

2012 THE KEMI MINE SAFETY & TRAINING COMPETITION

SUPERINTENDENT'S STATEMENT

DAY 1

Welcome, I am the Superintendent of the Lonesome Creek Mining Co. Twin Shafts Mine. You are located at the fresh air base in the slope, 50 feet from the surface.

This is an old mine formerly owned and operated by KEMI Creek Mining, Lexington No. 1 Mine. The mine was developed in 1970 but the development suddenly stopped due to the price of coal. The mine was adjacent to an old operation that liberated a lot of methane, and has been sealed for years.

Lonesome Creek began re-habilitating the mine approximately two months ago. A temporary blowing fan was installed on the A Shaft in the No. three entry, (as shown on your map) to ventilate the 4 X-cuts. A partition, (wall) had been installed in the slope and one side was being used as the return air coarse. A belt had not been installed at this time in the slope. The Section Foreman reported hitting something in the No. 1 entry face with the continuous miner as they were cleaning and loading out gob. This occurred at the end of the shift yesterday, so the crew left the miner parked there. The foremen marked up the mine map at the end of the shift so the map is up-to-date. In the No. 1 entry a B Shaft was nearing completion so everyone was removed from the mine except for a crew of five people that went underground to try to determine how close the shaft was to completion. The Mine Manager, Mine Foreman, Assistant Mine Foreman, and Ventilation Engineer were the persons that went underground. A fifth person was setting in a man hole at the top of the slope and crawled outside. He stated he felt a rush of air and blast that destroyed the partition in the slope entry, and the other four persons have not been heard from since the incident.

This mine has a newly installed L3 Communication System using radio (wireless communication) and texting capabilities. An L3 Communication radio will be provided at the Fresh Air Base for teams using Lifeline. For teams using wireless communication, the L3 System will be compatible with and integrated into the teams wireless communication system.

The drill operator at the B Shaft stated the shaft holed through into the mine and as the drill crew finished removing the last piece of equipment from the B Shaft they heard a loud blast. The Temporary Fan on the A Shaft has been completely destroyed and was blown off the A Shaft. A new fan is on the way and is expected here any time.

As noted above, Senior Management is missing, so you, the rescue team, must install the fan. The fan may be installed on either the A Shaft or B Shaft when the mine can be safely ventilated. The location of the fan and method of ventilation (either blowing or exhausting) must be submitted by the Briefing Officer to me (the Superintendent) in writing for approval. The fan, once started, is not allowed to be

moved, reversed or stopped by the team. The mine, when properly ventilated, will have all contaminants removed. "So choose wisely grasshopper". The Slope can not be used for any ventilation purposes.

MSHA Technical Support arrived on mine property to assist with our problem. Virgil Brown had the permissible battery-powered robot, VB-1, lowered down the B-Shaft and began to explore advancing up the No. 1 Entry. A gas test was taken between the first and second crosscut and the results were recorded on the map. The robot advanced into the second crosscut and while maneuvering, severed the tram control cable and is now unable to move. However the continuous atmospheric gas monitoring system is still operative and the gas readings have not changed.

A life line judge (point out) is available to receive your lifeline signals if necessary. A copy of the problem and maps will be given to you when you are ready. You may work for 75 minutes before being replaced by another team.

Thank you for your help. Good luck.

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PATIENT'S STATEMENT I

(Verbal and Text Communication through L3 System)

OUTSIDE!! OUTSIDE!!!

Help! Get Me OUT!!!

My name is John Smith.

I'm at the bottom of the Slope in a Barricade, located 2 Cross-cuts outby A-Shaft in the No. 3 Entry.

I'm very dizzy and I'm having trouble breathing.

Come and get me. I need Help!

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PATIENT'S STATEMENT II

I'm late! I'm late!

For a very important date

No time to loose!

Hello! Good-bye!

I'm late! I'm late! I'm late!

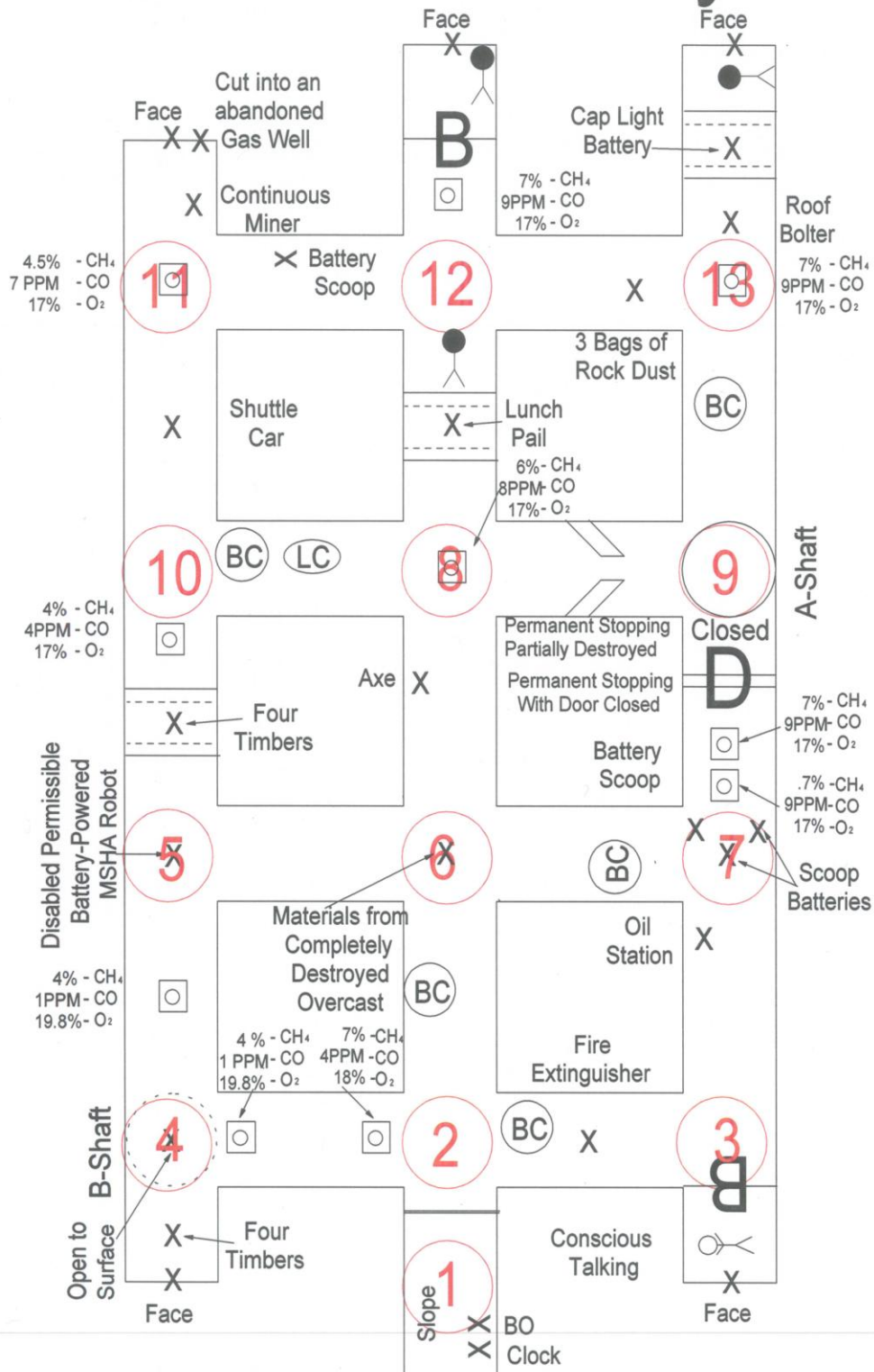
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NOTE TO CAPTAIN

A LOAD OF TIMBERS HAVE ARRIVED OUTSIDE

ONLY 4 TIMBERS CAN BE CARRIED INTO THE MINE AT A TIME.

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Surface

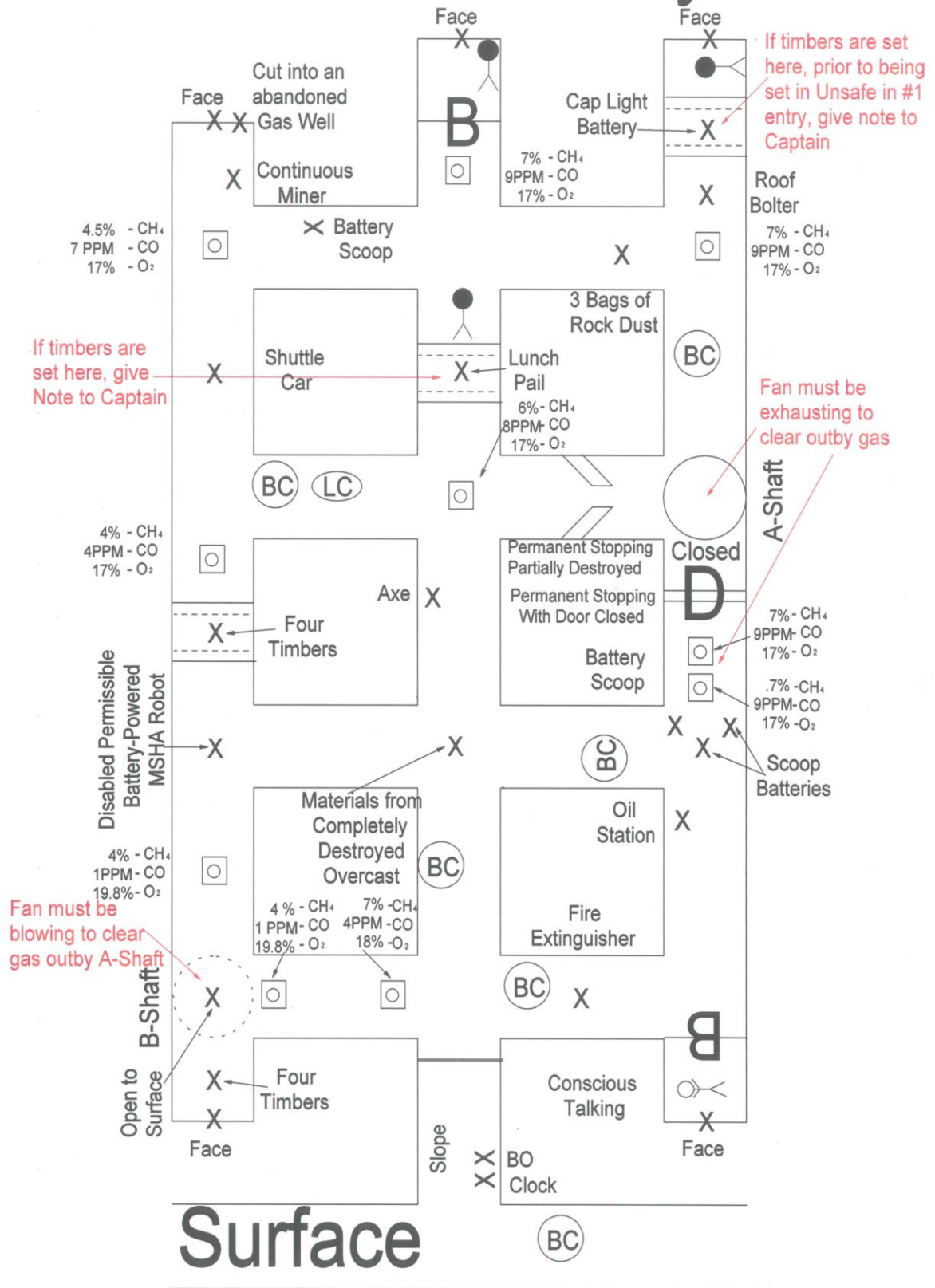
Team Stops

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PROBLEM

- EXPLORE ALL AREAS OF THE MINE THAT CAN BE DONE SAFELY.
- ACCOUNT FOR ALL MISSING MINERS, RESCUE ALL LIVE PERSONS AND BRING THEM TO THE FRESH AIR BASE.
- SHOW ALL CONDITIONS AS THEY WERE FOUND AND CONDITIONS AS LEFT BY THE TEAM ON THE TEAM MAP.
- VENTILATE THE MINE SO RECOVERY CAN BE DONE BARE-FACED.
- MATERIALS NECESSARY TO WORK THE PROBLEM ARE PROVIDED. ADDITIONAL MATERIALS MAY BE PROVIDED, IF AVAILABLE, UPON REQUEST FROM THE CAPTAIN TO THE CHAIRMAN AT THE TIME AND LOCATION FOR USE IN THE PROBLEM.
- COMMUNICATION THROUGH THE L-3 SYSTEM INCLUDING, VERBAL OR TEXTING, IDENTIFYING ANY MISSING MINER MUST BE ACKNOWLEDGED BY THE BRIEFING OFFICER OR CAPTAIN AND MUST BE RELAYED TO THE SUPERINTENDENT PRIOR TO STOPPING THE CLOCK.
- ONCE THE CLOCK IS STARTED, YOU WILL HAVE 75 MINUTES TO WORK BEFORE YOU MUST EXIT THE MINE.

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Day 1

MINE RESCUE CONTEST

Judges Briefing

FRESH AIR BASE

Note: The Superintendent will read to the Briefing Officer, through a radio, **Patient Statement I** as soon as the Clock is started. The Superintendent will ensure the BO knows the Patient's Name and Location.

Teams will begin by examining the Slope Portal.

GT in Slope entry at Temporary Stopping.

D&I at Temporary Stopping

D&I at Clock

NOTE: Superintendent should place the patient in the Barricade in No. 3 Entry and give him **Patient Statement II** to read when the team enters the mine.

TEAM STOP NO. 1

Team must airlock at Temporary Stopping in the Slope.

The team will make their 50 ft. team check.

TEAM STOP NO. 2

Team will travel through Temporary Stopping to the 1st crosscut in No. 2 entry.

GT and explore in all 3 openings of the intersection to the imaginary line of the next intersection.

(There would be a Delay of Patient if team travels to the # 1 Entry before going to #3 Entry.)

TEAM STOP NO. 3

Team will travel to the first intersection in No. 3 entry. GT's will be taken in openings. Acknowledge Barricade. **Patient reads Statement II.** DI & GT at Barricade and GT in No. 3 Entry inby intersection.

Team will airlock by building temporary stoppings between No. 2 and No. 3 entries in the 1st crosscut and between the first and second intersections in No. 3 entry. Breach the Barricade and make GT in the Barricade and DI patient, DI, RR & GT at Face of the Room.

Remove patient to FAB.

TEAM STOP NO. 4

Team will travel to the No. 1 entry of the first crosscut.

GT at bottom of B-Shaft

DI & GT inby and outby entries of the B-Shaft. Find and Take 4 timbers

DI, RR, GT face of the Room

TEAM STOP NO.5

Team will travel to the second intersection in No.1 Entry due to contaminate between First and Second Crosscuts.

GT at openings inby and outby.

RR, DI, at the Unsafe Roof between Second and Third Crosscuts in the No. 1 Entry.

TEAM STOP NO. 6

Team will travel across to No. 2 entry and find Overcast Completely Destroyed. GT at openings. GT and explore in all 3 openings of the intersection, inby and outby in the No. 2 entry to the imaginary line of the next intersection and across to the imaginary line of the No. 1 entry.

TEAM STOP NO. 7

Team will travel across to 2nd Crosscut in No. 3 Entry

GT's at openings of the intersection.

DI & GT at Permanent

Stopping in No. 3 Entry.

TEAM STOP NO.8

Team will retreat to the No. 2 Entry and advance to the intersection in the third crosscut. GT and explore in all 3 openings of the intersection, DI, RR at Unsafe Roof in No. 2 Entry between the third and fourth crosscuts. DI at Permanent Stopping Partially Destroyed between No 2 & No.3 entries.

TEAM STOP NO. 9

Team will travel to the Third Crosscut in No. 3 Entry.

GT at Bottom of the A-Shaft, inby and outby the third intersection in No. 3 entry.

DI & GT at Permanent Stopping

TEAM STOP NO.10

Team will travel to third crosscut in No. 1 Entry

GT inby and outby the third intersection in No. 1 Entry.

RR & DI at the Unsafe Roof outby third intersection.

TEAM STOP NO. 11

Team will advance to the fourth intersection (LOC) in No. 1 Entry

GT at Openings.

DI, RR & GT at Face of No. 1 Entry.

TEAM STOP NO.12

Team will travel to the Last Open Crosscut in No. 2 entry.

GT's in all openings.

Acknowledge and DI the Barricade

DI Body at Unsafe Roof. DI, RR at Unsafe Roof outby intersection.

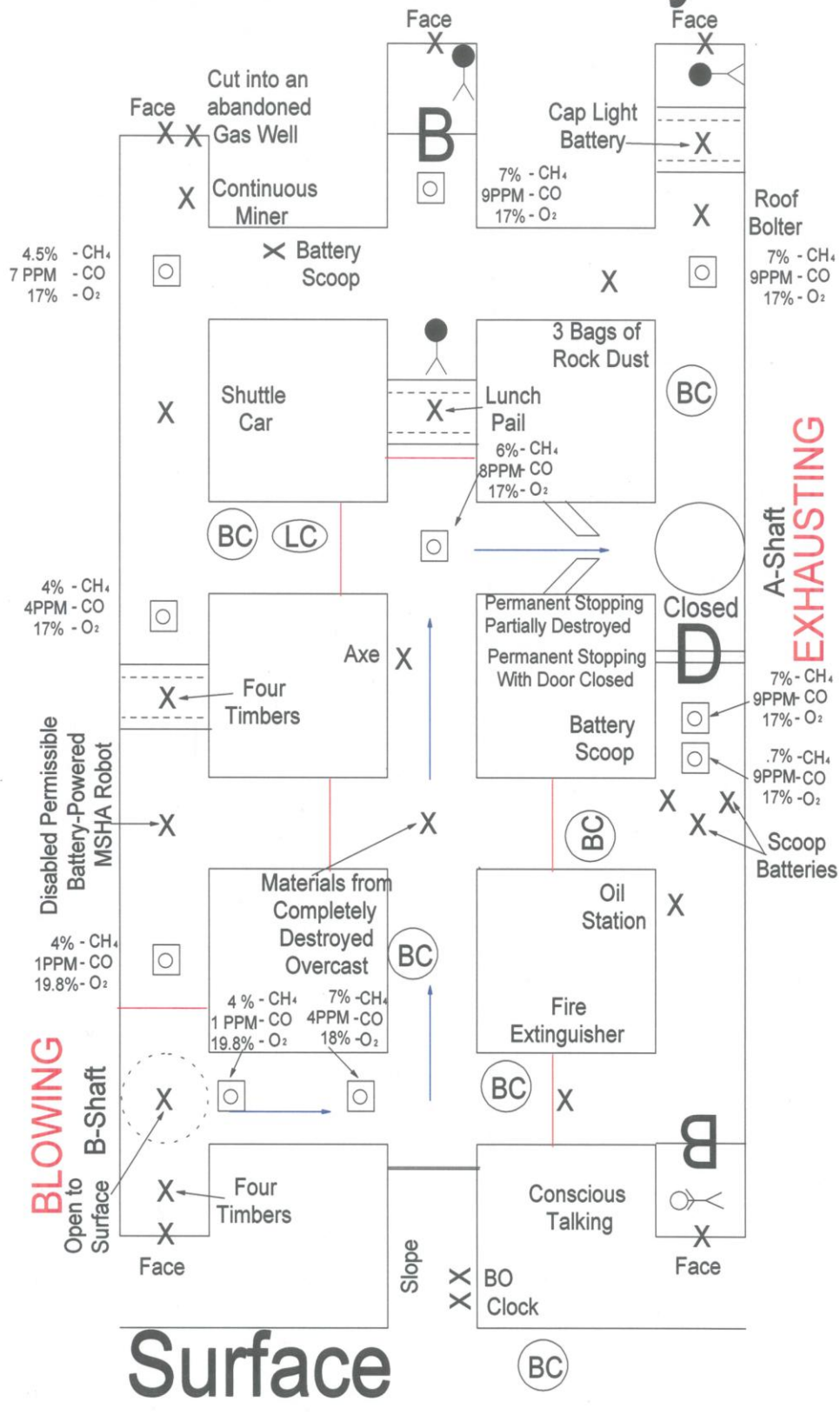
TEAM STOP NO. 13

Team will advance to the fourth intersection in No. 3 entry.

GT in both openings.

DI, RR at the Unsafe Roof inby LOC in the No. 3 entry.

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Surface

Ventilation 1

FIRST VENTILATION

Team must decide on which shaft to place the fan, either A-Shaft or B-Shaft and the type of ventilation to use, either a Blowing or Exhausting fan and submit their decision to the Superintendent.

The fan must be placed on the A-Shaft Exhausting or on the B-Shaft Blowing, to properly work the problem.

Team must build temporary stopping in No. 1 Entry between first and second intersections.

Team must build temporary stopping in first intersection between No. 2 and No. 3 Entry.

Team must build temporary stopping in second intersection between No. 1 and No. 2 Entry.

Team must build temporary stopping in second intersection between No. 2 and No. 3 Entry.

Team must build temporary stopping in third intersection between No. 1 and No. 2 Entry.

Team must build temporary stopping in No. 2 Entry between the third and fourth intersections.

Call to have the Fan started.

SECOND VENTILATION

Team must remove temporary stopping in No. 1 Entry between the first and second intersections.

Team must build temporary stopping in first intersection between No. 1 and No. 2 Entry.

Team must use the four timbers and timber through the Unsafe Roof in the No. 1 Entry between the second and third intersection and pick up the other four timbers so the contaminate inby B-Shaft can be removed.

Team must hold the line curtain to within 5 ft of the barricade inby LOC in No. 2 to remove the gases.

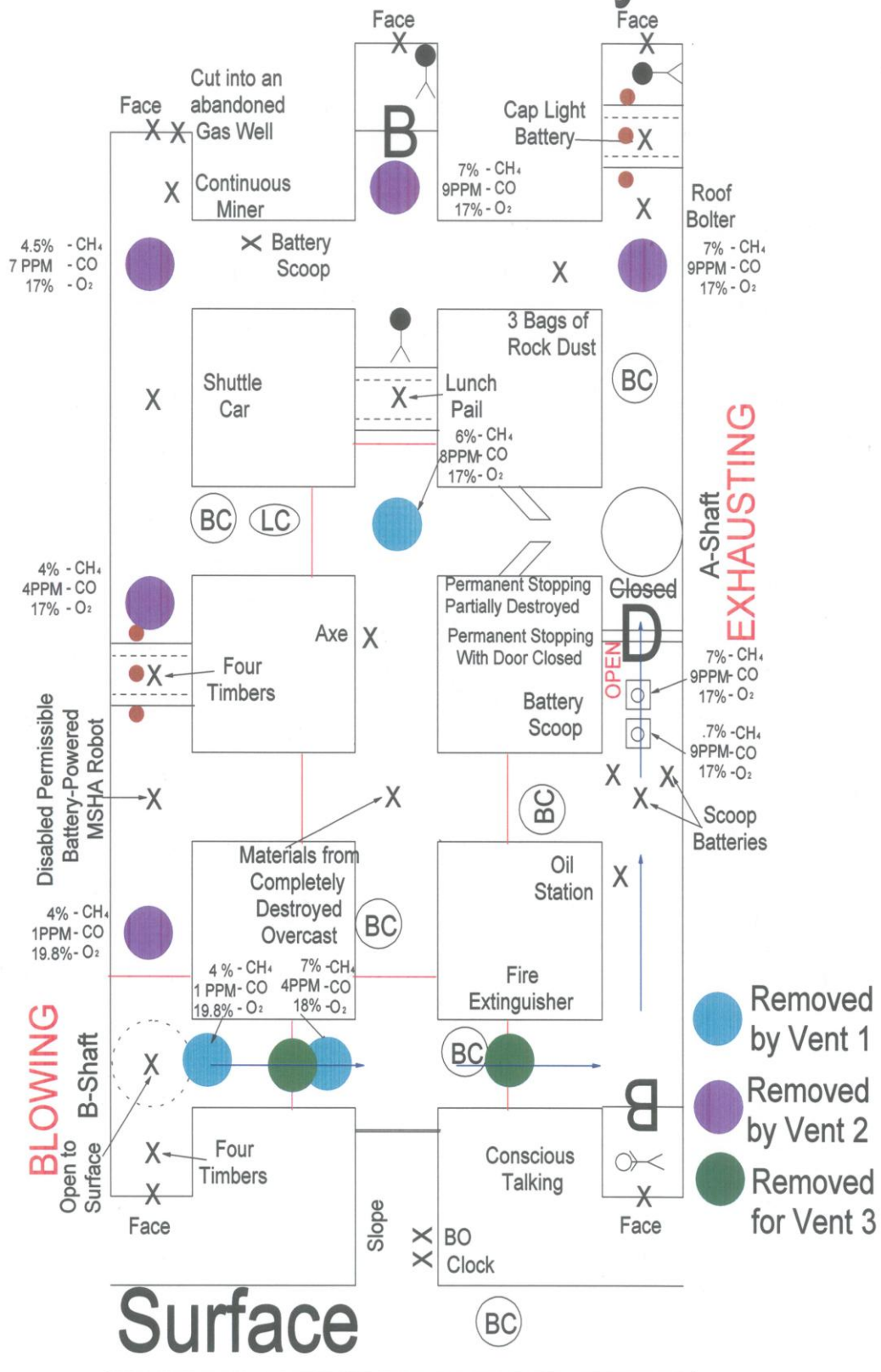
Team will build an airlock inby LOC in No. 2 entry.

Team must breach the airlock, make GT, enter barricade.

Team must DI Body. DI, RR & GT at face.

Team then must timber through the Unsafe Roof in No. 3 Entry inby the LOC with the other timbers. DI Body. DI, RR, GT Face.

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BLOWING

EXHAUSTING

- Removed by Vent 1
- Removed by Vent 2
- Removed for Vent 3

Surface

Ventilation 3

THIRD VENTILATION

In order to leave the mine so further recovery can be done bare-face:

The team must clear the gases located in the No. 3 Entry between the second and third crosscuts. To do this the team has only two choices:

1. If the fan is placed on A-Shaft, the ventilation must be Exhausting to clear all the gases.
2. If the fan is placed on B-Shaft, the ventilation must be Blowing to clear all the gases.

If the A-Shaft fan is EXHAUSTING or the B-Shaft fan is BLOWING, then the gases outby the A-Shaft will be cleared by:

1. Building a temporary stopping in the No. 1 Entry between the first and second crosscuts.
2. Building a temporary stopping in the No. 2 Entry between the first and second crosscuts.
3. Then open the door in the Permanent Stopping outby the A-Shaft fan. This will clear the gases in the #3 Entry outby A-Shaft.

If the A-Shaft Fan is Blowing or the B-Shaft Fan is Exhausting and the team opens the door in the permanent stopping located outby the A-Shaft, then the gases will be moved over the Scoop Batteries and Battery Scoop.

Placing the fan in either of these two methods will result in a 90 point discount for moving an explosive mixture over 3 ignition sources and a 15 point discount for not following written instructions.