

2016 Nevada Regional Contest



**BE
FEARLESS
CONFIDENT
STRONG
BRAVE**

MINE RESCUE COMPETITION 2016
WINNEMUCCA, NV

**DAY 2
PROBLEM**



JUDGE'S INFORMATION

- This problem is much different than the one we did yesterday. In this scenario we do not have a gas problem or a fire. Today is water and ground falls with miners trapped behind them.
- The teams will need to clear obstructions, support bad roof and ribs and pump water.
- At the beginning of the problem the #2 hoist goes down & the teams will need to explore through an alternate 3rd entry.
- The instructions for the teams will be to explore/retrieve/ restore.

Additional Information

Mine Manager – Provide to the team when they arrive at the FAB

There are **5** miners unaccounted for & believed to be in the mine.

General

The Busted Budget Mine is a multi-level gold mine operated by the Lowest Bidder Mining Company. Bob Harker is the current Superintendent and BJ McCracken is the mine manager this week. The Busted Budget is located south of Winnemucca, NV. Our workforce consists of 65 employees, with 10 miners working underground each shift. The mine is in operation 24/7 and each of the three shifts is eight hours long.

Access

Access into the mine is through 2 steel/concrete lined shafts. Shaft #1 is utilized as the intake and #2 for the exhaust. Although drift width varies because of structure or composition they are generally 10' by 10'. An alternate means of entry exists on the west side of the mine through an adit.

Explosives

Explosives are used within the mine, but are stored in magazines on the surface.

Electricity

Electrical service is provided to the mine by NV Energy. The primary disconnect for the mine is located on the surface. The main disconnects for each level are also on the surface in close proximity to the primary disconnect. There are power centers in various areas underground and some small switch boxes for smaller portable equipment such as fans and pumps.

DAY #2 - Mine Information – Page 2

Gas

This mine is a category VI mine and is typically considered non-gassy. On occasion we run into sulfide ore, so minimal concentrations of SO₂ & H₂S are possible.

Communication

The mine uses a Femco type audio/radio system.

Ground Control

Primarily friction stabilizers such as split sets, Swellex and Super Swellex. The pattern, type and length depend on structure. We have some timber underground placed in caches for immediate use.

Materials

Everything you need to work the problem is on site at this time. If something outside of what is supplied is needed it may take time to get it (you know what **that** means).

Mining Methods

Over & Underhand Stopping.

DAY #2 - Mine Information – Page 3

Mine Maps

The mine maps are current, but unfortunately we're having quite a bit of trouble with the printer. Please forgive us, but what you have is the best we can do for now.

Mine Equipment

On the 500 level we should have a Cubex drill, Kubota Boss Buggy and a Elmac truck.

Ventilation

Ventilation in the mine is upcast. The main fan sucks approximately 30 kcfm through the intake shaft and another 20 kcfm through the adit. The air is coursed through each level using doors and booster or auxiliary fans. In stope areas we typically use auxiliary fans to push a little more air down the slot to reduce recirculation. The main fan is reversible, but it will take some time to do it. The fan is on.

Water

The mine makes a little water, we typically pump a couple hundred gallons per day. For some reason that number has risen steeply in the past couple of weeks. It tends to collect in the #4 entry & we've taken a pump underground, but haven't set it up yet.

We've been waiting for our engineer to return to search for reasons why this is happening.

Notification

All Federal, State & Local Authorities have been notified. EMS is on site to transport casualties.

Backup Teams

One team just arrived and will serve as your backup. A third team is on the way and should be here within the next 30 minutes.

DAY #2 - Team Briefing Statement

Boy, we're glad you're here and ready to go! About an hour ago we had a message come over the radio that we had a small failure near the tool room. Our foreman Ivah went underground to check it out. Ten minutes later we heard someone yell something garbled over the radio that ended in "water" and the radio went dead. We have a feeling that something bad has happened and we haven't been able to get anyone to answer anything.

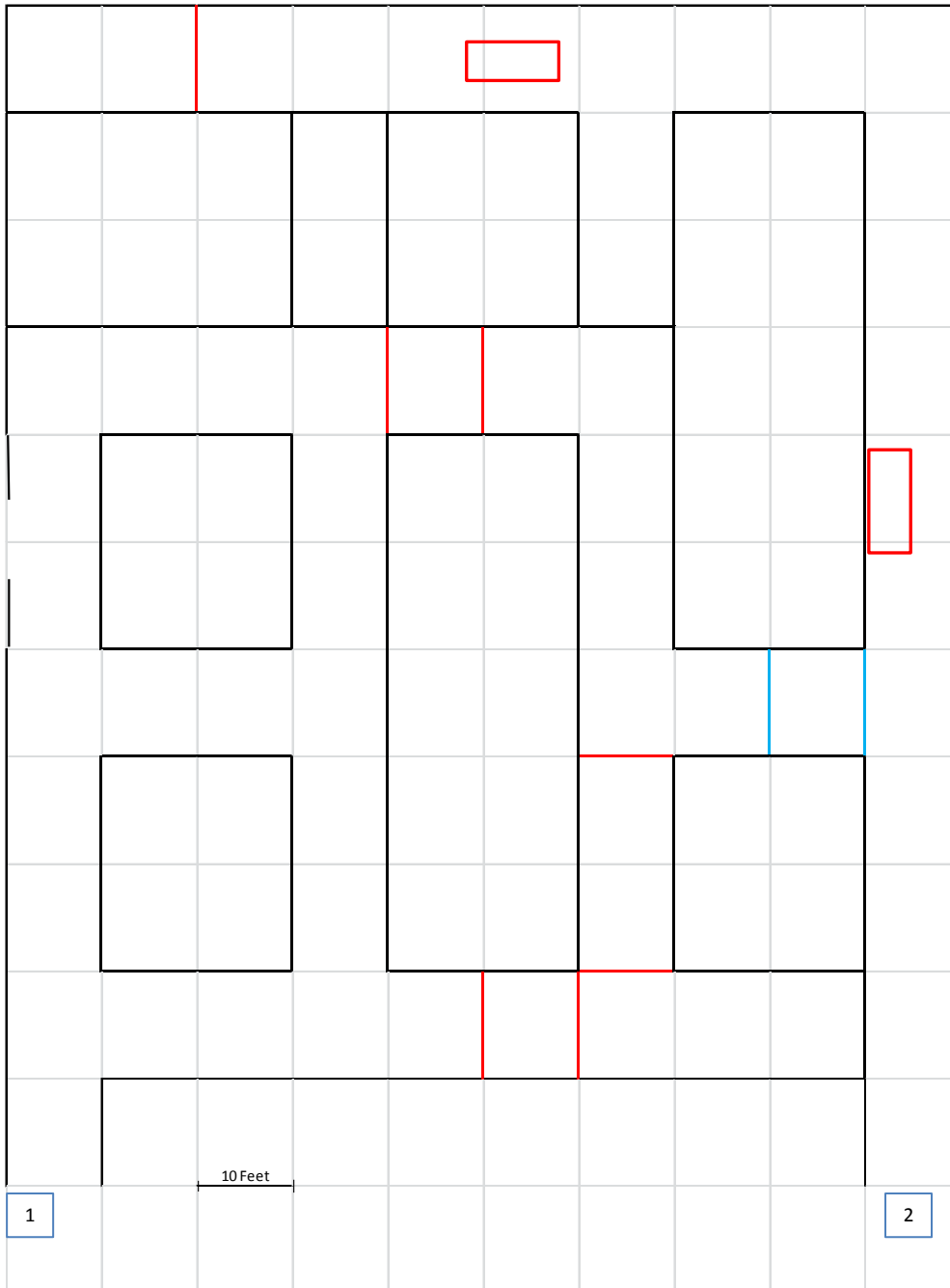
Yours is the first team ready to go underground. Several surrounding mines have been contacted. One team is on site and ready to act as your backup team. One other team will be here within the next 30 minutes or so.

We have not tested for gas because all of the detectors are underground. All we've noticed coming out the exhaust was a bit of dust.

To complete the problem your team must explore the mine, find all of the miners and rescue any survivors.

You will have 60 minutes to complete the problem.

Good Luck!



The Mine Managers are going to play a bigger role today & I hope you're ready.

Judges need to remove the Judge 1 & 2 information (score cards, maps) and the Mine Manager will need to remove the additional items marked "Mine Manager". Please keep it out of view.

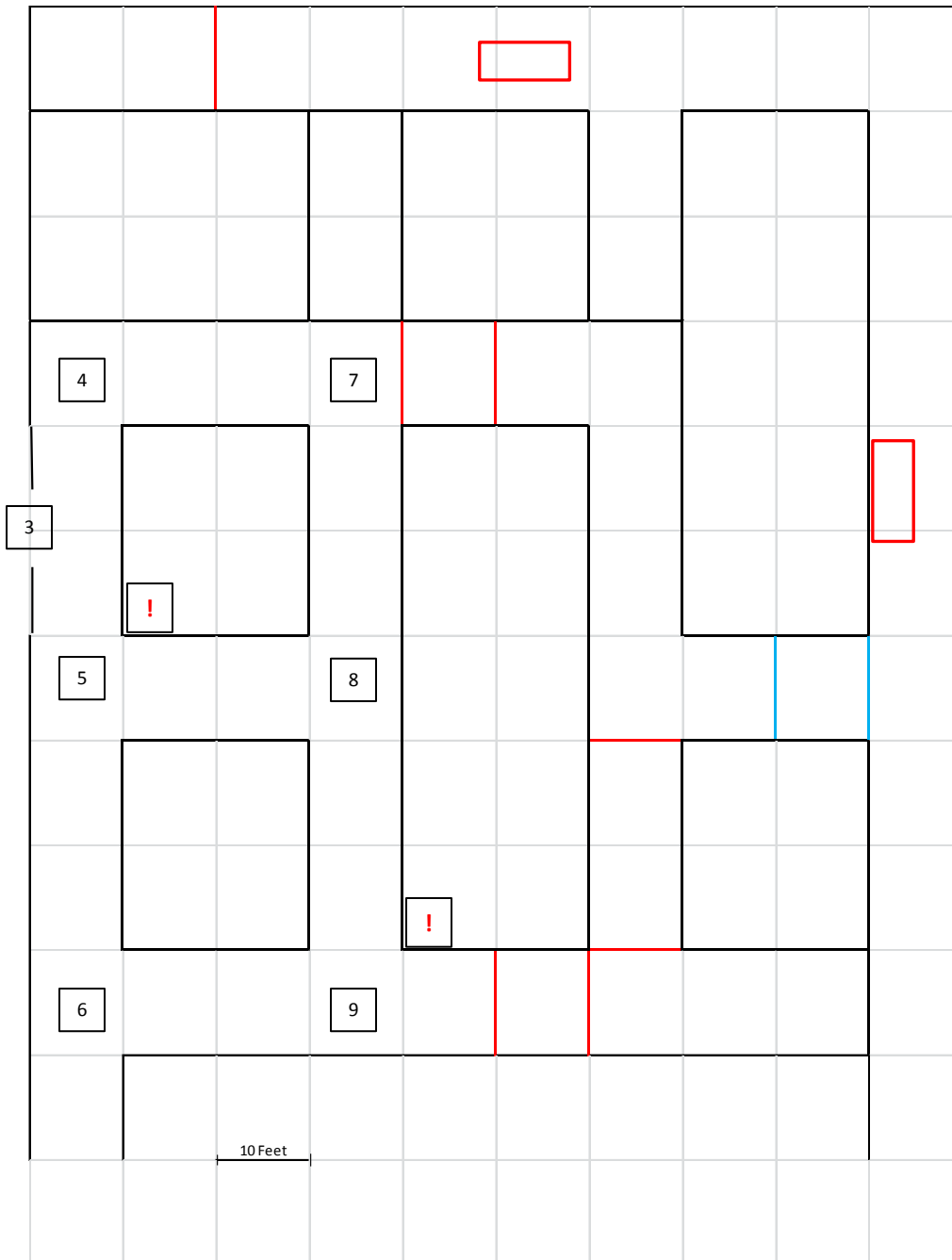
The team will check in with the Mine Manager, offer the services of the team and the Mine Manager will introduce the judges.

The captain will sign in & start the clock. The Mine Manager will provide the team with the remaining documentation in the field packet.

Once the gas person has gone through the gas box and the team has readied their equipment the Captain and Gas Person will check the entries.

The Captain will send combustibles down #1 shaft (left), and when he brings it back up it will be okay. The Captain & Gas Person will go to #2 shaft, do gas tests and send combustibles down.

When they ring the cage back to the surface, the mine manager (or #1 Judge) will immediately notify the team that the hoist has broken down.)

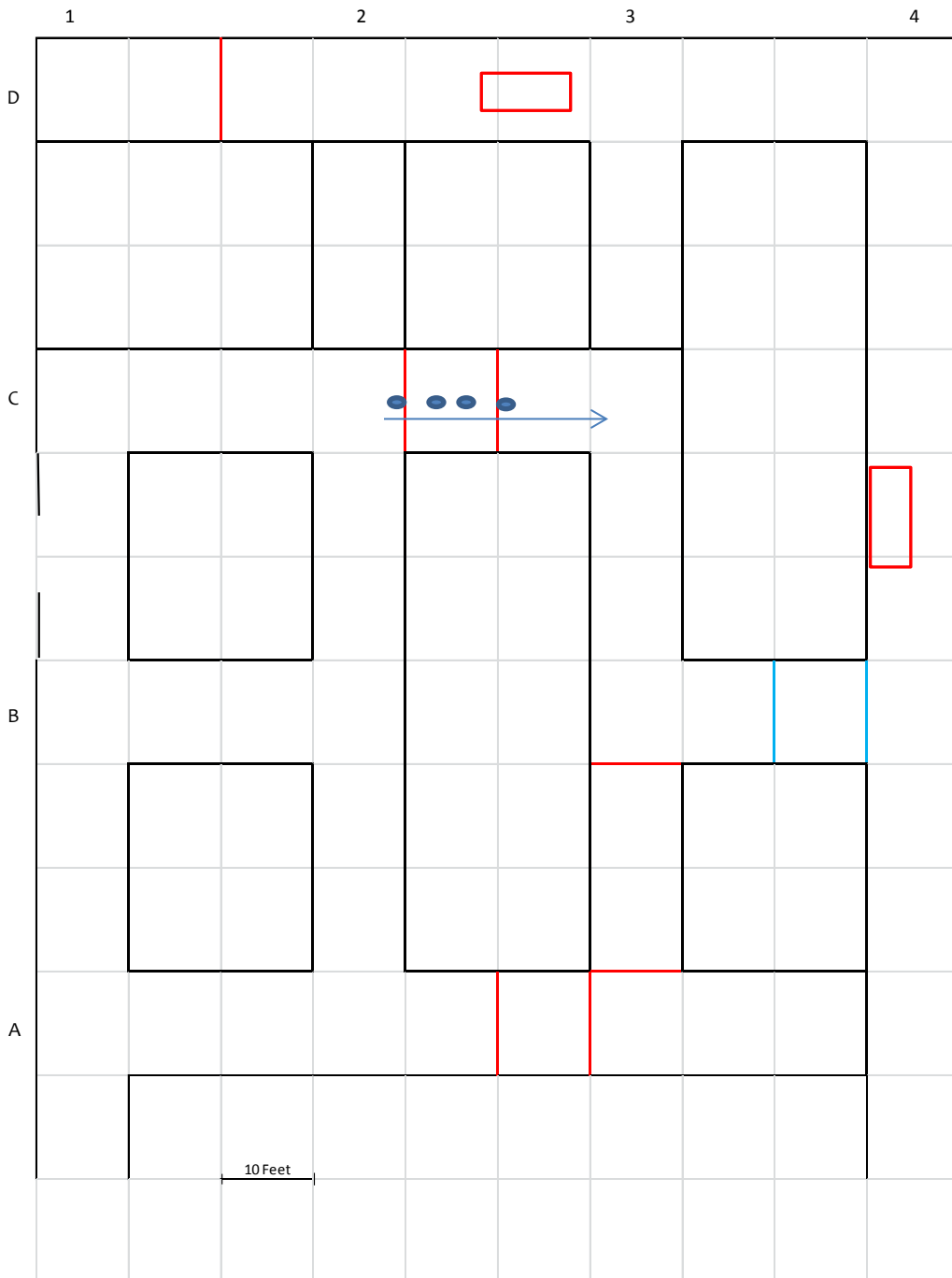


3. The team will need to check the portal. Here, like at the shafts, the team will find clear air. Most teams will opt to explore beginning here & we will use that scenario.

4. Upon entry into the mine the team will chose a direction of travel. Which way they go will depend upon the team. Some may decide to have the Captain stretch out to the left, do a quick check, then travel toward the shaft. Depending on where a team comes in it is possible to break the 2+3 rule if they do not tie in properly.

Even though the placards at the portal and shafts indicate clear air the team must conduct gas tests at all of the appropriate locations. The gas tests are shown in blocks 4-9.

By taking #2 shaft out of the equation it will throw the teams off their game. In reality systematic exploration is completed the same as it always is, it's just sideways.



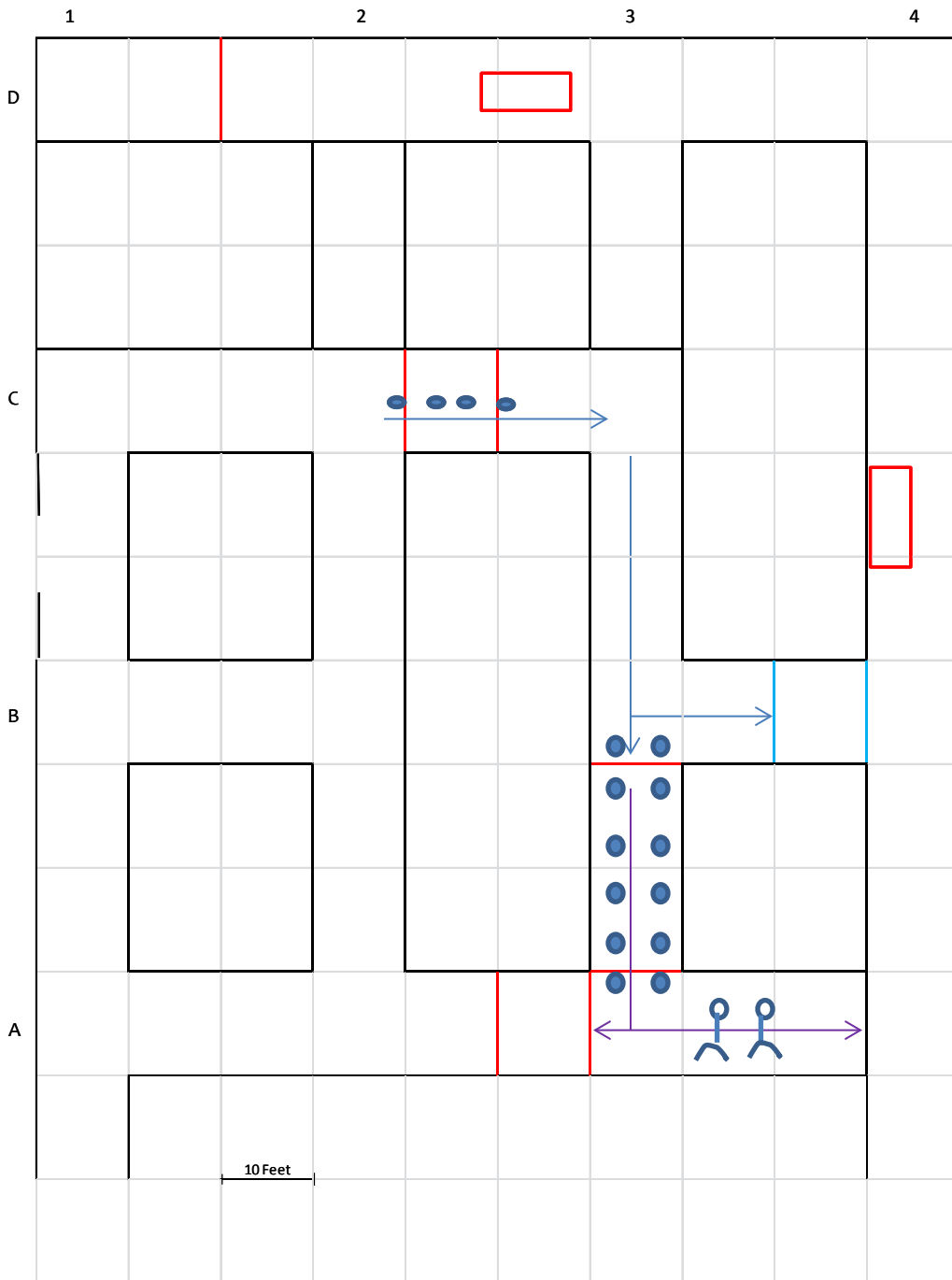
Once the outby side of drifts 1 & 2 are explored, the team can continue into the mine. The teams will find XC-A blocked by a caved area and must travel down XC-C. Before leaving A the Captain must D&I the cave and a gas test must be made.

Traveling in C inby, the team will encounter a placard indicating bad roof. If the Captain tries to bar it, nothing happens & the team should figure out that they need to support going in.

The team should have picked up timbers on the way into the mine, if they did not they can either go back out and pick up the pile near #2 shaft or the pile in entry 2, just above XC-A.

The area is 10 feet long and since only bad roof is involved the team only has to stand a single row of posts down the center of the drift. A total of 4 timbers must be used. (See rule book, page 34)

Once the team has supported the bad ground they can continue inby.

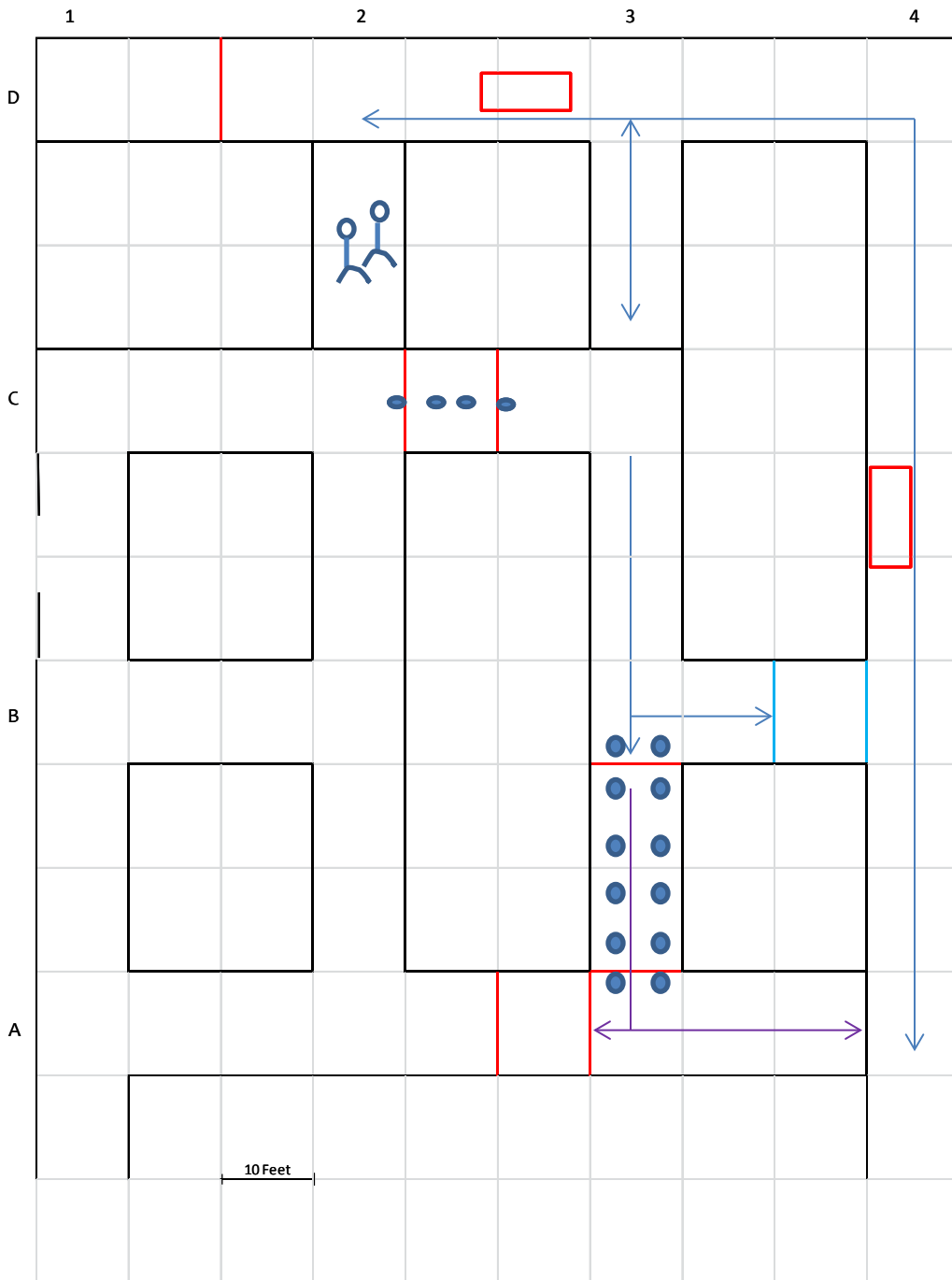


The team will move forward to 3 XC-B. To the left the team will encounter water that is knee deep about 10 feet into the cross cut. The level gets deeper (over knee deep) just before entry 4, so they have to stop. The Captain will pull back into 3 and go forward where the team will encounter an area of bad roof and ribs. There will also be obstacles in the form of boxes. The team must remove the boxes and place them along the ribs to be able to get in and support the bad ground.

Here the team must install a minimum of 12 roof supports to be able to safely get through the bad ground. (See Rules, page 35)

Once they have supported, they can get into XC-A to finish exploring the lower part of the mine. They find two miners that they must remove from the mine. The team will do a quick primary survey, find the miners uninjured and will retreat walking them out of the mine. They will also find an air powered pump and hose (they will need them later).

If the Captain is on his/her game, he/she will stretch out and check the back side of the cave and face behind the power center.



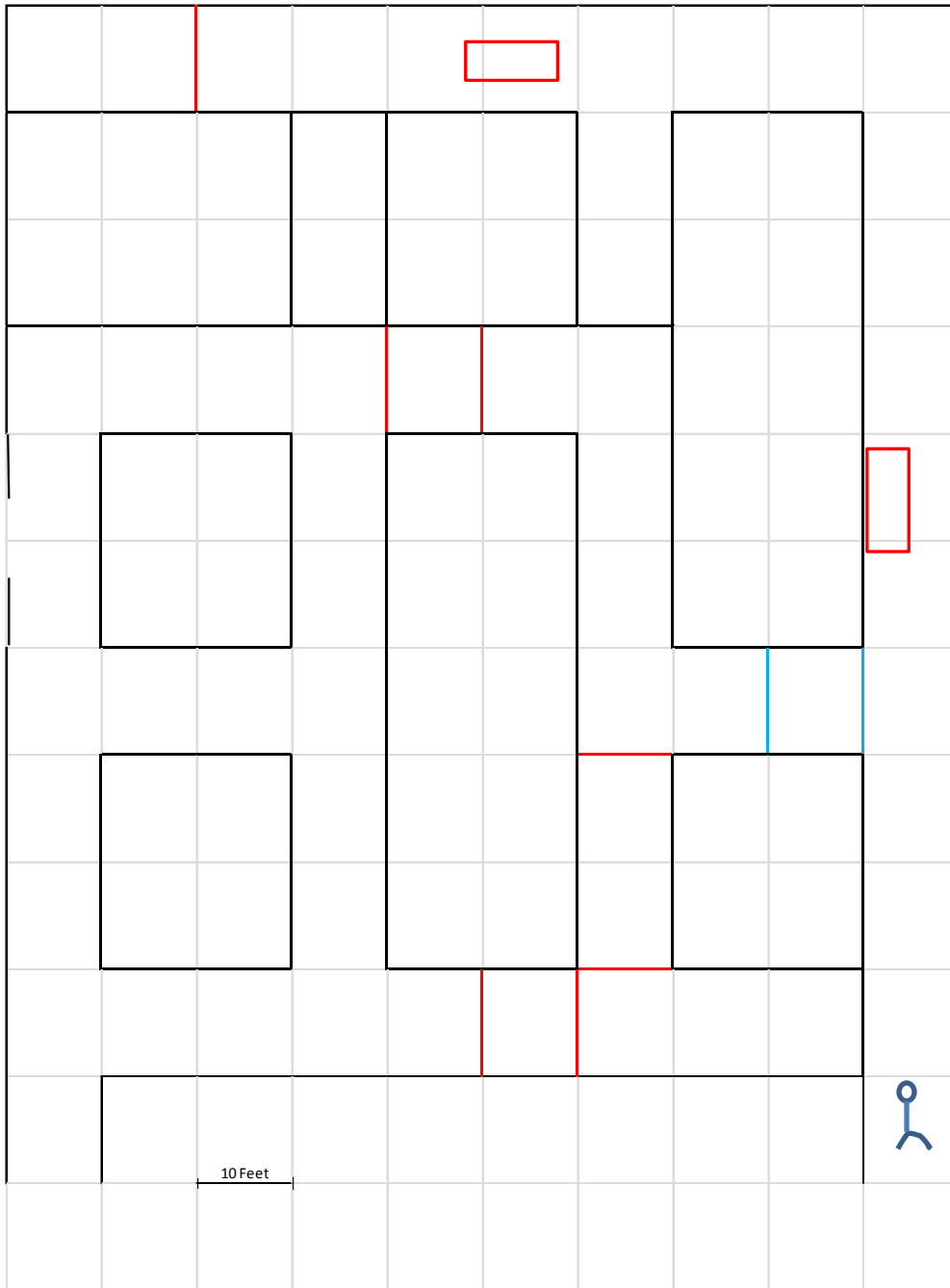
After dropping the miners off on the surface they team will reenter the mine and return to the tool room to gather the pump and hose placards. The team will have to verbalize hooking the hose up and pumping the water. Once they have told the judges that they have turned the pump on the judges will wait 10 seconds and flip the water placards over.

The team can then enter entry 4. If the team opts to go right toward the shaft they will find that the cage is not at the station.

On the way up #4 toward XC-D the team will encounter a truck parked along the left rib.

There is a cut-out in entry 3 that the team will need to explore and they will find a drill parked in the middle of the drift between 2 & 3.

At entry 2 the team will find a placard that reads "refuge chamber". When the team bangs on the door the #2 judge will answer using a script. The team can open the airlock and take the two miners out. If the Captain is smart, he/she will stretch out in XC-D toward 1 to complete exploration before taking the two miners out of refuge.

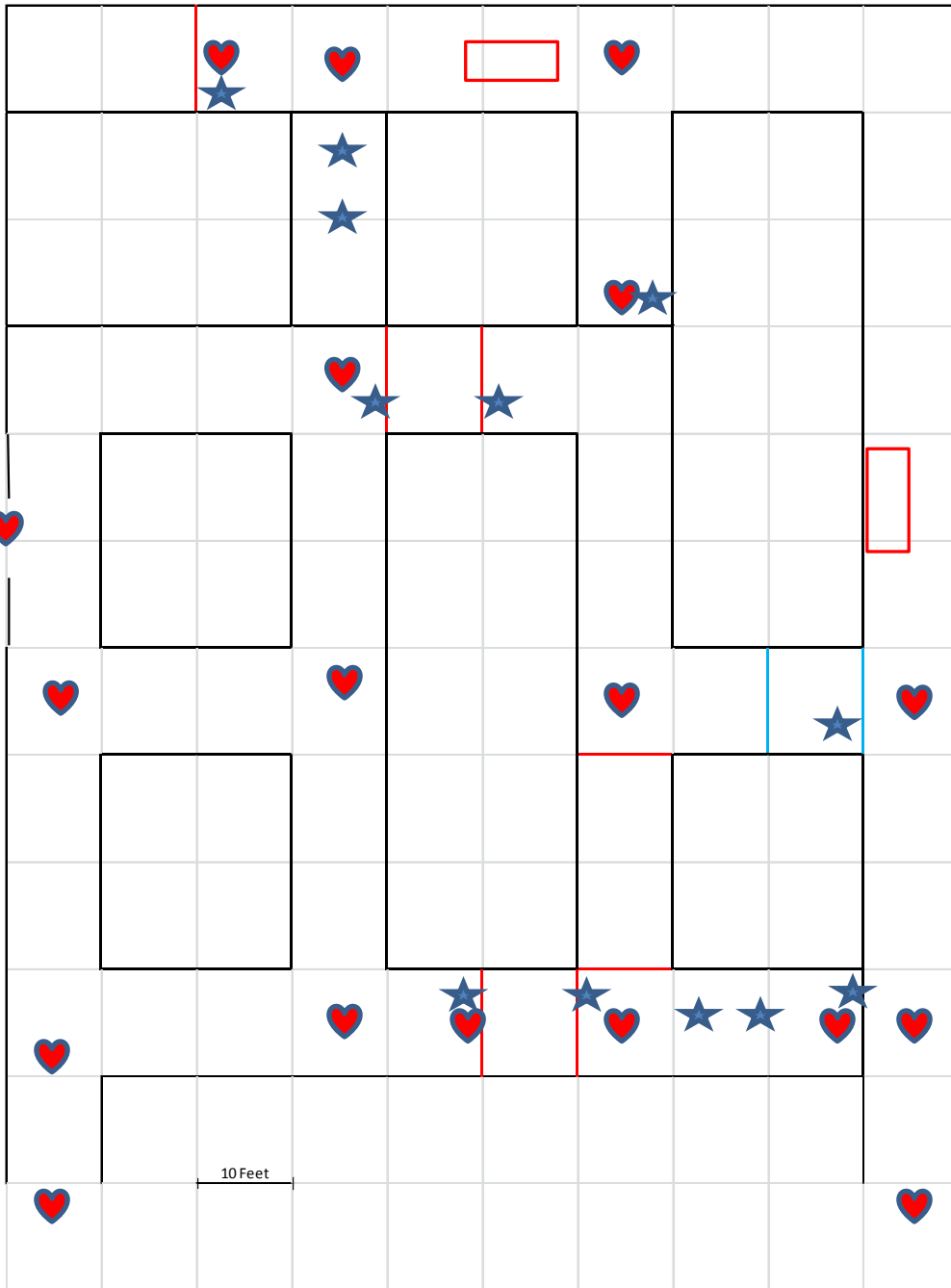


The judges will need to pay close attention to what the team does while removing the two miners from the refuge. The judges need to know if the team finishes exploring D.

Once the miners are brought to the surface and turned over to the authorities, if the team asks if the hoist is back up the Mine Manager will answer yes.

If/when the team brings the cage to the surface they will find the last remaining miner.

If the team has explored the entire mine and located/removed all of the miners they have successfully completed the problem.



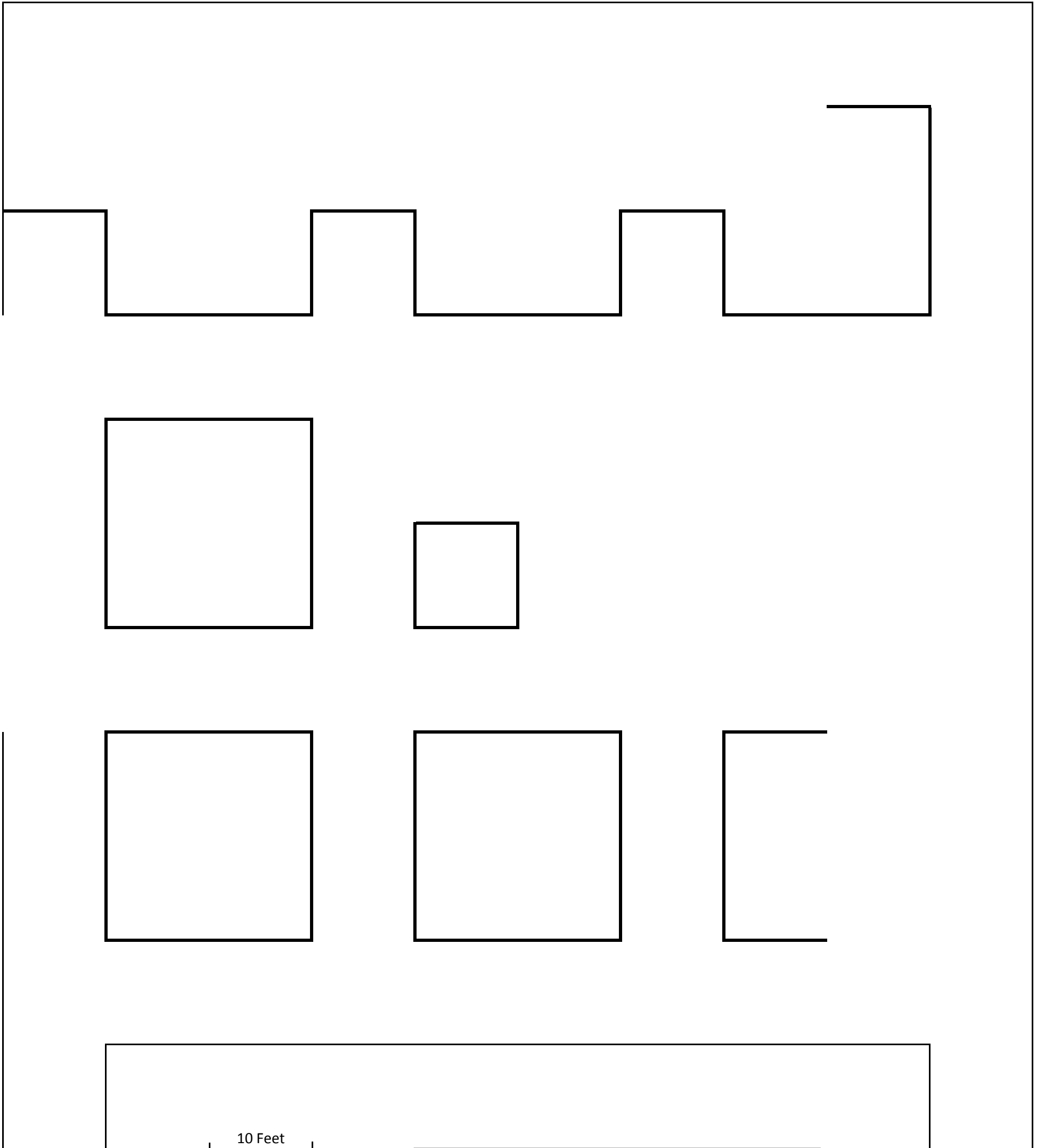
★ D&I

♥ Gas Test

Not all-inclusive

Team Name _____

TEAM MAP



10 Feet

Busted Budget Mine
Lowest Bidder Mining Co. Winnemucca, NV