

**KENTUCKY RIVER MINE RESCUE CONTEST
SUPERINTENDENT STATEMENT DAY 2
JUNE 19, 2014**

Thank you for coming to help us. You are located at the fresh air base of the Hazco #1 mine. This is a very large mine with multiple working sections and interconnected fans and air courses.

This morning 75 miners entered the mine. Around 9:00 am this morning the incident occurred. There was a loud rush of air out the portals and the CO system alarmed. The Responsible Person tried to contact the miners underground but was not able to contact anyone. We reported this to MSHA and contacted mine rescue teams. At 10:30 am forty nine miners were able to escape. The other 26 miners are unaccounted for. There are multiple mine rescue teams working different areas of the mine at the same time you will be working. The fan you are working with is running blowing. The air is currently going across the fresh air base and the return and intake has been established so you can send smoke, and any gases out and they will not travel over any ignition source or unexplored area.

The mine has a history of bad roof, water and methane. The mine maps are up to date. We have a competent life line person to give and take life line signals if necessary. There are back up and standby teams ready to assist you.

Once your team goes in-by, the Briefing Officer will be stationed in an airtight isolation area and you will only be able to contact him through your communication system.

You will be given two maps you are to denote which one is the Team map and which one is the Briefing Officer map.

Please find the 4 missing miners that were in this area of the mine that you will be exploring. Thank you and good luck.

THERE IS A FAN VENTILATING OTHER
AREAS OF THE MINE AND IF YOU DO NOT
MAINTAIN AN AIRLOCK AIR WILL BE
PULLED THROUGH THE UNSAFE ROOF.

THE RETURN AND INTAKE OUTBY THE
FAB HAS BEEN EXPLORED AND IS SAFE
TO VENTILATE THROUGH.

EXPLORED.
WHERE THE MINE RESCUE TEAMS HAVE
YOU HAVE EXPLORED TO THE POINT
IS SAFE TO VENTILATE THROUGH ONCE
UNSAFE ROOF HAS BEEN EXPLORED AND
THE AREA INBY THAT SIDE OF THE

MINE RESCUE TEAMS HAVE EXPLORED
TO THE UNSAFE ROOF IN THE NUMBER 1
ENTRY CUT THROUGH.

THE FAN YOU ARE WORKING WITH CAN
BE TURNED OFF, REVERSED BUT CANNOT
BE STALLED DUE TO CAUSING DAMAGE
TO THE FAN.

PROBLEM

**ACCOUNT FOR ALL 4 MISSING MINERS
AND BRING SURVIVORS TO THE FAB.
EXPLORE ALL AREAS OF THE MINE THAT
CAN BE DONE SAFELY.**

**YOU HAVE 105 MINUTES TO WORK
BEFORE BEING REPLACED BY ANOTHER
TEAM.**

**PATIENT STATEMENT
BARICADE**

HELP!! GET ME OUT

Written Examination Day 2 Kentucky River

Team Name _____ Contestant Name _____

1. To detect oxygen deficient atmospheres teams will use an _____ .
(MSHA 3028 pp. 2-14)
 - A. ___ Multi-gas Detector
 - B. ___ Oxygen Indicator
 - C. ___ Oxygen Detector

2. To test for methane, use a _____ or chemical analysis. (MSHA 2102, p. 33)
 - A. ___ Multi-gas Detector
 - B. ___ Methane Indicator
 - C. ___ Methane Detector

3. Because fire consumes such large _____ of oxygen, there is a hazard of oxygen-deficient air in the mine. (MSHA 3028, pp. 5-18)
 - A. ___ Amounts
 - B. ___ Quantities
 - C. ___ Areas

4. Nitrogen dioxide is _____ by burning and by the detonation of explosives. (MSHA 2102, p. 37)
 - A. ___ Produced
 - B. ___ Created
 - C. ___ Exhausted

5. A mixture of coal dust in air reduces the explosive _____ of methane. (MSHA 2102, p. 32)
 - A. ___ Limit
 - B. ___ Range
 - C. ___ Amount

6. If the mine has had an explosion, the team may encounter a great deal of _____, damage to stoppings, and hazardous roof and rib conditions. (MSHA 3028, pp. 3-22)
- A. ___ Smoke
 - B. ___ Debris
 - C. ___ Methane
7. Mines below the water table tend to have more _____ than those above the water table. (MSHA 2102, p. 33)
- A. ___ Methane
 - B. ___ Gas
 - C. ___ Water
8. After a fire or explosion in a mine, rescue teams are usually needed to go into the mine to assess and _____ ventilation. (MSHA 2103, p. 5)
- A. ___ Re-establish
 - B. ___ Establish
 - C. ___ Maintain
9. When the fresh air base is set up underground, an air lock must be _____ to isolate the fresh air base from the unexplored area beyond it. (MSHA 3028, pp. 4-7)
- A. ___ Built
 - B. ___ Erected
 - C. ___ Established
10. Any flammable gas can explode under certain _____. (MSHA 2102, p. 15)
- A. ___ Conditions
 - B. ___ Amounts
 - C. ___ Circumstances

Written Examination Day 2 Kentucky River Answer Key

1. B Oxygen Indicator
2. C Methane Detector
3. B Quantities
4. A Produced
5. A Limit
6. B Debris
7. A Methane
8. A Re-establish
9. A Built
10. A Conditions

HAZARD DAY 2
FACE

SHUTTLE CAR
CONTINUOUS MINER

5.5 % CH₄
0 ppm CO
19.2 % O₂

5.2 % CH₄
0 ppm CO
19.3 % O₂

2.3 % CH₄
0 ppm CO
19.3 % O₂

UNCONSCIOUS
LIVE PERSON
LIFE THREATING
BLEEDING (ARM)

2.2 % CH₄
0 ppm CO
19.1 % O₂

CONSCIOUS
PERSON TALKING

5.5 % CH₄
0 ppm CO
19.2 % O₂

5.2 % CH₄
2 ppm CO
19.9 % O₂

BATTERY SCOOP
KNEE DEEP

BATTERY SCOOP

3.0 % CH₄
0 ppm CO
19.1 % O₂

BATTERY BUGGY

3.2 % CH₄
0 ppm CO
19.3 % O₂

Purge Valve

1.2 % CH₄
1 ppm CO
19.7 % O₂

UNCONSCIOUS
LIVE PERSON

POWER CENTER

3.2 % CH₄
0 ppm CO
19.3 % O₂

5.1 % CH₄
0 ppm CO
19.9 % O₂

5.2 % CH₄
0 ppm CO
19.7 % O₂

12 Timbers

LC



BC BC BC BC

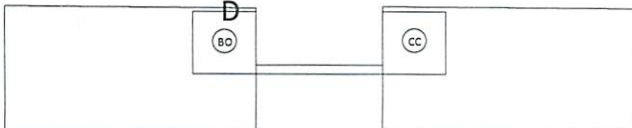


BC BC BC BC

D

BO

CC



VENT 1 HAZARD DAY 2

FACE

CONTINUOUS MINER
SHUTTLE CAR

5.5 % CH₄
0 ppm CO
19.2 % O₂

5.2 % CH₄
0 ppm CO
19.3 % O₂

2.3 % CH₄
0 ppm CO
19.3 % O₂
UNCONSCIOUS
LIVE PERSON
LIFE THREATING
BLEEDING (ARM)

2.2 % CH₄
0 ppm CO
19.1 % O₂

CONSCIOUS
PERSON TALKING

5.5 % CH₄
0 ppm CO
19.2 % O₂

5.2 % CH₄
2 ppm CO
19.9 % O₂

BATTERY
SCOOP
KNEE
DEEP

BATTERY
SCOOP

3.0 % CH₄
0 ppm CO
19.1 % O₂

BATTERY
BUGGY

3.2 % CH₄
0 ppm CO
19.3 % O₂

Purge
Valve
D D RA

1.2 % CH₄
1 ppm CO
19.7 % O₂

UNCONSCIOUS
LIVE PERSON

POWER
CENTER

5.1 % CH₄
0 ppm CO
19.9 % O₂

5.2 % CH₄
0 ppm CO
19.7 % O₂

12 Timbers

LC

BC BC BC BC

BC BC BC BC

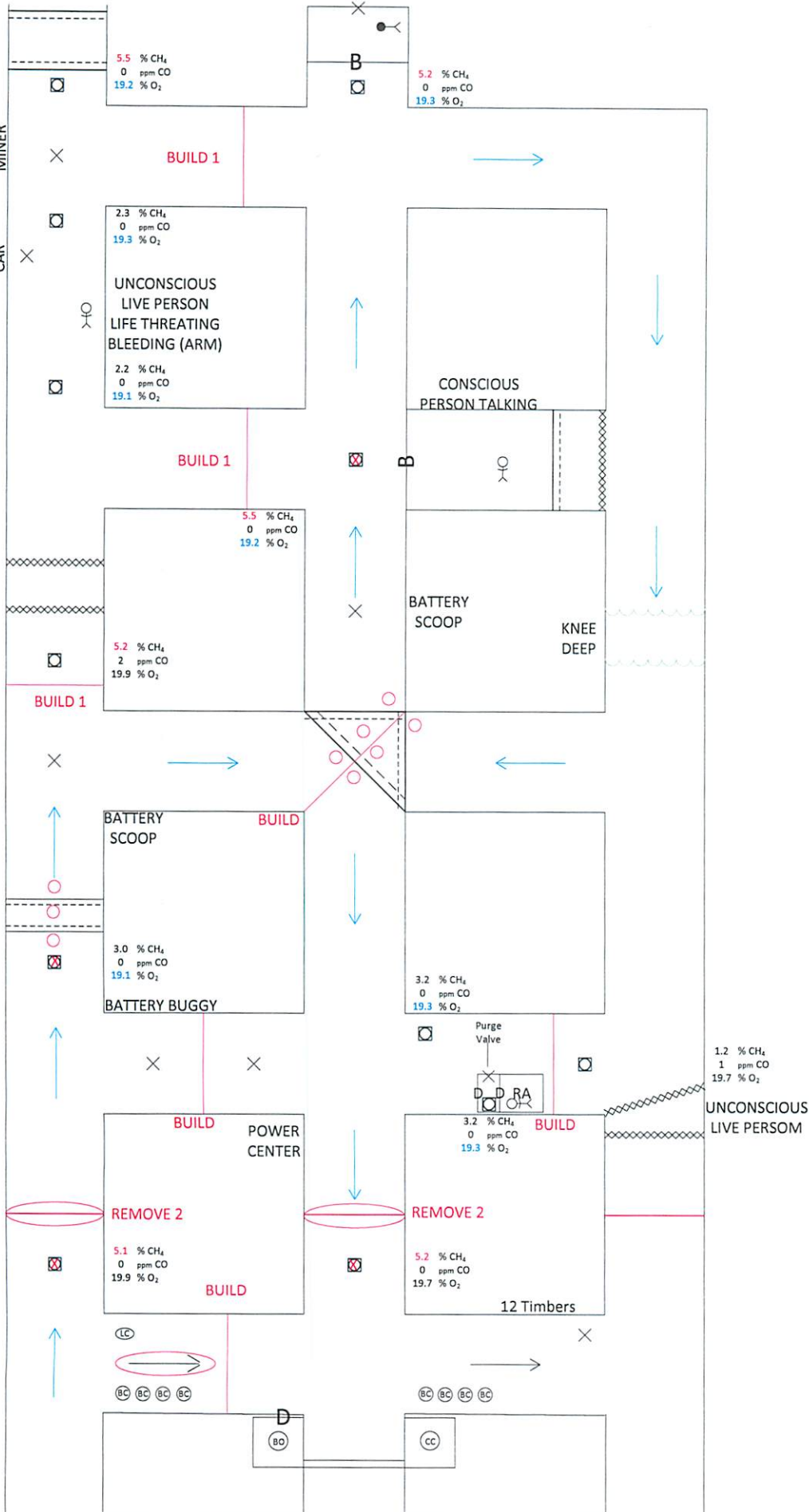
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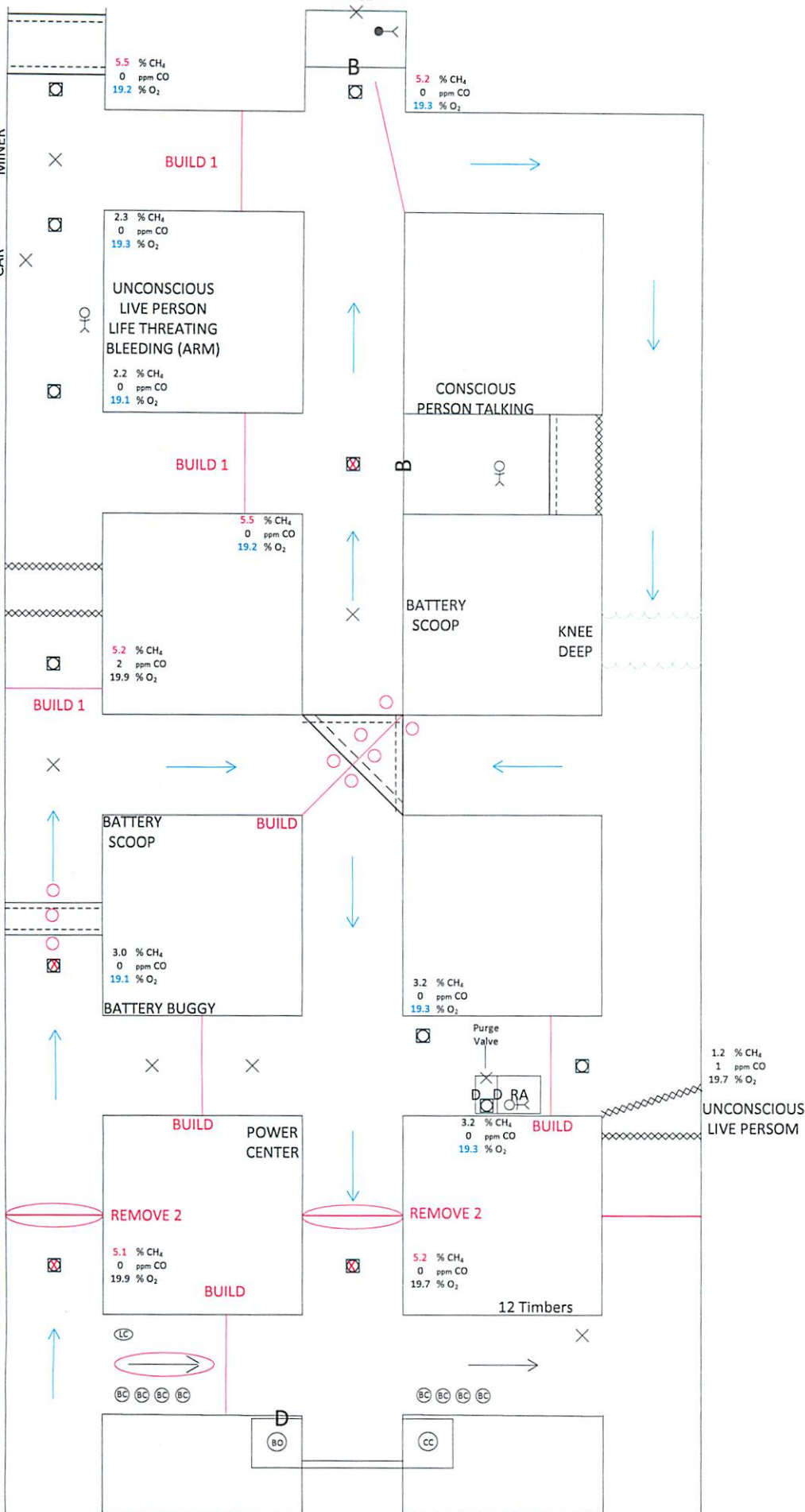
VENT 2 HAZARD DAY 2
FACE

SHUTTLE CAR
CONTINUOUS MINER



VENT 3 HAZARD DAY 2
FACE

CONTINUOUS MINER
SHUTTLE CAR



5.5 % CH₄
0 ppm CO
19.2 % O₂

5.2 % CH₄
0 ppm CO
19.3 % O₂

2.3 % CH₄
0 ppm CO
19.3 % O₂
UNCONSCIOUS
LIVE PERSON
LIFE THREATENING
BLEEDING (ARM)
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0 ppm CO
19.1 % O₂

5.5 % CH₄
0 ppm CO
19.2 % O₂

5.2 % CH₄
2 ppm CO
19.9 % O₂

3.0 % CH₄
0 ppm CO
19.1 % O₂
BATTERY BUGGY

3.2 % CH₄
0 ppm CO
19.3 % O₂

1.2 % CH₄
1 ppm CO
19.7 % O₂

5.1 % CH₄
0 ppm CO
19.9 % O₂

5.2 % CH₄
0 ppm CO
19.7 % O₂

3.2 % CH₄
0 ppm CO
19.3 % O₂

LC
BC BC BC BC

BC BC BC BC

BO CC