We can’t thank your team enough for responding to our mine emergency. As you know yesterday, teams accounted for 4 of our 8 missing miners. We still have had no contact with them. Last night we supported all unsafe roof areas, pumped water out of the 3 entries and have now established a fresh air base in crosscut 4. A command center is still established on the surface. The exhausting mine fan in 1 entry is running currently, and can be reversed from the command center. All power into the mine is locked out. Power is available at the Command Center for a water pump located in the fresh air base.

The mine uses battery powered haulage equipment.
All officials and backup teams are present.
The mine map is up to date.
Price Utah 2017 Day 2
Written Problem

Explore the entire mine if it is safe to do so.

Account for the missing miners.

Your team is not allowed to move any battery powered equipment or associated batteries.

Your team has 85 minutes time limit to complete this problem.
If The Box Below is Marked, This Map Is To Be Scored

[Blank Box]
BC Pump

Pump Cable with 50' slack

Discharge Line with 50' slack
Fan Blowing

Battery Ram Car

Temporary Stopings

5.1 % CH_{4}
0 PPM CO
19.6 % O_{2}

Live Unconscious Miner

"Help, it’s airtight in here"

2017 Price UT
Day 2
BC Pump Cable with 50' slack
Discharge Line with 50' slack

D Closed
D Closed
1. Initial opening checks of each entry. Contaminant found in 1 entry. (blocked by temp. stopping)
2. Team stop 1 - (apparatus check required) In 2 entry at XC 1 (Rule 44) Explosive / Irrespirable found in XC 2 in 2 e at water.
3. Team stop 2 – at xc 2 in 1 entry.
4. Team stop 3 – in 3 e at XC 1.
5. Team stop 4 – in 3 entry at XC 2.
6. Team stop 5 – in 2 entry at XC 2. Teams must advance outby in 2 entry to XC 1. (temp. stoppings required on both sides of OC to open outby OC door).
**Teams must tie between temp. stoppings in 1 e, before exploring inby XC 2.** (shown as team stop 7)
8. Team stop 8 – in 2 entry at XC 3. (temp. stoppings required on both sides of OC to open inby OC door). Explosive found in XC 3 between 1 & 2 e.
9. Team stop 9 – in 1 entry at XC 3. Teams must tie across to 1 entry.
10. Team stop 10 – in 3 e at XC 3. Teams must travel through XC 2 to 2 entry.
11. Team Stop 11/12 – in XC 4 in 2 e. IN SMOKE. Barricade with no response. Teams can travel to left or right. Fire can be extinguished. RamCar REMAINS an ignition source.
12. At Team Stop 12/13 in 1 e, LUM found. Must place on apparatus and stretcher after assessing. Remove to FAB. Must tie across XC 4.
13. All of mine has been explored but can't vent barricade until water in 2 e and 1 e, respectively, is pumped and unsafe roof in 2 at XC 1 has been explored (visually).
14. **Pump 1** – pump water in 2 e by placing pump in water outby intersection at right rib. No airlock required.
15. CC energizes pump – Unsafe roof exposed – zig zag RR required in intersection.
16. Vent 1 now possible to clear gas in intersection.
17. **Pump 2** – pump water in 1 e by placing pump in water outby edge. Airlock in XC 2 between 1 and 2 e required.
18. Team can now explore 1 e through XC 2. Body found in irrespirable. (shown as team stop 14). Teams must now also explore the area in XC 2 between 1 and 2 entries where water was roofed.
19. Team can now vent rest of mine.
Vent 2
Vent 3
Vent 4
* OTHER VENT SOLUTIONS ARE POSSIBLE*
Breach outer barricade in 2 e. Must airlock in. (No response from outer barricade)
Breach inner barricade. No airlock required.
Remove LCM to FAB.
Team must explore area in XC 1 between 2 and 3 entries OR any of the 3 unsafe roof areas with the timbers available. (shown as team stop 15)
Only 3 missing persons accounted for.
End of problem