

2022 Loveland COAL Day 1 Written Statement

Thank you for responding to our mine emergency. You are located at the fresh-air base on the West Mains Section. The entries are numbered from left to right, 1, 2 and 3.

A maintenance crew of 3 miners entered the section last night. There was a large rush of Air reported by others underground at the time. Our tracking system had them located in the West Mains section prior to the event. Our tracking system became inoperable after the event in this section of the mine.

The check-in-out board has accounted for 28 of the 31 miners underground last night.

The West Mains contains two air shafts in # 1 and # 3 entries. # 1 entry shaft is an open return air shaft. The # 3 entry shaft is an intake shaft with a blowing fan on the surface. The blowing Fan is currently off and being monitored. It can be started if needed, but cannot be reversed. Both shafts are being monitored and the locations of the shafts are on the mine map.

The exhausting Main Mine Fan located on the surface is running and is providing the air sweeping across the FAB. This fan cannot be reversed or turned off. The main mine fan is being guarded and sampled.

Mine rescue teams explored as far into Main West that they could and established a fresh-air-base where we are located. At present, there is no air movement into or out of the West Mains section inby the fresh-air-base. Air movement is across the FAB from left to right.

A Command Center has been established on the surface. All power into the mine is locked out and is being guarded. If power is required to energize anything, switches are available in the Command Center. The map we have for you is up to date.

Back up teams and all officials are on site.

Loveland COAL 2022 Day 1

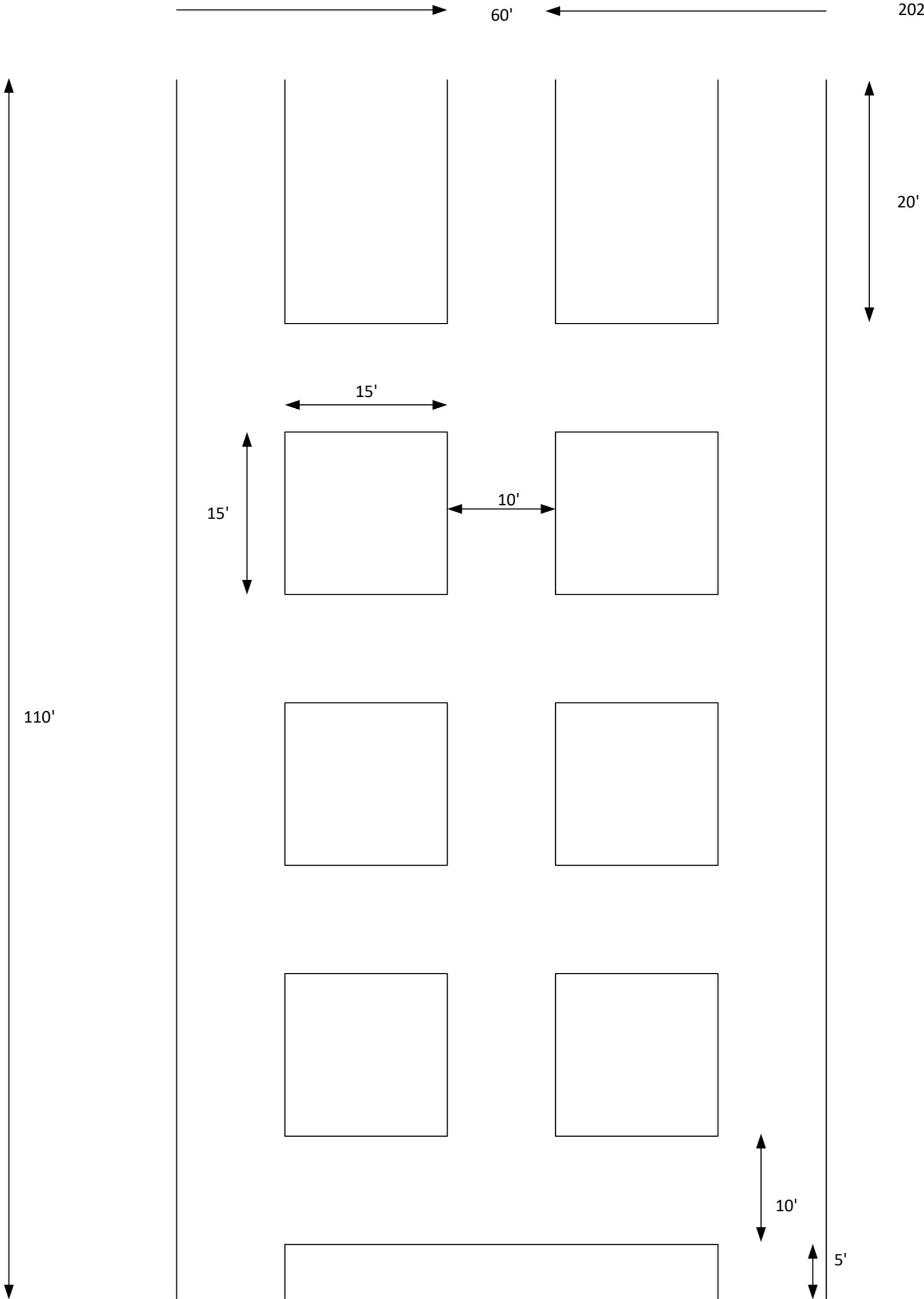
Written Problem

Account for all missing miners and bring all live persons to the fresh-air-base.

Explore all accessible areas that can be explored safely.

Your team has 120 minutes to work the problem.

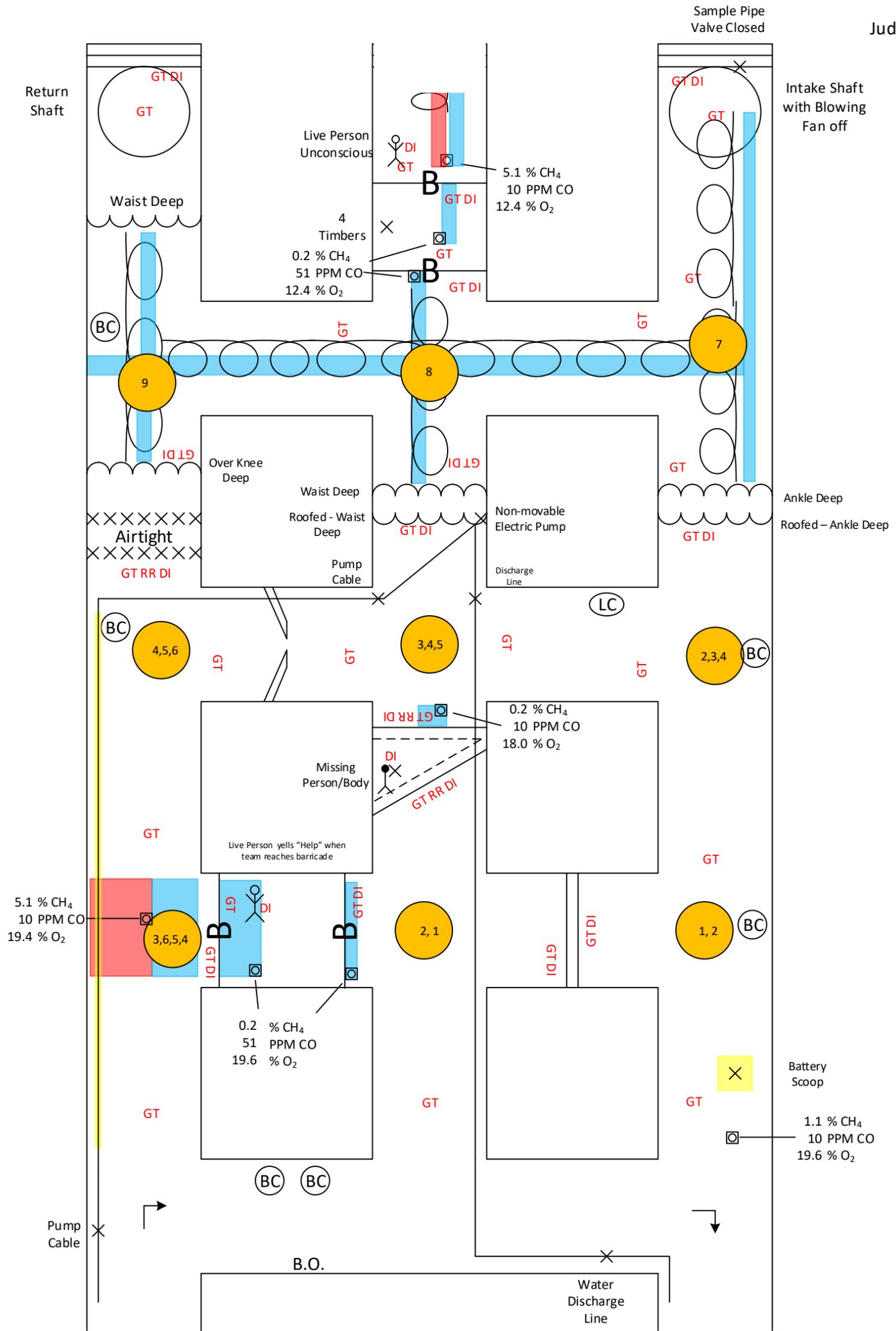
Good Luck



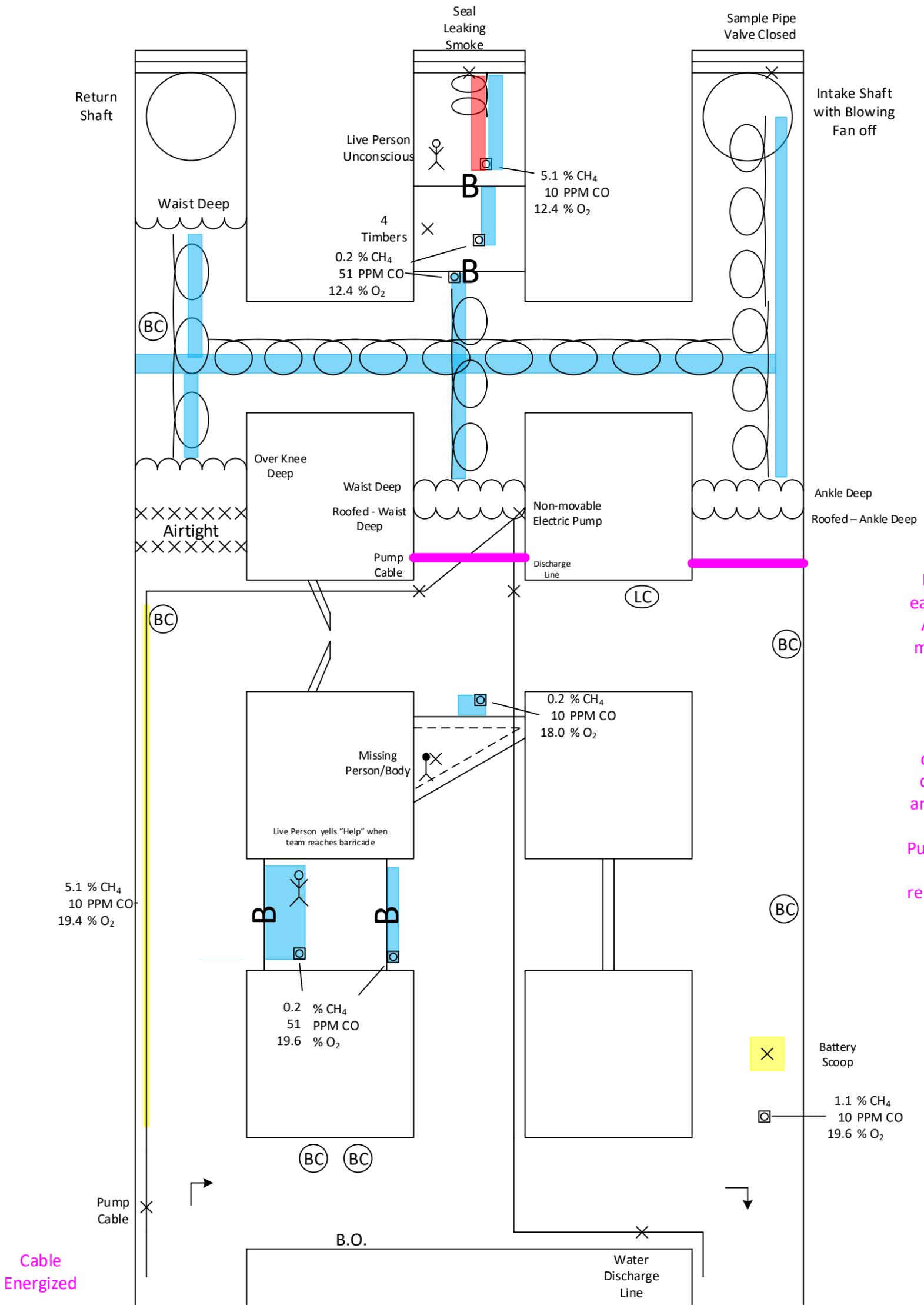
- | | |
|--------------------|----------------------|
| Materials | 12 |
| BC: | |
| Elongated Objects: | 105' 1/4" white rope |
| Roof/rib markers: | Red -5, Blue - 6 |
| Placards: | |
| Misc: | 1 x 20' LC |

2022 Loveland COAL Day 1 Judges Instructions

1. Initial opening checks of each entry. Contaminant found and ignition source in 3 entry.
2. Team stop 1,2 or 2,1 - (apparatus check required) In 1 or 2 entry at XC 1 (Rule 44) Barricade found with irrespirable outside. Pt. communicates verbally "Help" when teams acknowledge barricade. Diagonal unsafe roof found inby XC 1 with visible missing person. No timbers available to touch. Team must travel and tie across XC 1 either from 2 to FBA and into 3 entry or from 3 to 2 entry.
3. Team stop 2,1 – at XC 1 in 3 entry. Teams now have choice and can return to 1 E or advance inby to XC 2 in 3 E.
4. Team Stop 3,6,5,4 in 1 E at XC 1. Exp mix and irr in intersection. Barricade found in XC 1. From 1 entry side, team can breach barricade immediately, but MUST erect airlocks both inby and outby XC 1 in 1 E.
Enough materials are available, and remove Pt. to FAB. (Rule 41 A)
Team can travel inby in 1 entry or inby in 3 entry.
5. Team stop 4,5,6 – in 1 entry at XC 2. Airtight cave found inby intersection. Team must tie across to 2 E.
6. Team stop 3,4,5 – in 2 entry at XC 2. Unsafe roof found outby. Roofed deep water found inby. Team can tie across to 3 E.
7. Team stop 2,3,4 – in 3 entry at XC 2. Line Curtain and BC found. Water roofed found inby intersection. XC's 1 and 2 tied in. No timbers available to touch missing person.
Teams must ventilate explosive in 1 E in order to energize the pump cable to pump water.
See Vent 1
See Pump. proper airlocks required to pump water. Pump switch in CC. Team can advance in 3 E only. Water in 2 E pumps down to Waist Deep only.
8. Team stop 7 – in 3 entry's in XC 3. Teams in SMOKE in XC 3. (Radio teams life line - Rule 22) in 3 E can make the intake shaft and seal. Must open sample valve and take gas reading. Team can tie across in XC 3.
9. Team Stop 8 in 2 E at XC 3. Inby in 2 E will find barricade without response inby XC 3 intersection with irr mix outside. Not enough information to vent irr . Team can continue to explore XC 3 to 1 E.
10. Team stop 9 in 1 E at XC 3. XC 3 tied in. Over knee deep water found outby XC 3 1 E intersection. Teams have enough material and information to vent barricade in 2 E.
See Vent 2.
Airlock required to breach barricade. 4 Timbers found.
Teams required to retreat to unsafe roof in 2 entry and timber in to touch missing miner. (Rule 32)
2nd barricade found inby XC 4 – with irrespirable outby it and NO response.
Materials available to vent.
See Vent 3
Airlock required to breach inby barricade.
Explosive mixture inside this barricade with smoke coming out of leaking seal.
Pt. unconscious – can be removed to FAB under apparatus and on stretcher. (Rule 34)
Captain must call quitter when smoke encountered.
If any team member travels inby smoke, discount under Rule 31 B
Shaft 3 fan cannot be used to vent anything.
End of Problem



Problem



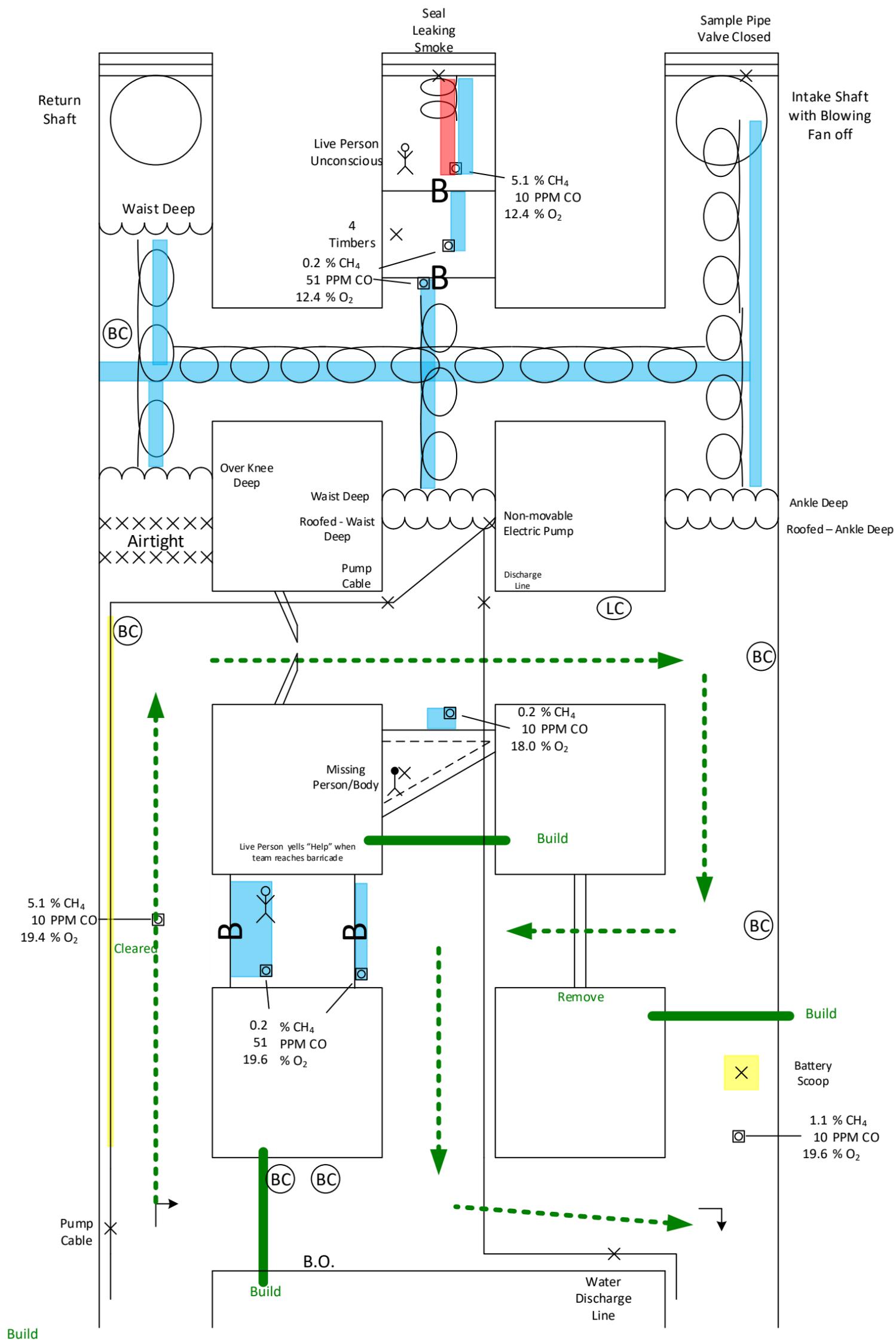
PUMP

Rule 42 requires each location build. Airlock MUST be maintained due to inby shafts

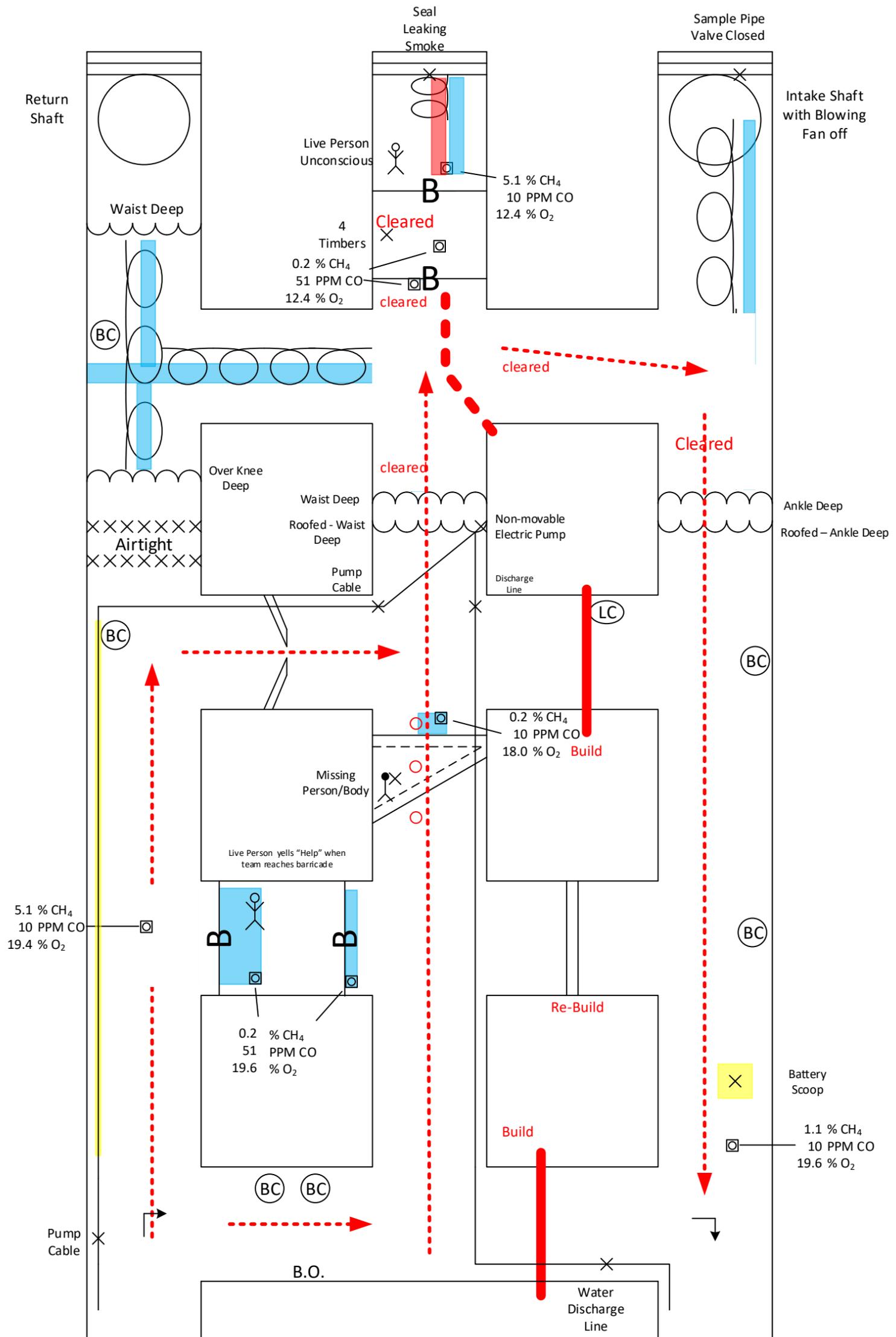
When pump is started, water changes to waist deep in # 2 entry and ankle deep in # 3 entry. Pump can be turned off and water remains as pumped.

Cable Energized

VENT 1



Vent 2



Return Shaft

Waist Deep

Seal Leaking Smoke

Sample Pipe Valve Closed

Intake Shaft with Blowing Fan off

Live Person Unconscious

5.1 % CH₄
10 PPM CO
12.4 % O₂

4 Timbers

0.2 % CH₄
51 PPM CO
12.4 % O₂

Cleared

(BC)

cleared

Cleared

Over Knee Deep
Roofed - Waist Deep
Pump Cable

Airtight

Non-movable Electric Pump
Discharge Line

Ankle Deep
Roofed - Ankle Deep

Missing Person/Body

Live Person yells "Help" when team reaches barricade

0.2 % CH₄
10 PPM CO
18.0 % O₂ Build

5.1 % CH₄
10 PPM CO
19.4 % O₂

0.2 % CH₄
51 PPM CO
19.6 % O₂

Re-Build
Build

Battery Scoop

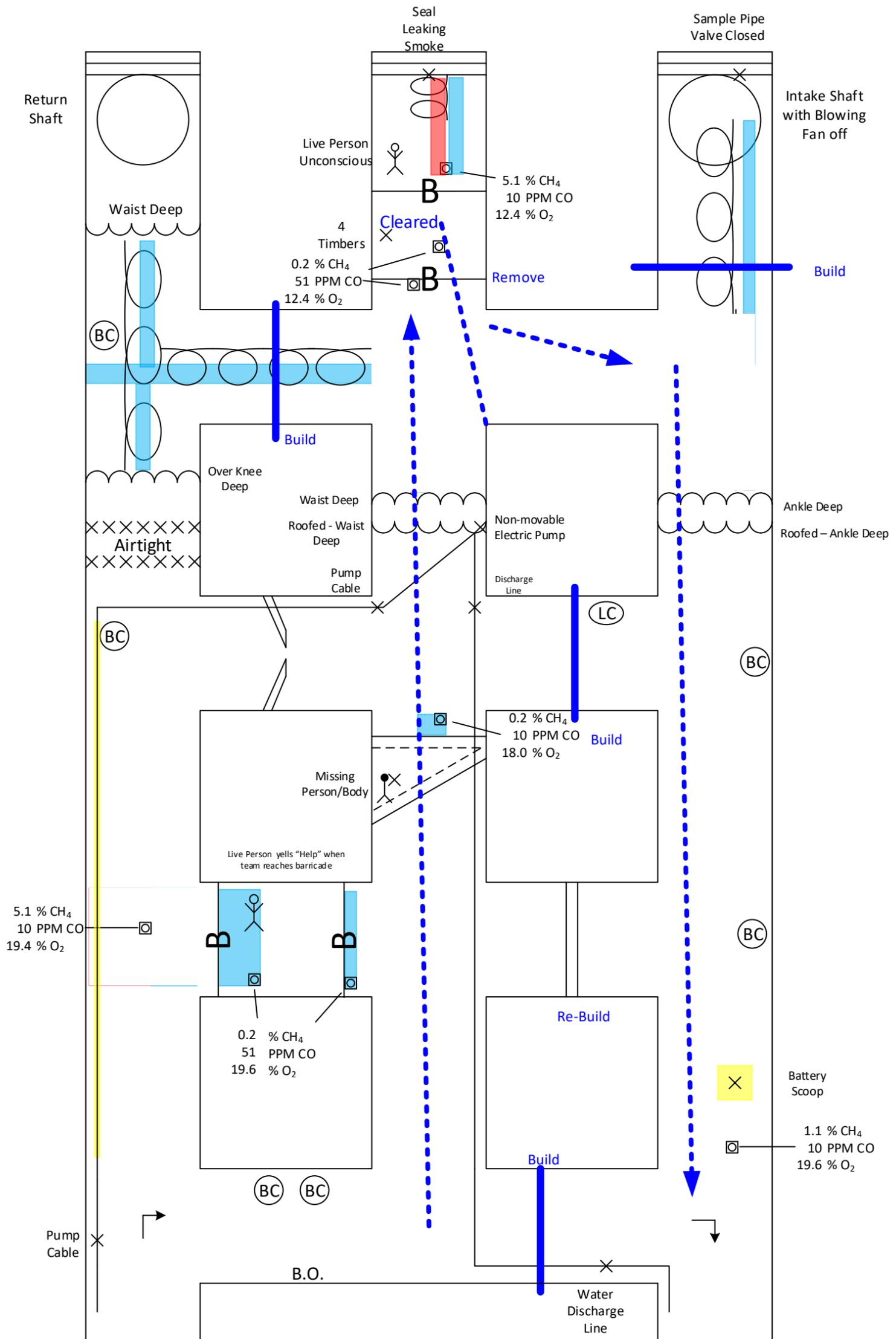
1.1 % CH₄
10 PPM CO
19.6 % O₂

Pump Cable

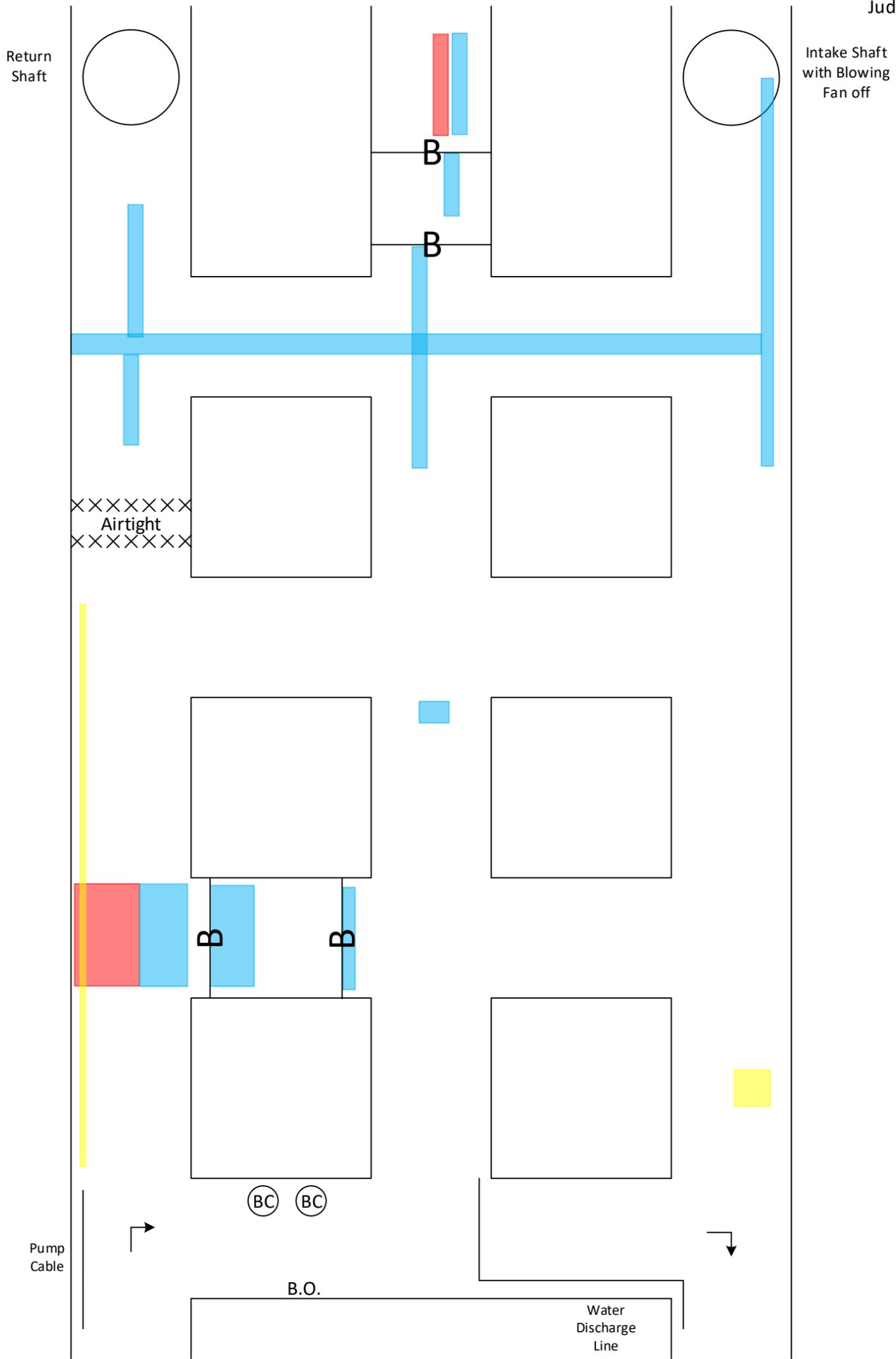
B.O.

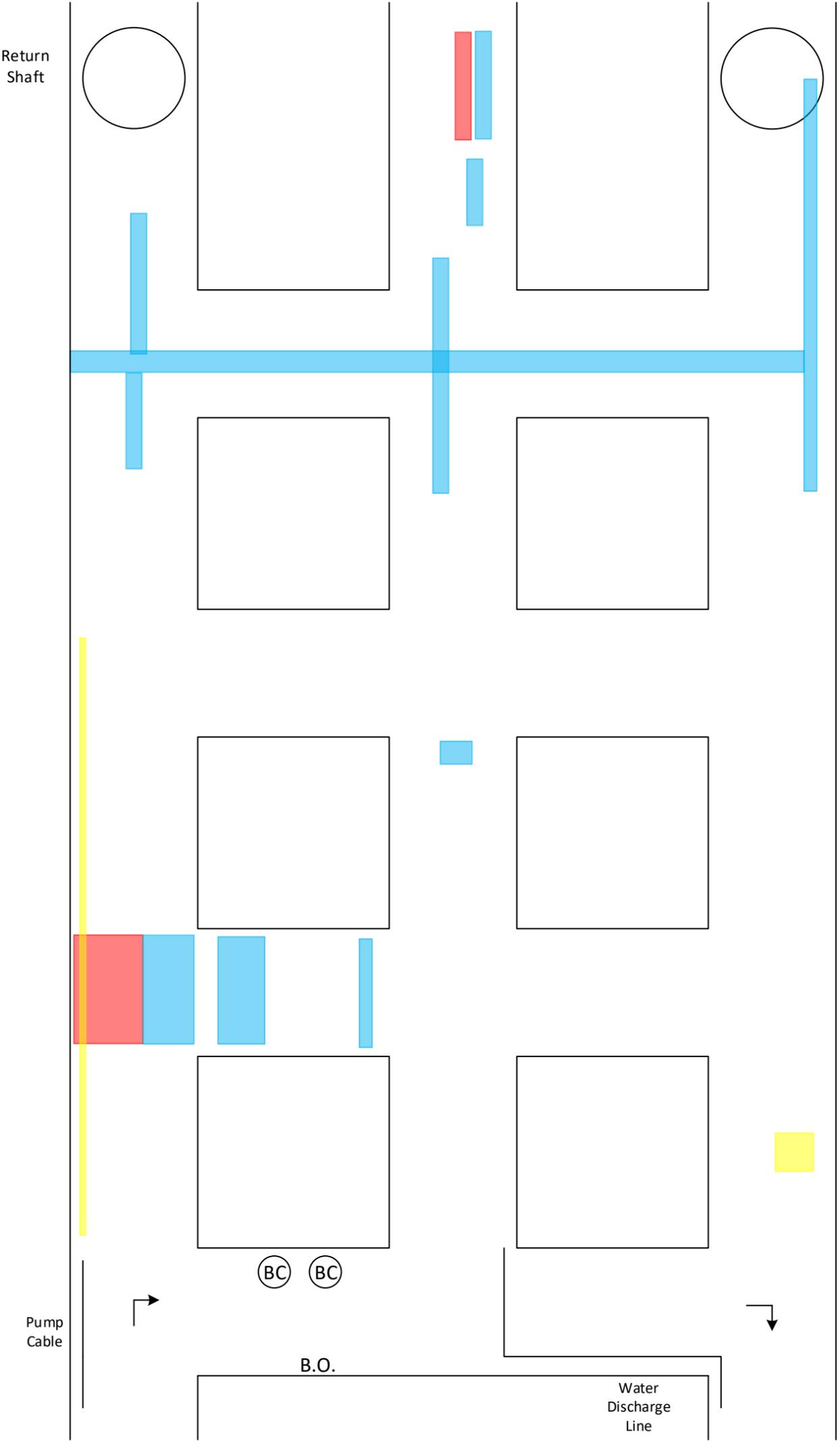
Water Discharge Line

VENT 3



Judges vent map





Final Vent

Team Name

Intake Shaft
with Blowing
Fan off

Captain
Signature

Chief Judge
Name: Print