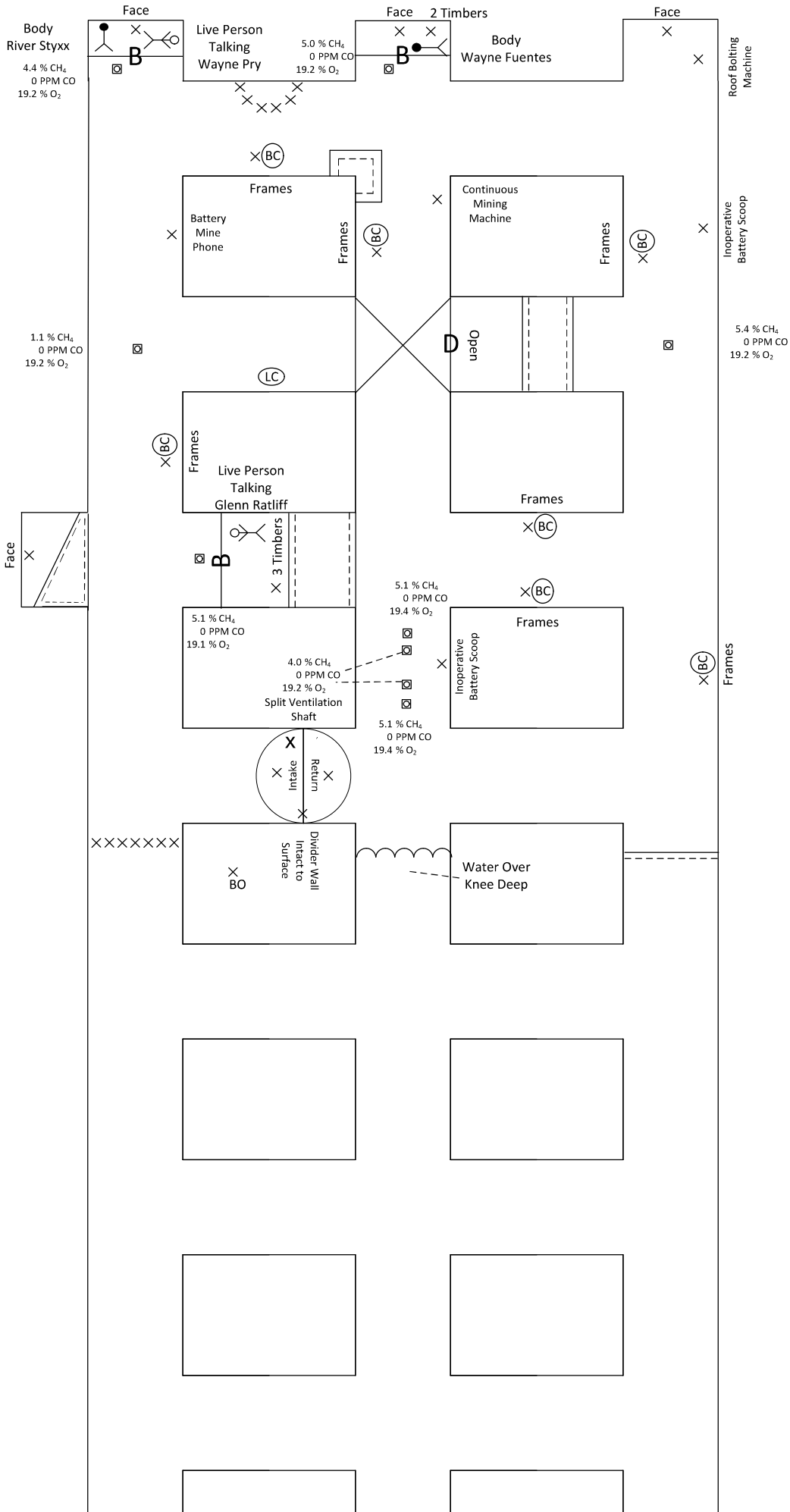


**Virginia Mining Institute**  
**V-1-22**

The diagram shows a technical drawing of a rectangular frame. The frame has a complex profile on the left side, featuring a vertical section with a small horizontal protrusion near the top. The main body of the frame is rectangular with two vertical columns of rectangular cutouts. Each column contains seven rectangular cutouts, with a small gap between the bottom-most cutout and the bottom edge of the frame. In the center of the frame, between the two columns of cutouts, there is a single circular cutout. The cutouts are arranged in a regular grid pattern.



**Virginia Mining Institute**  
**V-1-22**

## **Day 1 Statement**

**Thank you for answering our call for help. You are located on the surface of the Mountaineer No. 1 Mine at a recently completed split ventilation shaft. A fan is located on the return side of the shaft and can only be operated in the exhaust mode. This fan is designated as the No. 2 Mine Fan. The fan has not been put into service but is fully functional and can be used by contacting the command center.**

**The mine is normally ventilated by an exhaust fan which is designated as the No. 1 Mine Fan and located at the mine's drift portals. Air intakes in the no. 2 entry and returns in the no. 1 and no. 3 entries. The no. 1 and no. 3 entries are connected by an overcast near the surface. The No. 1 Mine Fan is currently off, but can be started by contacting the Command Center. Electrical power to the underground area of the mine has been de-energized and locked out on the surface, but can be energized by contacting the Command Center. Mining is in the northern direction.**

**Last night at 12:01 AM, four miners entered the mine to perform maintenance on the working section. At 2:00 AM, one of the miners contacted at the surface and reported ventilation issues on the section. The outside person has since been unable to contact the section crew. Subsequent attempts to contact the miners have been unsuccessful. The mine has a history of methane, bad roof, and water. The mine maps are up to date. Both agencies have been notified and are present. A backup mine rescue team is present. Two blank maps and the team's written instructions will be provided when you are ready to begin working.**

**Day 1**  
**Team Instructions**  
**Problem**

- Explore all parts of the mine that can be safely explored.
- Once started, a mine fan cannot be stopped, stalled, or reversed.
- At each apparatus check, the name of the team member with the lowest oxygen level and the oxygen level must be called out to the command center (briefing officer if there is no command center attendant) prior to the team moving from that team stop.
- The team cannot move any barricade or ventilation structure nailed to the ground.
- The team must comply with all written team notes provided them.
- A time limit of 100 minutes has been established for this problem. The team will be advised 10 minutes prior to this time limit expiring.

**Day 1**  
**Note No. 1**

**(Live Person Behind Barricade in no. 1 - 2 crosscut)**

**“Help, get me out.”**

**Day 1**  
**Note No. 2**

**(Live Person Behind Barricade in no. 1 entry)**

**“Help, get me out.”**

**Day 1**  
**Note No. 3**

**(To be given to team after patient behind barricade in no. 1 entry has been brought to the surface.)**

**Your work for the day is completed. Prepare your maps to turn in to the judges. Stop the clock when you are ready.**