

2014 Carlsbad, NM Southwestern Regional Mine Rescue Contest

Field Problem Solution:

- 1) The team will report to the field, after introductions the team will be given the opportunity to string out their communication line. Once the team captain has started the clock, all maps and information will be given to the team captain. The team should go under oxygen, following proper procedures. (According to apparatus being used).
- 2) The teams will check the shafts. If they check the exhaust shaft first they will find elevated gas readings. (Note: Auxiliary Hoist is under repair).
- 3) The team will check the intake shaft where they will find air clear and will choose to use this shaft. (Note: The team should check the conveyance at the intake shaft for possible damage, fire, or flooding).
- 4) The team will call the cage, enter the cage and be lowered into the mine (Note: Judges be aware of shaft signals used, counting off entering the mine and cage door activities). The team will head south in the #1 entry checking the intersection. (GT/R&R) The team may also perform a team check (50' Check) in this area.
- 5) The team will most likely travel west in the #1 X-Cut and advance to find the area is caved tight. (Note: The team should make the appropriate markings).
- 6) The team will retreat to the #1 entry and continue south where they will encounter the electric shop with the door half open. The team will enter the electric shop and explore finding no miners but mapping all items inside the shop. (Note: In most cases the teams will take the building materials or timbers for use in the problem).
- 7) The team will retreat to the #1 entry also identifying that there is a man trip that has two 5 lb. fully charged fire extinguisher. The team will continue south and check the intersection. (Note: If the team explores south beyond 3' passed the #2 X-Cut in the #1 entry they will break the 2+3 Rule).
- 8) The team will most likely enter the #2 X-Cut, where they will encounter a check curtain and heavy smoke. (Note: The team should count off when they continue to the #2 entry and (GT/R&R)). The team will encounter an LHD on fire and should extinguish the fire. If the team failed to bring the fire extinguishers

from the man trip, they will need to retreat to get them and should count off leaving/reentering the heavy smoke. (Note: the team must utilize two fire extinguishers in order for the judge to flip the placard over). Once the fire has been extinguished the team will find a dead miner by the name of Don Burns. (Note: The team will check the ground conditions above the body, assess the miner, make appropriate markings and report their findings to the FAB).

9) The team will continue exploration west to the intersection of the #2 entry & X-Cut #2 and perform (GT/R&R).

10) The team will identify that south bound in the #2 entry they will encounter loose back. (Note: The team will attempt to scale down the loose back but will be unsuccessful. Judge should not flip the placard (After 15 seconds, the team should realize their efforts were unsuccessful).

11) The team will continue exploration west in X-Cut #2. They will identify a barricade (No Heat) and once its addressed they will hear Jack Burns yelling help I'm in here. (Note: Jack should repeat help I'm in here 2 times and stop, due to the fact that Jack has placing his SCSR mouth piece back in his mouth in anticipation that the team will breach the barricade).

(Note: The team will not be able to airlock themselves into the X-Cut due to the gas readings. They will be forced to ventilate in front of the barricade at a later time and will be able to continue exploration as long as the barricade is not breached).

12) The team will continue north in the #2 entry, where they will identify loose rib on the east side. (Note: Team members should not enter the outlines loose rib area or will be assessed a discount for each team member, each infraction).

13) The team will identify a power center on the west side (Note: PC is off and LOTO by Tony Volt - electrician). The team will continue north to check the intersection of the #2 entry and X-Cut #1(GT/R&R).

14) The team will travel east to tie in, X-Cut #1, they will find caved tight. (Note: This will be their furthest point of advance and should mark it appropriately).

15) The team will travel west in the #1 X-Cut, (GT/R&R) along the way. They will continue travel west in heavy smoke to the intersection of the #3 entry. The team will find wire mesh across the #2 shaft entry. (Note: Teams will not be able to enter the area and should mark the area FPA).

16) The team will travel west in X-Cut #1 until they identify a permanent stopping intact. (Note: This will be the team's furthest point of advance and should make the appropriate marks).

17) The team will travel south in the #3 entry until they identify the markings of water over knee deep that extends diagonally from rib to rib. The teams will be able to access the water pump and controls. (Note: Team member should not at any time step into the outlined area).

18) The team will retreat back to the #1 entry through the #2 X-Cut. (Note: Judges be aware of the loose rib and counting off while exiting the heavy smoke. The team will continue south to the intersection of the #3 X-Cut (GT/R&R), entering light smoke and mapping all items. The team will discover that the maps are not up-to-date and #1 entry continues. (Note: Team should not explore beyond 3' south past the #3 X-Cut or they will break the 2+3 rule).

19) The team will continue west in the #3 X-Cut. The team will identify a closed door at the old shop, when they address (No Heat) the door they will knock asking if there is anyone in there. (Note: Tom Pit will shout help, help and stop. The team will make another attempt and Tom will repeat.

Based on the previous gas readings the team if they choose to do so may air lock themselves by building temporary stoppings on each side of the door to enter the old shop.

20) If the team chooses to enter the shop they must construct a temporary stopping in front of the door to enter. (Note: space should be as little as feasible).

21) The team will enter and find two miners inside with SCSR's on. Tom Pit will hand over a piece of paper that says he is not hurt and can walk. (Note: Toms SCSR is undamaged and not depleted). Dave Tin will also hand over a piece of paper to the captain that will read I'm not hurt and I can walk, but I don't want to chance taking my mouth piece off. (Note: Dave's SCSR is undamaged but is depleted).

(Note: The team should check the SCSR's and address the condition appropriately. They may choose to replace Dave's SCSR with another one-hour or four-hour oxygen generating unit for transport. The team should report their findings and transport the miners to the FAB).

The team will explore in this old shop and identify a tool box and an empty SCSR cache. Inside of the tool box they will find a pair of bolt cutters, pair of

gloves, safety glasses, rubber hose, and a B.O. pipe wrench. Also in the shop is a single timber that will be necessary for completion of the problem.

22) The team will continue west bound to the intersection of X-Cut #3 & #2 entry (GT/R&R). (Note: Team should not explore south beyond 3' in Entry #2 or they will break the 2+3 rule).

23) The team will explore north and find loose back, they will attempt to scale it down but it will remain loose, it will be the same as the other side of this entry area. (Note: The team will identify this as their furthest point of advance at this time and will be required to support the roof when all timbers are found in order to completely explore the mine).

24) The team will continue westbound in X-Cut #2 to the intersection of the #3 entry & X-Cut #3(GT/R&R). The team will discover that the maps are not up-to-date and #3 entry continues to a shop. The team should not explore beyond 3' in the #3 entry. (Note: This shop door is approximately 5' inside the #3 entry. The team will not be able to address the placard at this time. If they continue to the door they will break the 2+3 rule).

25) The team will continue west where they will identify a permanent stopping that is not intact. (Note: This enters the Old Workings and there is a significant amount of air flow entering the mine at this area. The team must not travel beyond the permanent stopping. They should remember the information about the dangerous conditions identified in team briefing statement. The team has been informed to explore entire active mine and also there will be a do not enter sign in the field problem).

26) The team will travel north in the #3 entry where they will encounter water over knee deep that extends diagonally from rib to rib. (Note: At no time should any team member step inside the outlined area).

The team has explored everything accessible to this point. The team will need to pump out the water in order to continue exploration. The team may return to the Power Center in the #2 entry, where they will see that the power source to the pump is locked and tagged out by Tony Volt (Electrician). The team should contact the command center to discuss the situation and request permission to cut off the lock. (Note: If the team requests bolt cutters from surface, they will be informed that all tools at the mine are located underground). Team should not elect to stop the problem and will have to cut the lock. . (Note: The mine manager will if asked inform the team that they have made contact with tony volt and that permission to cut the lock is granted).

The team should remember the tool box located in the old shop and retreat to the shop for the bolt cutters if they don't already have them. Once the lock is cut off the team can then energize the power to the pump and controls. The team will return to the pump controls area, throw the submersible pump into the water and turn the pump on. The water over knee deep placards will be flipped to read water 1' deep.

27) The team will continue exploration heading south in the #3 entry where they will find the bridge at X-Cut #2. (GT/R&R)

28) The team will explore east in X-Cut #2, where they will find a large sump. (Note: the sump and surrounding areas will also read water 1' deep, allowing the team to explore the entire area of X-Cut #2 until they reach the permanent stopping. This is the team's furthest point of advance and should make the appropriate marks.).

29) The team will then continue exploration south in the #3 entry and tie in the remainder of the #3 entry that is accessible to this point.

30) The team will explore the west end of the intersection and will find a permanent stopping with a closed door. The team will knock on the door. Bill Ross will say I'm in here, the water has drained out, get me out of here. (The team will need to ventilate, due to the gas reading present at the intersection.)

31) The team will travel back to the intersection of entry #1 and X-Cut #3. The team will explore south into the new area of the #1 entry, until they reach the face. (Note: This is the team's furthest point of advance and should make the appropriate marks).

32) The team will continue to the intersection of X-Cut #3 & #2 entry and continue exploration south into the new area of the #2 entry, until they reach the face of the entry (GT/R&R). (Note: This is the team's furthest point of advance and should make the appropriate marks).

33) The team will continue travel to the intersection of X-Cut #3 & #3 entry. The team will continue exploration south until they reach the new shop door. The team will check for heat (No Heat), knock on the door and get no response. (Note: The gas placard will remain the same, preventing them from air locking into this shop).

The team will have the new shop, the loose area between X-Cut #2 and X-Cut #3 in the #2 entry, west end of x-cut #2 (Bill Ross), and barricade with Jack Burns unexplored at this time. Based on the fact that the team knows they have a

survivor behind the barricade, I would expect the team to attempt to rescue Jack Burns first, which will require the following ventilation changes. (Note: Team must ask for permission to change ventilation).

34) Ventilation Change #1

See Map: Jack Burns Rescue

With Permission the team will install temporary stopping A thru C. with C being optional because of exhaust fan at the #2 shaft. (Note: Teams must course the air). This will clear air in front of the barricade and team will be able to take down the barricade. Jack Burn will hand over a piece of paper that says he is not injured and he can walk. (Note: Jack is wearing his SCSR and it is not depleted or damaged).

35) Ventilation Change #2

See Map: New Shop Entry

B should remain in place, the team will install temporary stopping A and C in X-Cut 3 at opening of old works and open the check curtain(Optional). This will allow the team to clear gas placard in front of the new shop and enter the shop. (Note: If the team only installs one temporary stopping, the gas placard will not be flipped to air clear. Ventilation in the mine and ventilation coming from old work will conflict with each other at the entry of the new shop, allowing the gas reading to remain the same).

36) The team will travel to the intersection of the #3 entry and X-Cut 2. The team will knock on the door and make contact with Bill Ross again. The gas placard will read air clear and the team will be able to enter the door. (Note: Bill will be sitting down in the corner and holding an SCSR. Bill will inform the team he is not hurt and can walk. The team will take Bill to surface).

37) The team will return to the new shop located south in entry #3. The gas placard will be air clear, but due to unknown conditions behind the door the team will still be required to airlock themselves in to the shop. Once the shop is entered they will find no miners, but they will locate the remaining timbers to explore the rest of the #2 entry.

38) The team can access the entry from either side of the loose back. They will need to utilize the method for ground control as outlined in the rule book and simulate how they are achieving the support. (Note: team must utilize no less than (5) timber to get completely across the entry safely).

Once the team has accomplished this task they have located all miners, brought all live miners to surface, sealed or extinguished all fires, and explored the entire active mine. The team should return to the FAB verbalize the completion of the problem, report any live and missing miners and stop the clock.