door in order to air lock into V Access #1.

Team Stop 2

The team will travel north identifying a placard indicating the direction and quantity of "Air Flow" and another placard indicating "Clear Air". The V Access #1 Drift does not continue further west. Exploring just north in entry #1 the team will identify "Heavy Smoke" and on the corner of the pillar identify "Building Materials". The team will also most likely perform their 50" check in this area.

Team Stop 3

The team will advance east passing an Equipment Ventilation Door that is in the open position, the team will check entry #1 and identify "Clear Air" in the V Access #1 drift and just north in entry #2 "Heavy Smoke". The team will continue north until they reach a "Permanent Stopping", this will be their FPA and they should make all of the appropriate markings.

Team Stop 4

The team will continue east in the V Access #1 Drift, identifying another set of "Building Materials" and a single "Line Brattice". The team will check entry #3 identifying "Clear Air" and just north finding the outlining of "Unsafe Roof & Rib". At this time the team does not have any roof supports to use. The team will also be unable to continue east in the V Access #1 Drift.

Team Stop 5

The team will retreat to entry #1 and travel north (personnel or apparatus check before entering smoke) until they reach the intersection, where they will identify "Heavy Smoke" and an "Overhead Water line" on the west rib. The team will stretch north and identify a "Temporary Stopping".

Team Stop 6

The team will return to X-Cut #1 and travel east to the intersection of entry #2, where they will remain in "Heavy Smoke". Exploring north they will identify an "Electric Roof Bolter", "Roof Jacks (4)", and a "Permanent Stopping". The teams may choose to pick up the "Roof jacks" and identify the "Permanent Stopping" as their FPA. Exploring south the team will identify a "Storeroom (Door Closed)" and knock on the door (check for heat). They will identify that there are two miners inside. Lee (0050) and Red (0911), Lee will inform the team that he is ok but Red is bleeding very badly and has been in & out of consciousness. "They Need Help". Lee will also inform the team that the air is good in the storeroom but he's not sure if Red is going to make it and he wants to open the door. Based on the gas concentrations outside of the storeroom, the team will be unable to air lock to enter the storeroom and will have to ventilate first. **Note: The team should realize that this injured miner is priority and the team will be expected to only explore and perform what is necessary to aid the rescue of this miner. Anything beyond what is necessary will constitute patient endangerment.**

Team Stop 7

The team will advance east identifying "Supported Unsafe Roof", remaining in "Heavy Smoke", and a "Mantrip on Fire", the team will be able to fully extinguish the fire with two fire extinguishers utilizing the 2/3 sweeping method. Travelling north in entry #2 the team will identify only a "Temporary Stopping". Travelling south the team will identify "Unsafe Roof & Rib" and with only (4) "Roof jacks" they will not be able to ground support the entire area that's unsafe. **Note: Team must continue exploration to locate additional Roof Jacks" for ground control and to reach the survivor inside the unsafe area. If the teams decide to ventilate prior to the ground control measure, they will be discounted for directing toxic gases over a survivor. Team should continue exploration to locate additional roof jacks.**

Team Stop 8

The team will retreat to entry #1 and travel north, the team will have to build an air lock to enter the “Temporary Stopping”. Travelling north they will identify “Roof Jacks (8)” and should immediately retreat to support the area in entry #3, to complete exploration in this area, and to execute the first ventilation change to remove the survivors. **Note: If the team decides to continue exploration and the #5 man advance beyond the location of the roof jacks and enters X-Cut #2, the team will be discounted for Patient Endangerment.**

Team Stop 9

The team will retreat to entry #3, and begin supporting the “Unsafe Roof & Rib” by utilizing the ground support techniques as outlined in the 2016 Contest Rule Book. The team will identify a body inside this area and upon evaluation will identify that the miner exhibits no vital signs and has expired. The team will continue the exploration to tie into the V Access #1 Drift. The team is now ready to perform Ventilation Change #1 (See Vent Map #1)

Ventilation Change #1/Clear Storeroom

After the team has been granted permission to change the ventilation the team will have to perform the following:

- Maintain air lock doors closed
- Close the Equipment Ventilation door in the V Access #1 Drift
- Utilize a Line Brattice to direct air current into the storeroom door area.

Team Stop 10

The team will enter the storeroom and identify that Red no longer exhibits any vital signs and has expired. Lee is still conscious and unharmed and can walk out with the team.

Team Stop 11

The team will return to the intersection of entry #1 and X-Cut #2 and will again need to build an air lock to enter the “Temporary Stopping”. The team will enter light smoke (apparatus or personnel check required) traveling north they will identify an “Overhead Water Line (Valve open)” on the west rib. The team will identify that the mine continues north and differs from the map that was provided; they will have to map what’s been developed in entry #1. Team will explore the face and identify that this is their FPA and make the appropriate markings.

Team Stop 12

The team will travel east in X-Cut #2 until they reach the entr#2/X-Cut #2 intersection, identifying a discharged "Fire Extinguisher", used "W-65 Self-Rescuer", and "Transformer #1 along the way. The team will identify that the mine continues north and differs from the map that was provided; they will have to map what's been developed in entry #2. Exploring north the team will identify the face of entry #2 (FPA) and a continuous miner. Exploring south in entry #2 the team will identify the backside of the "Permanent Stopping". The team will stretch east and identify a "Damaged Waterline (Water Running)", "Sump Pump Controls (Off)", and "Water Over Knee Deep". **Note: the team should remember the information provided in the team briefing/mine information that mentions the main pump controls are on surface and the Maintenance Supervisor LOTO the controls.**

Pumping Water

- Retreat to entry #1 and close the valve on the water line.
- Contact FAB and request that the mine Manager assign someone to turn on the main sump pump controls on surface.
- Switch the pump controls to (ON) underground. **Note: Once these steps are done the water will drop to "Water Knee Deep".**

Team Stop 13

After the water has been pumped down, the team can now advance east being aware of the water sump outlining (discounts will be issued for each team member, each infraction for entering the sump outlining). The team will identify "Light Smoke" in entry #3; the team will travel south and identify "Caved Impassable". The team will identify that the mine continues north and differs from the map that was provided; they will have to map what's been developed in entry #3, advancing north the team will identify a "Barricade" they will make contact with a survivor inside. Al will inform the team that he is ok, un injured, in good air, and wants to get out. Based on the gas concentrations the team will have to ventilate in front of the "Barricade in order to enter. **Note: The team should realize that they have not completely explored the backside of the "Caved Impassable" in entry #3.**

Team Stop 14

The team will retreat to the "Temporary Stopping" in entry #3 north of X-Cut #1. Since the conditions are unknown beyond this "Temporary Stopping" the team must air lock their way in, exploring north they identify "Caved Impassable" and now have explored everything in the mine necessary to perform the ventilation change to clear the barricade.

Ventilation Change #2/Clear Barricade

After the team has been granted permission to change the ventilation the team will have to perform the following:

- Maintain air lock doors closed
- Close the Equipment Ventilation door in the V Access #1 Drift
- Remove the Temporary Stopping in Entry #3 if they had not done this yet.
- Remove the Temporary Stopping in entry #1
- Build a Temporary Stopping in X-Cut #1
- Use a line Brattice in entry #3 to course the ventilation into the barricade.

Team Stop 15

Based on the known conditions behind the barricade the team can now take down the “Barricade” and enter finding Al the final survivor. Al is unharmed and can walk out with the team.

The team has now explored all accessible areas, extinguished all fires, accounted for all missing miners, and brought the surviving miners to surface. The team will travel back to the FAB transfer information to the Mine Manager and stop the clock. THE END