Southern WV Mine Rescue Association 63rd Annual Mine Rescue, First Aid, Bench & Preshift Contest

August 27th - 30th 2018
Day 1

Problem Statement

Thank you for responding to our call for help. You are located at the Foxtrot #6 Mine which has a history of methane, water and unstable roof conditions. At 7 A.M. this morning we saw smoke coming out of the fan and called underground to have everybody evacuate. Four miners are unaccounted for and we have not been able to contact them. The previous mine rescue team has established a fresh air base outby the working section the missing miners were working. Due to equipment malfunctions the team had to retreat and we are sending you in to explore the inby area.

The mine has an exhausting fan that is currently on and being guarded and monitored. The air is moving from right to left across the fresh air base, exiting out #1 entry. Back up teams are available and in place. Federal and state agencies have been notified.

Thank you and good luck.
Day 1

Written Instructions

- Explore all areas of the mine that can be explored safely.
- The fan cannot be stalled, stopped or reversed.
- Any equipment requested by the team to be energized will remain energized throughout the remainder of the problem.
- Leave the mine free of smoke, irrespirable air, and explosive mixtures.
- Any airlock doors can be opened and closed but cannot be removed.
- The mine map is not up to date.
- Any placards encountered face down must be turned over by the team.
- 70 minute time limit.
Day 1

Judges Information

- Once the team turns the stationary pump on, you will need to flip the roofed water placards over in all three entries.
- The team must explore to the caved area to the right of the overcast in the #2 crosscut in the #3 entry before exploring to the #4 crosscut or they will be breaking the 2 crosscut limit.
- Make sure all placards that are in and in by the #4 crosscut are face down to begin the problem. The team will flip the placards when they discover them.
- 70 minute time limit.
- Give the team a 5 minute warning at 65 minutes.
Day 1 Team Stops

[Diagram showing various locations and conditions within a mining environment, including gas concentrations, airlocks, and emergency procedures.]
Day 1 Gas Test, R&R, DI

Continuous Miner

Unconscious

5.5% CH₄
10 PPM CO
19.0% O₂

Unsupported Roof

5.5% CH₄
10 PPM CO
19.0% O₂

Stationary Pump in Water

5.5% CH₄
10 PPM CO
19.0% O₂

Battery Scoop

0.5% CH₄
5 PPM CO
19.6% O₂

Lunch Box/
"Don't forget milk"

Person/Body

Conscious like
Person

Active

Airlock

BC/CCA

Pump Switch

Off

Airtight

DI

GT

R&R

2 Timbers
Partially
Built
Day 1 Extent of Gases
Day 11\textsuperscript{st} Vent

Battery Scoop

Build

Open

Airtight

Pump Switch Off

BO/CCA Build

Pump Cable

0.5 \% CH\textsubscript{4} 5 PPM CO 19.6 \% O\textsubscript{2}

5.5 \% CH\textsubscript{4} 50 PPM CO 19.0 \% O\textsubscript{2}

1.0 \% CH\textsubscript{4} 78 PPM CO 18.0 \% O\textsubscript{2}

Stationary Pump in Water

Build

Closed

Right
Note: Prior to pumping the water, the teams must build in all three entries before the water due to the dotted line map.
Day 1 Final Vent Map

Team Members Initials
Judges Initials
Team Working Order
Team Name
Condition of Pump