Winnemucca 2019

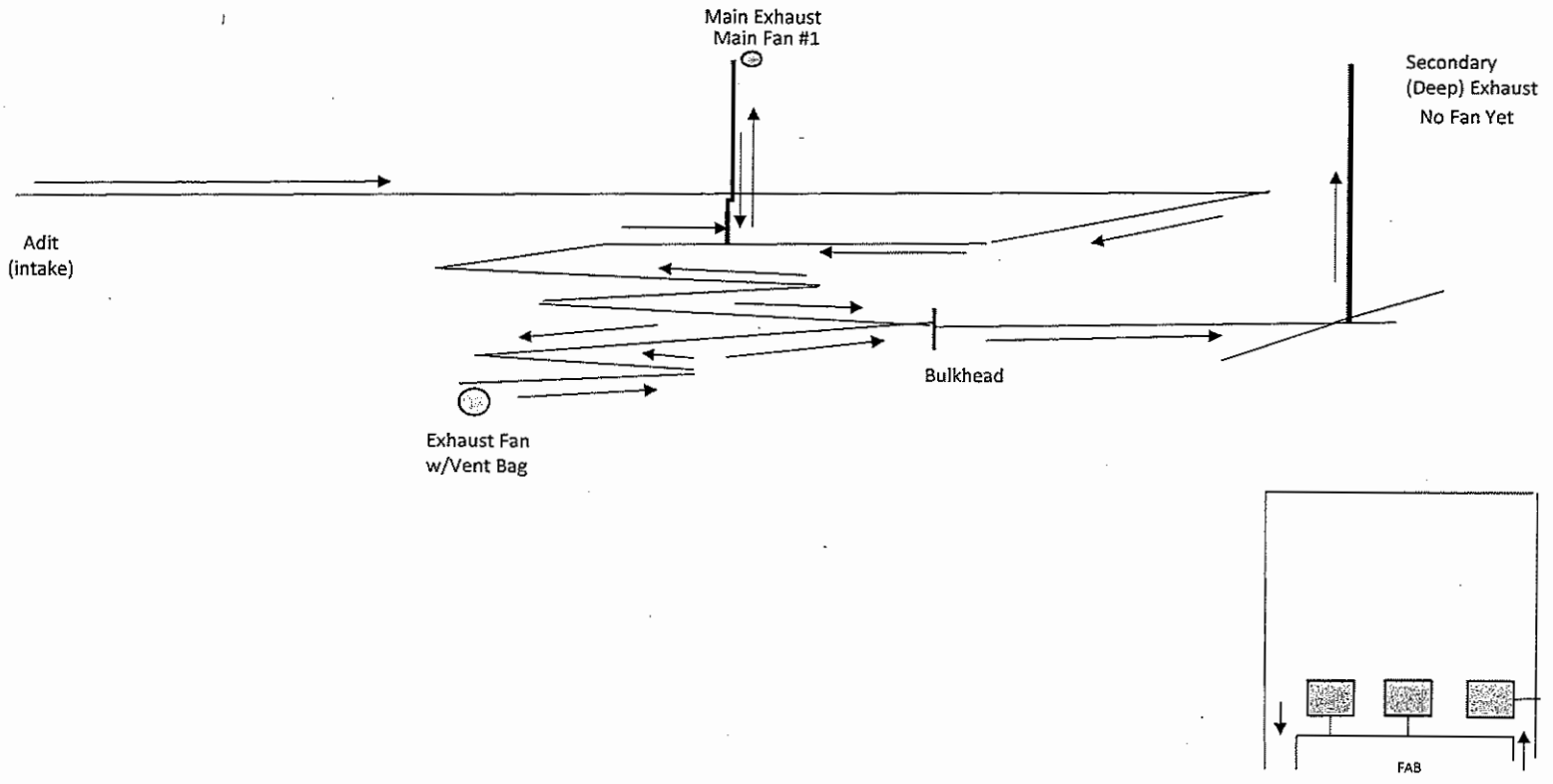
DAY 2

U.S. Department of Labor
MSHA
Mine Safety & Health Administration

SPECTATOR PACKET

Mine Information

- Name and ID: Rascally Rabbit Mine, MSHA ID number 11-01111
- Days/Hours/Shifts of Operation: 7 days per week, 24 hours per day. 3-8 hour shifts
- Average Employment: 320, 245 underground, 50 in mill, 15 office.
- Commodity: Iron Ore, Classified under 30 CFR as a Category IV mine.
- Mining Method: Room & Pillar. Average pillar width is 20' x 20' and travelways are 10 feet wide. We do not have under or overcasts in this mine. There are some areas where the drifts have squeezed and we've had to limit drifts affected like that
- Explosives are used and stored in 30 CFR compliant storage areas.
- Ground control: In the older part of the mine timber is used (wooden caps, posts and Coeur D'Alene lagging). In newer sections of the mine we use friction stabilizers.
- Ventilation – Ventilation in this mine is upcast through the ventilation shaft. The main fan is located near the shaft and can be reversed, but it will take some time to do it. The fan is currently off & the controls are lock-out & guarded. A smaller Booster fan is located in the lower part of the mine and exhausts (currently) through the main exhaust via hard ventilation tubing. Eventually the tubing will be rerouted through a bulkhead and out the secondary deep exhaust (it will be upcast too, but we haven't found the right fan yet).
- Electrical Power - power to the underground is off, locked-out and guarded. It can be re-energized anytime that you need it. There are power centers on each level of the mine. We haven't touched them.
- Ground Water – This mine does have a small issue with water. Small submersible pumps are in place to pump it out.
- Mobile equipment – We have some wheeled equipment underground in the development areas.
- Mine map – Our printer went on the fritz about ½ way through printing. Sorry guys!



- Basic Ventilation Diagram

Not to scale, drawn by hand.

Mine Manager's Statement

Welcome back to the Rascally Rabbit Mine

Thank you for your help yesterday. If your team is ready we still need your help.

I'm afraid we haven't located the last two miners. We've sent several teams in and explored most of the lower levels. The fresh air base has been moved to the last remaining area where our two people are likely to be. We were able to finally seal the fire and gasses behind the seals lead us to believe it is out.

We have been monitoring the main exhaust and are detecting methane at fairly high levels. The last team (the fellows that moved the fresh air base) detected methane at 7% and oxygen in that area had dropped.

We have the fan and power going underground shut off. We can restart either independently upon your request.

We have 4 back-up teams on site. One team will be on stand-by at the FAB.

The authorities (MSHA and MSTATS) are on-site and working with our Command Center group. Law enforcement is on site and are watching the main gate onto the site. EMS is geared up and will go underground to the FAB and receive survivors after you begin exploration.

Please find my miners! Their names are Job and Charlie (we thought it was John...made a mistake, sorry)

Objectives: Find and retrieve any survivors. Successfully map the mine and report findings.

You will have 75 Minutes. You will not receive a 5 minute warning.

GOOD LUCK!!!

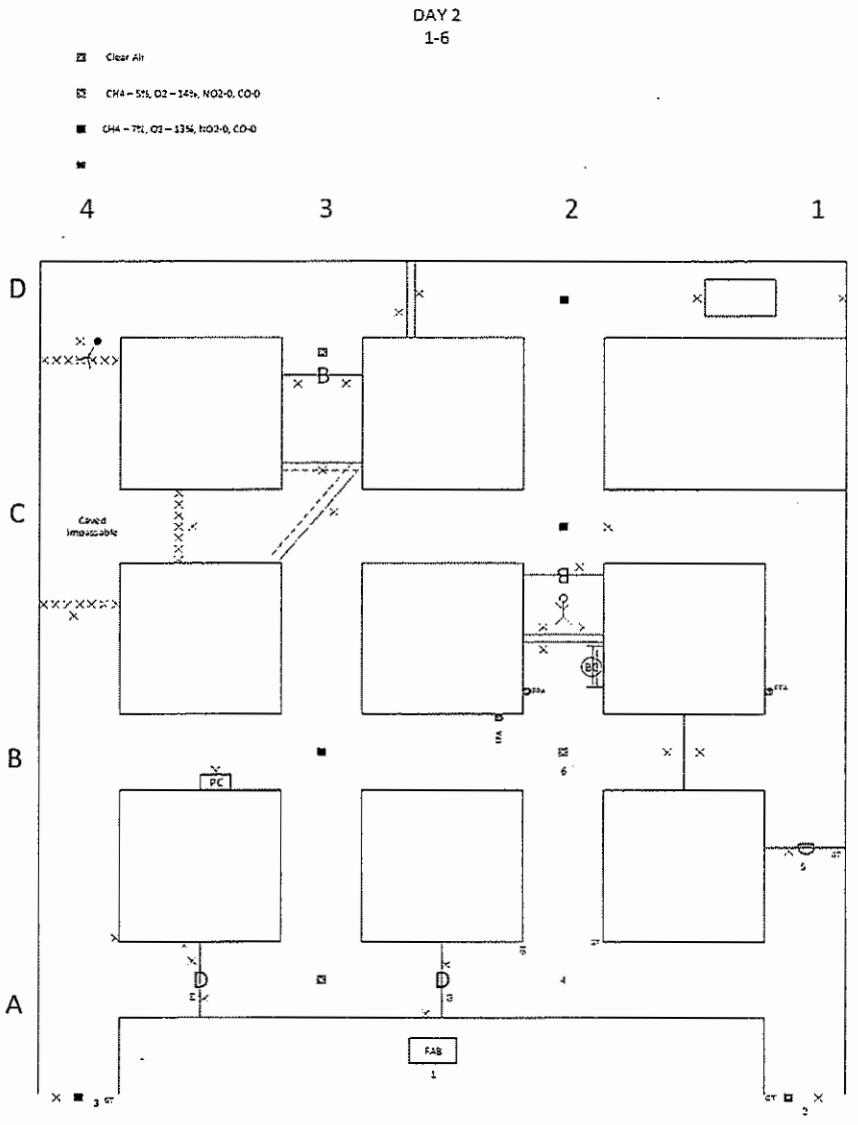
Stops 1-6

During the team briefing they will learn that there is a gas in the explosive range in the area. Before or as the team begins checking the entries they need to declare that they are using non-sparking tools. If they ask if they can have non-sparking tools, the judges will deem the tools that they have non-sparking.

Steps 1-3: The team will depart from the fresh air base and check entries #1 and #4. Gas tests will be performed rib to rib at both entries. The gas concentrations in Entry 4 are high in methane and the oxygen level is low. Since the atmosphere in oxygen deficient they must be under air.

Steps 4-6: Most teams will opt to enter under clear air, so most likely the teams will start exploring in Entry 1. The team will turn right into A-XC. Gas tests must be performed across the directions of travel at the intersection and at the door. The captain will DI the closed doors and may stretch into B-XC, but will need to be mindful of the 2 + 3 rule. The team will retreat back into Entry 1 and travel north toward the inby doors in Entry 1. The captain will again have to DI. Since the team has not found stopping materials they must retreat back out of the field and explore through Entry 4.

The team must perform the 50' team check when (or before) they reach the inby corner of the pillar of #2 Entry, B-XC.



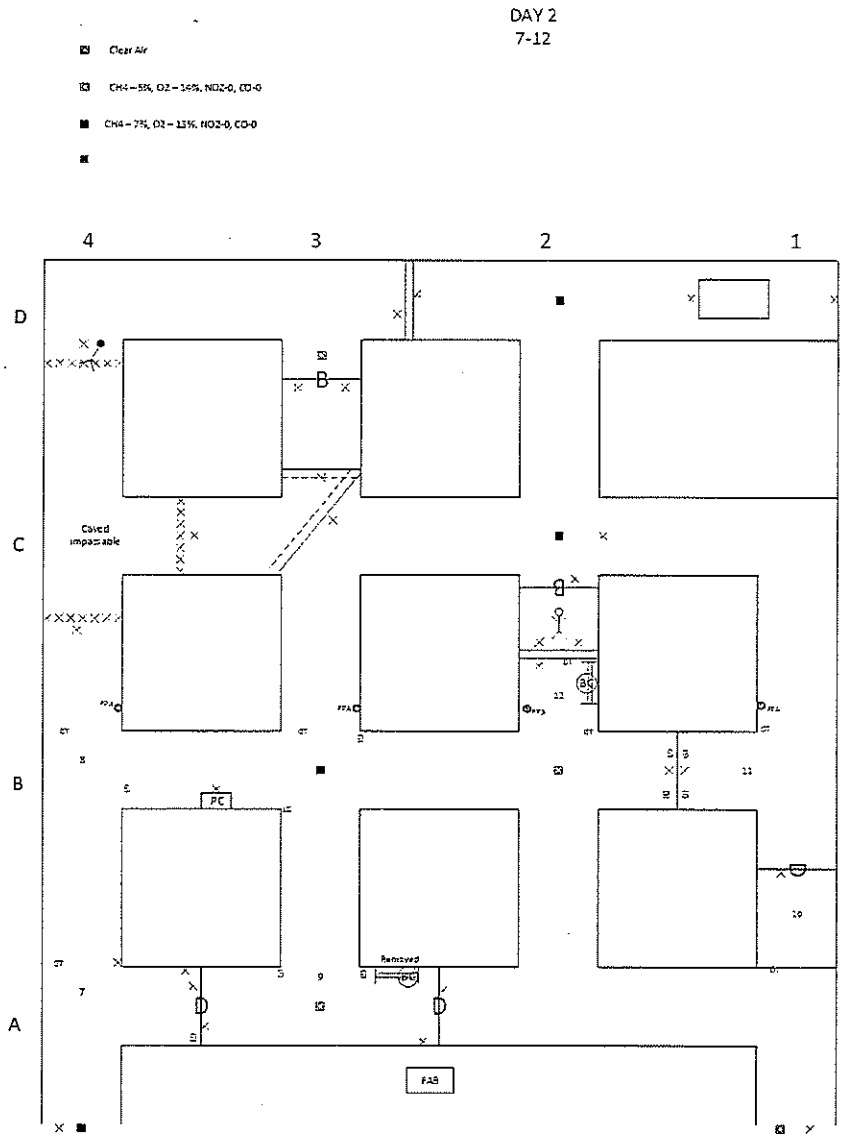
Steps 7- 12

Steps 7 & 8 – the team will explore in Entry 4. The team will stop at 4 A-XC and perform gas tests, stretching right to the closed air doors. Since they don't know what lies behind it & they haven't found any stopping materials the captain will DI the doors and continue north in 4 Entry to B-XC. At the outby corner of the first pillar in #4 the team will find a working non-permissible phone. The team should disconnect the phone as it is a hazard in the methane-rich atmosphere. Gas tests will be performed across each opening & the team will again turn right. In B-XC, between #4 & #3 the team will find a power center that is on. They will need to turn the power off (they can call the Mine Manager to do this). Gas tests will be made across openings in #3, B-XC and the team will turn right toward A-XC.

Step 9 - In #3 A-XC the team will perform gas tests and find that the amount of methane has decreased and the oxygen level is higher. They will check the back sides of the closed doors and one set of stopping material. Since they have not finished exploring Entry 1 to B-XC they will need to retreat out of the mine. Before they leave, they should tie back to #2 in B-XC.

Steps 10 & 11 – To complete outby exploration, the team will travel to the doors in #1 and airlock. Once the airlock is constructed the team can travel through the door. Gas tests should be made as they travel through the doors and at the intersection. The team will go to B-XC and check left to the temporary stopping. There is still a possibility of 2 + 3 violation, so they cannot travel further inby in #1. The team will retreat back out to A-XC and completely tie in to the permanent stopping in #2.

Step 12 – The team will travel north in #2 to finish tying in. The captain will DI the permanent stopping. In this area the team will find stoppings and enough roof supports to complete the problem (the other roof supports were located next to the FAB.)

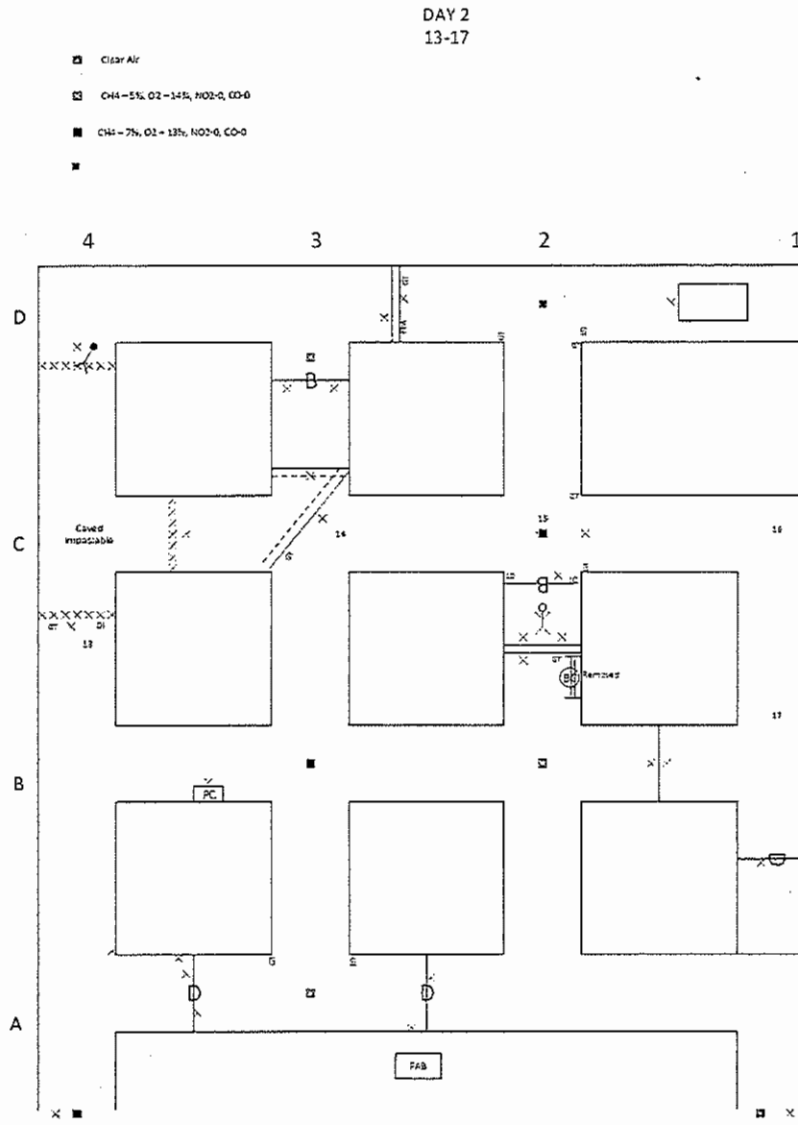


Steps 13 - 17

Steps 13 & 14 – The team can continue north in from #3 or come out and go up #4. In this scenario they come up #4, where they find an area "caved impassable". The captain will need to DI the caved before the team retreats to #3. In #3, C-XC the team will encounter unsafe roof. Since they have not found roof supports the captain must DI the unsafe roof and the team will continue exploring in C-XC.

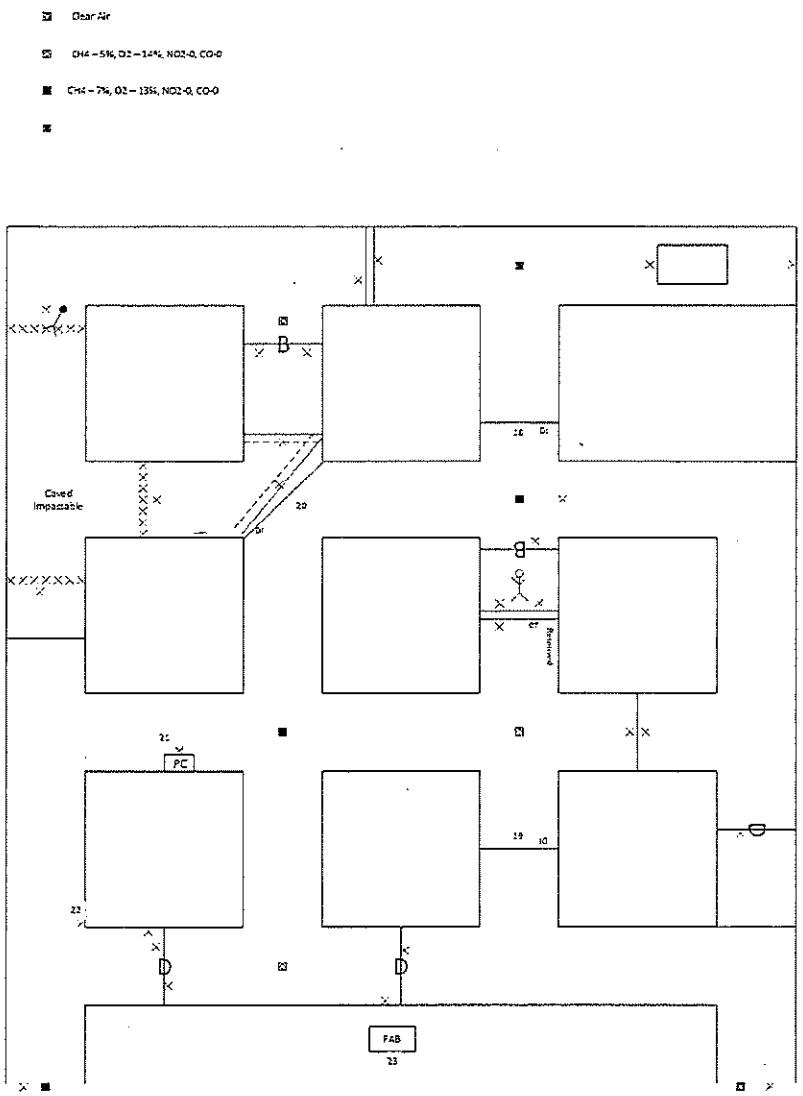
Step 15 – The team will find a barricade to their right. When they knock on it the judges will flip the placard. On the back side there is a statement telling the team that there is someone behind the barricade. Since oxygen levels are too low to airlock in the team will have to ventilate the area. IF the team asks the Mine Manager to reverse the main fan, the #1 judge will inform the team that it will take at least 2 hours to do so.

Steps 16 & 17 – In preparation to ventilate the team must finish exploring C-XC and tie-in to #1 Entry. Once that exploration is complete they can ventilate.

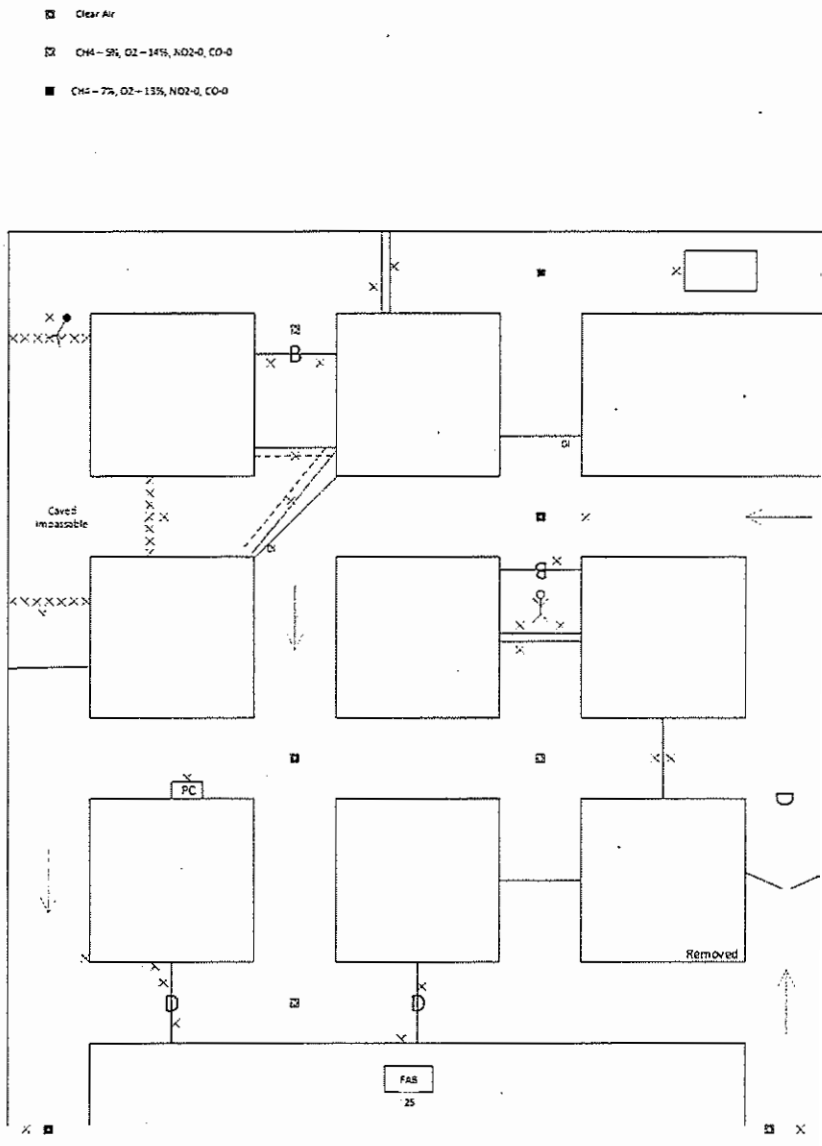


This map shows the locations where the team must erect temporary stoppings to ventilate.
Keep in mind, the power center and phone must be rendered inert.

DAY 2
VENT #1



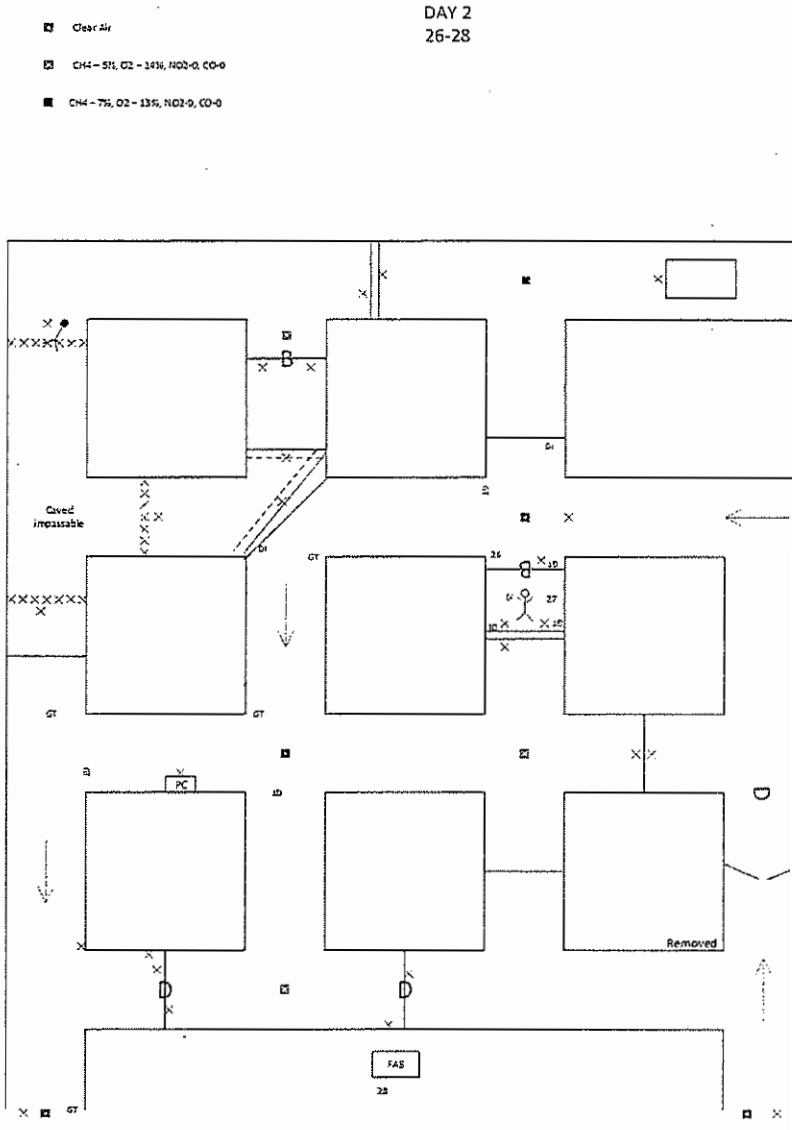
Once the stoppings are in place the team MUST come out of the mine before the fan is turned on. This will clear the air in front of the barricade so the team can remove the miner.



Steps 26 - 28

As the team reenters the mine they should perform gas tests along the path of travel back to the barricade. With the air in front of the barricade cleared the team can remove the miner.

Step 27 & 28 – The team will enter, looking to ensure the scene is safe. Inside the barricade they will find one miner laying on the ground (use something to protect the miner, also provide once of the face shields from the black tote). The team will find a placard showing the miner's name. The team must don BSI and perform a primary survey. Once the primary is underway the #2 judge will present the back-side of the placard to the first responders. The team must splint the miner's right leg, place him/her on the stretcher and bring the patient out. While the first responders are caring for the miner, the captain can perform gas tests, DI the stopping and the miner.
The team will then take the miner to the FAB & turn him/her over to the authorities.



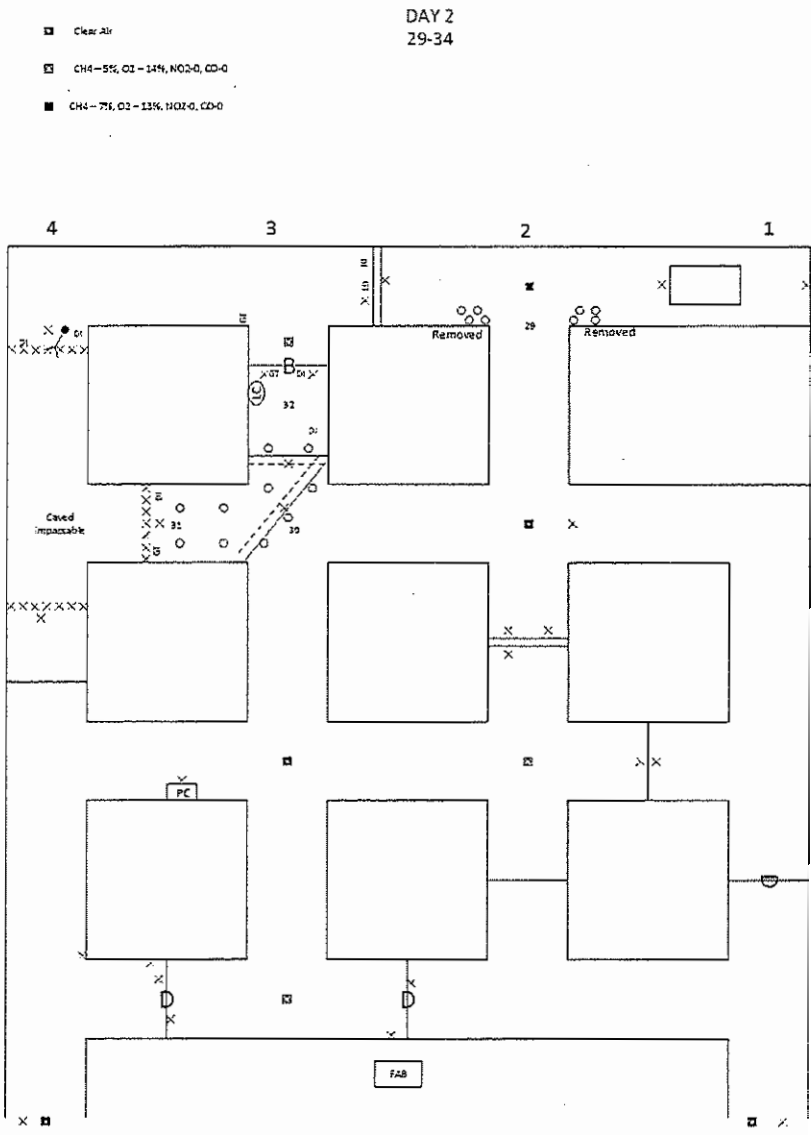
Steps 29-34

The fan MUST BE TURNED OFF BEFORE THE TEAM STARTS STEP 29!

Step 29 – Since the team has not found roof supports they will need to explore up #2 into D-XC. Inside of D-XC the team will find a cache of roof supports. The team will finish exploration. They will find a Jumbo to the right, along with the face. The captain must DI the face. To the left they will find a permanent stopping. The captain will need to DI that too.

Steps 30 – 32: The team will retreat back to #3 and support the unsafe roof. There should be plenty of roof supports to do the job. Due to the odd size and shape it will take a bunch. Once supported the team can explore to the caved airtight. The captain must DI there. Going toward D-XC they will find another barricade. The captain will DI the barricade. There is a placard showing "No Answer". They will also find a line curtain that they will need shortly.

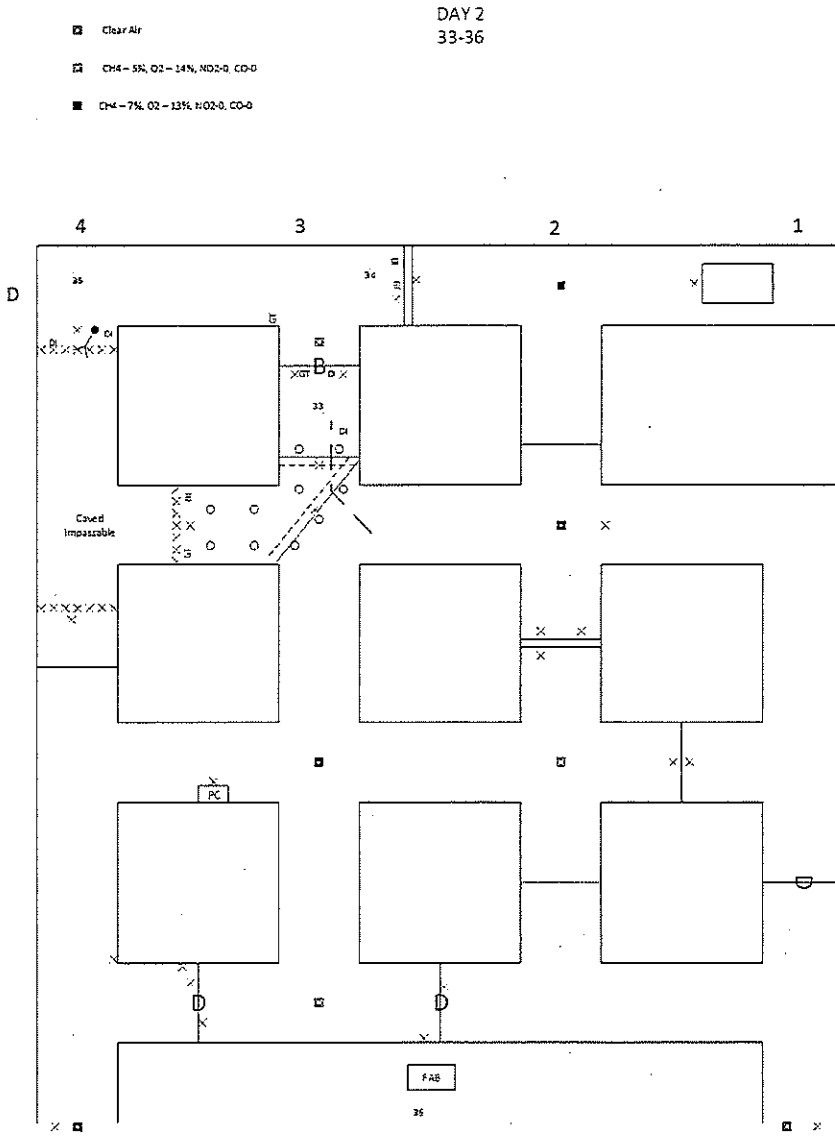
Since the air in front of the barricade was not cleared, the team will need to clear it.



Steps 33-36

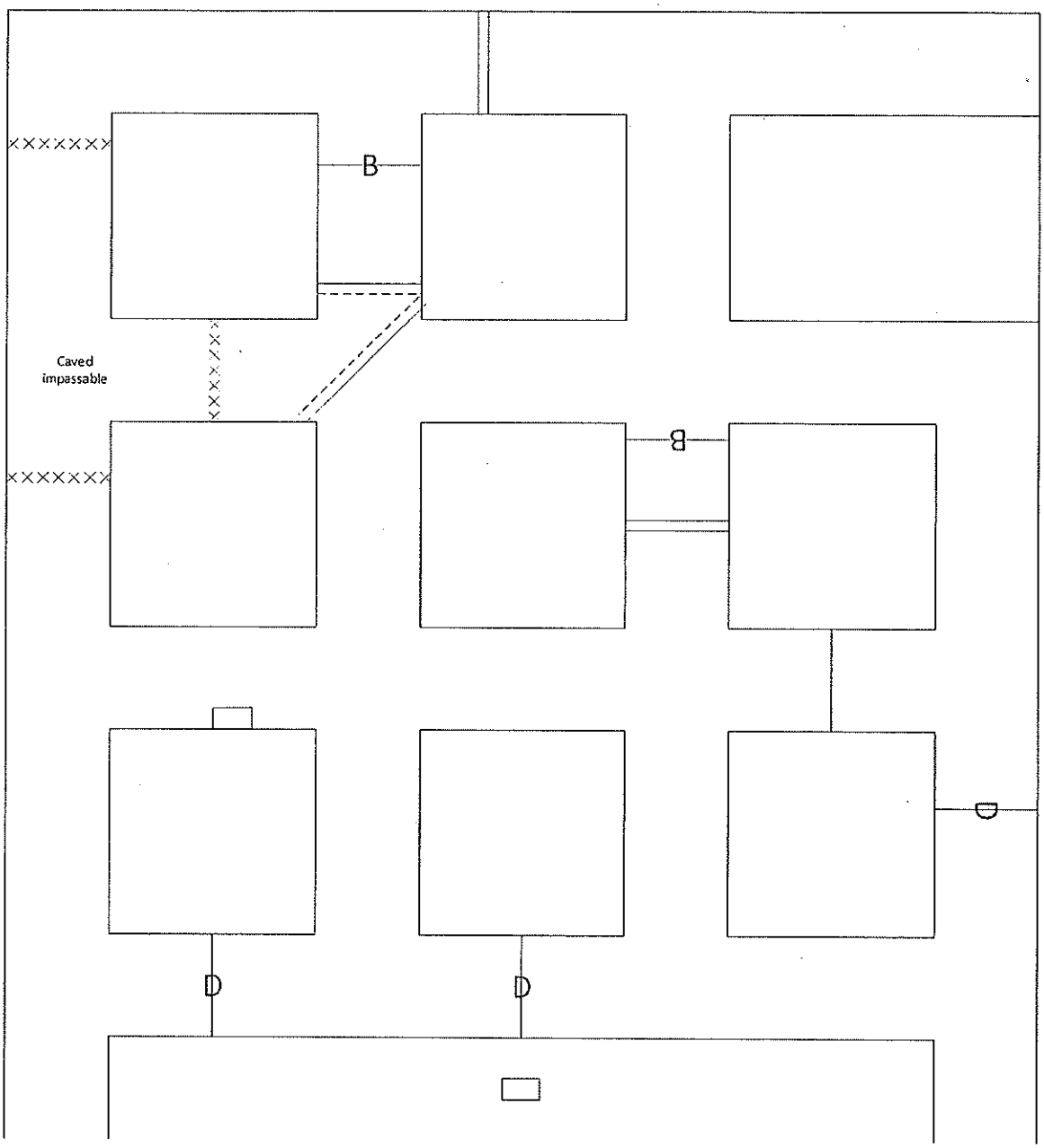
The team should re-erect the stopping in #2. The line curtain can be used to course the air in to the barricade. If the team elects to not re-erect the stopping in #2, the judges will inform the team that there is now sufficient oxygen, but that the methane concentration is the same. (A barricade can be breached in an atmosphere with elevated methane)

Once the team enters D-XC, to the right they will find a permanent stopping. The captain must DI this. To the left the team will find the second missing miner (Job). Once the primary survey is complete, the #2 judge will flip the placard (No signs of Life). Before the team leaves the area the captain must DI the body and the caved impassable. The team has now completed the mission, return to the FAB and stop the clock.



TEAM_____ FIELD _____

JUDGE_____ OFFICIAL TIME _____



Day 2 Judge's Map