

Cleo's Longwall Accident

Problem Booklet

Instructions

Read the problem situation described on the next page. Study the diagram until you understand the location of the miners and equipment in the problem. Next, answer each of the 11 questions. Do them one at a time. Don't jump ahead, but you may look back to earlier questions and answers. Some questions ask you to select all of the answers that you think are correct. Other questions ask you to select only one answer unless you are told to "Try again!" Follow the directions for each question.

After you have selected a choice to a question, look up its number on the answer sheet. Select your answer(s) to each question by rubbing the developing pen between the brackets on the answer sheet. A hidden message will appear and tell you if you are right. When you have finished, you will learn how to score your performance.

Background

You are on a longwall section with a 70 inch seam.

Operations have been complicated by a roof fall above the #1 roadway shield in the head entry.

You are a jacksetter.

You have been trained in basic first aid and you are now taking an EMT class.

Cleo is known to be squeamish about the sight of blood.

Problem

You are helping to fill a cavity with crib blocks above a gob shield. You are carrying the blocks about 100 feet from the scoop near the longwall mule train and are stacking them in front of your partner, Cleo C. Pike. The cribs will prevent enlargement of the roof cavity and will give the shield contact with the roof until the face can be advanced. As you return to the face with a crib block, you see Cleo starting to place the blocks onto the lowered shield. He has his back to you. Cleo is complaining of being tired and is having difficulty positioning the blocks by himself. After studying Figure 1, turn to page 4 and answer the first question.

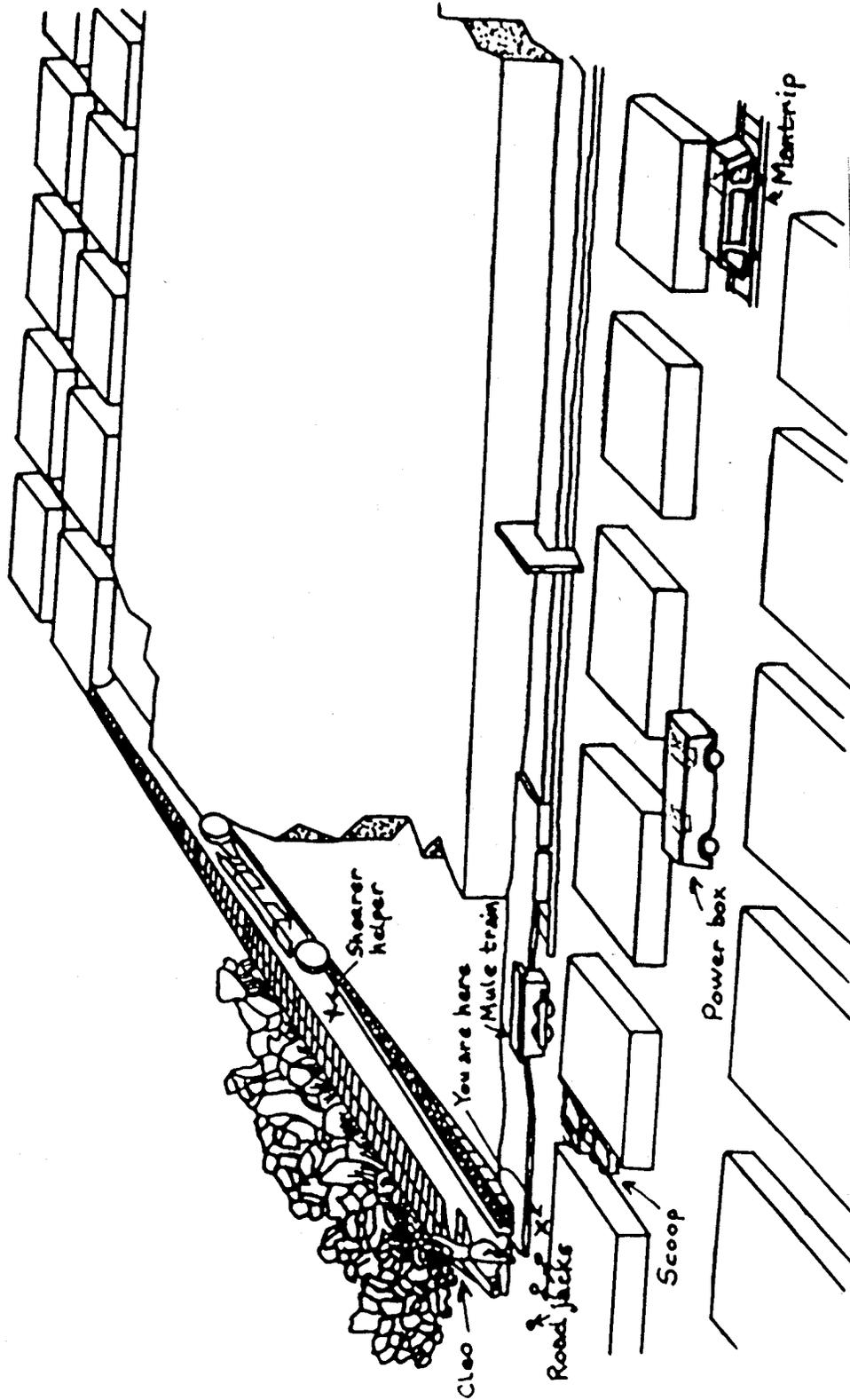


Figure 1: Position of miners in problem

Question A

You are anxious to finish stacking crib blocks on longwall shield #1 so that it can be reset and coal cutting can resume. What should you do to help complete the job safely and efficiently? (Select as MANY as you think are correct.)

1. Keep carrying blocks from the scoop to the work area. Stack them in front of Cleo within easy reach.
2. Call over the shearer helper to assist you and Cleo.
3. Tell Cleo not to try to handle the blocks by himself in such an awkward position.
4. Tell Cleo to get on top of the shield while you and the shearer helper hand blocks up to him.
5. Go behind the chock into the gob area to help recover the blocks used after the last pass was made.

When you have made your selection(s) do the next question.

Question B

You and the shearer helper go to help Cleo. You see Cleo stretch over the lowered shield to recover a block near the back of the shield that had been used after the last pass, as shown in Figure 2 on page 6. What should you do now? (Choose only ONE unless directed to "Try again!")

6. Stretch yourself over the lowered shield. Help him stack the blocks so that the cavity will be completely filled when the shield is fully extended against the roof.
7. Tell him "That's enough! Let's go ahead and set the shield."
8. Yell "Get out'a there! You wanna get killed?"
9. Wait until he pulls out the block he is reaching for so you'll have room to help him.

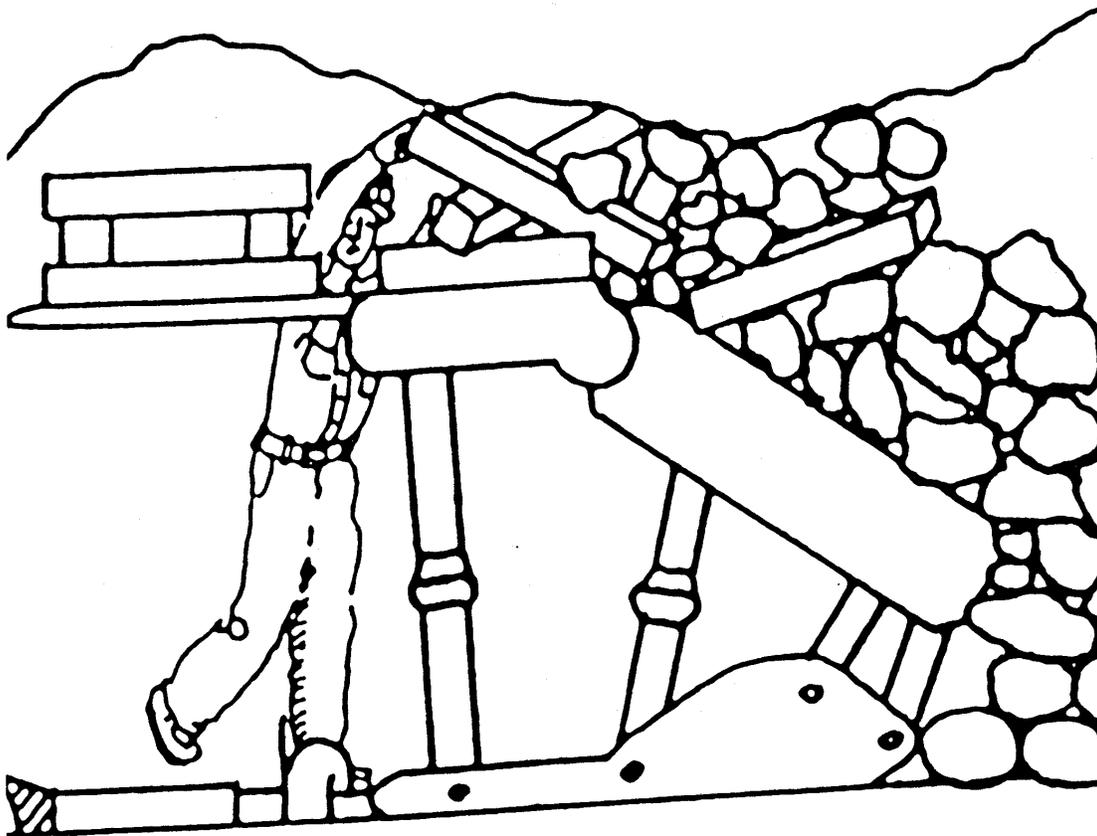


Figure 2: Filling cavity above gob shield with crib blocks

Question C

To what hazards is Cleo exposed? (Select as MANY as you think are correct.)

10. Failure of the shield he is working under.
11. Someone raising the shield by mistake.
12. Fall of roof rock.
13. Having his hands caught between crib blocks or between a block and a shield.

When you have made your selection(s) do the next question.

Question D

A slab of rock falls out and pins Cleo's right hand. He screams loudly. You manage to lift the rock off of Cleo's hand. Cleo slumps to the floor, cusses, and looks at his hand, which is oozing blood from a gash in the palm as shown in Figure 3. What is the first thing you should do? (Choose only ONE unless you are told to "Try Again!")

14. Ask Cleo if anything else is hurt besides his hand.
15. Bandage Cleo's hand with your handkerchief.
16. Check Cleo's breathing.
17. Walk Cleo to the first aid kit at the mule train.

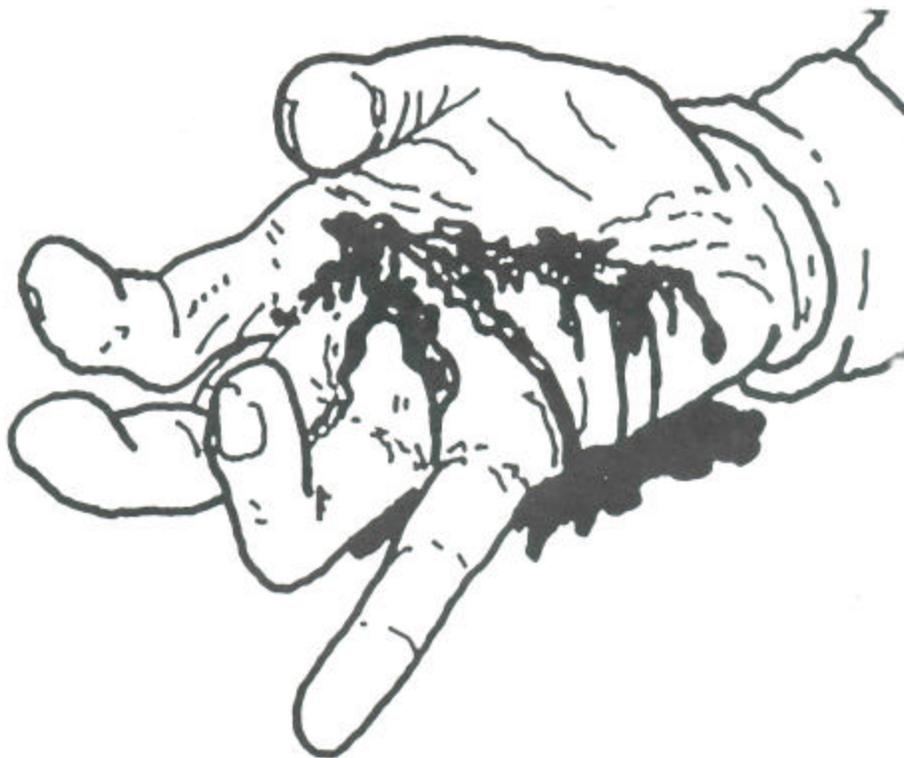


Figure 3: Cleo's injured right hand

Question E

You ask the shearer helper to go for the first aid kit and to tell the foreman about the accident. You give Cleo a clean handkerchief to apply to the laceration in his palm and help him hold his right hand at shoulder level. You are worried that Cleo may have multiple fractures of the hand and wrist. How would you determine what his injuries are? (Select as MANY as you think are correct.)

18. Ask Cleo if he can clench his fist tightly and move his wrist up and down.
19. Ask Cleo, "Where does it hurt?"
20. Check to see if the fingers, palm or wrist look deformed.
21. Look for bruising of the fingers, palm and wrist.
22. Look for swelling and redness of the fingers, palm and wrist.

When you have made your selection(s) do the next question.

Question F

The shearer helper arrives with the first aid kit and the foreman. How should you care for Cleo? (Select as MANY as you think are correct.)

- 23. Before bandaging Cleo's hand, place a dressing between each finger and a gauze roll in the palm.
- 24. Bandage Cleo's hand with roller gauze and leave the finger tips. visible.
- 25. Place Cleo's hand and forearm flat on a board splint extending from the elbow to the fingertips. Bandage the entire length with roller gauze to keep his hand flat and immobilized.
- 26. After bandaging Cleo's hand, check its circulation by taking a wrist pulse.
- 27. After bandaging Cleo's hand, place his arm in a sling with his hand supported at collar bone level.
- 28. Watch Cleo for symptoms of shock.
- 29. Send the shearer helper to call outside and report the injury.

When you have made your selection(s) do the next question.

Question G

You examine Cleo and find no other injuries. The shearer helper comes back, just as you finish bandaging Cleo's hand and are leading him out to the mule train. Cleo says he is sick to his stomach. He looks pale. He says "Will my hand be okay?" Before you can answer, the shearer helper responds by saying, "Looks like it's so bad they'll have to amputate." Then he laughs. Cleo's legs get shaky. He faints and you catch him and lay him on the ground on his back. What should you do now? (Choose only ONE unless you are told to "Try Again!")

30. Tell the shearer helper he is a fool.
31. Sit Cleo up, slap his face and try to wake him up.
32. Undo the dressing on his hand to see if the bleeding has stopped.
33. Make sure Cleo is breathing okay and then take his neck pulse.

Question H

Cleo is still unconscious. The plow shearer helper is very upset, feeling his joke made Cleo worse. You are about 400 feet from the mantrip. What would you do now? (Select as MANY as you think are correct.)

34. Leave Cleo where he is, cover him with a blanket, and wait for an EMT to arrive and assist you.
35. Get the foreman and the shearer helper to help you use a three man carry to get Cleo to the mantrip.
36. Send the shearer helper to get a stretcher. Then immobilize Cleo on the stretcher with at least 8 cravats.
37. Wrap Cleo in the blanket from the first aid kit, keeping him on his back and keeping his injured hand across his chest in the sling.
38. Lay Cleo flat in the mantrip with the foot end of the stretcher propped up about a foot on two bags of rock dust.
39. Have the foreman and the shearer helper take Cleo out on the mantrip.

When you have made your selection(s) do the next question.

Question I

You are now on the mantrip on the way out with Cleo. Cleo is on his back, legs elevated, and covered with a blanket. The foreman is operating the mantrip. The shearer helper is changing switches at crossings. You are taking care of Cleo. He is still unconscious. What things should you do to help him? (Select as MANY as you think are correct.)

- 40. Try to give him small sips of water.
- 41. Watch his breathing and check his pulse frequently.
- 42. If he starts to regain consciousness sit him up.
- 43. Tilt his head and lift his chin to maintain an airway.
- 44. Talk to him. Tell him what you are doing. Pinch his neck muscle at his shoulder every now and then.

When you have made your selection(s) do the next question.

Question J

Soon you arrive at the portal. Two EMTs and an ambulance are standing by. You tell them Cleo has a crushed right hand. As the EMTs check Cleo, they ask you questions. What questions should they ask? (Select as MANY as you think are correct.)

- 45. Did you see or find any other injuries?
- 46. How long has Cleo been unconscious?
- 47. Who is Cleo's next of kin?
- 48. How was Cleo injured?
- 49. Is Cleo accident prone?
- 50. Which hospital would Cleo like to be taken to?
- 51. How did you bandage his hand?
- 52. Was anyone else injured?

When you have made your selection(s) do the next question.

Question K

Cleo was taken to the hospital where he was found to have multiple fractures and a deep laceration in his right hand. He had little blood loss. Yet he was in shock. Your prompt and good treatment saved his hand from further harm and prevented his shock from deepening.

What caused Cleo's shock? (Select as MANY as you think are correct.)

- 53. The appearance of, and pain from, his mutilated hand.
- 54. Loss of body fluids.
- 55. Failure to promptly evacuate Cleo before spending the time to bandage his hand.
- 56. Cleo's being sick to his stomach and his fainting.
- 57. The shearer helpers remark that the hand might have to be amputated.
- 58. Pooling of blood in Cleo's abdomen and legs.
- 59. His rapid, weak pulse.

END OF PROBLEM

Scoring your performance

1. Count the total number of responses you colored in that were marked "correct." Write this number in the first blank on the answer sheet.
2. Count the total number of incorrect responses you colored in. Subtract this number from 28. Write the difference in the second blank on the answer sheet.
3. Add the numbers on the first and second blanks. This is your score.

The best possible score of 59 results from selecting all the correct answers and no wrong answers. The worst possible score of zero results from selecting all the wrong answers and no correct answers.