

Bernie's Feeder Accident

Problem Booklet

Instructions

Read the problem situation described on the next page. Study the diagram until you understand the location of the workers 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 in the reclaim tunnel under the main product storage pile at a phosphate ore processing plant.

The tunnel walkway along the belt is 6 feet high and 22 inches wide. The floor is wet and slippery.

The flow of rock to the dryers has been stopped because of a feeder failure. The belt has been locked out properly.

You and Bernie are maintenance mechanics.

Both of you have been trained in first aid. You are a volunteer fireman and are currently taking an EMT class.

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

John, a conveyor feedman, has little to do until the belt runs again.

Problem

You are helping to secure a feeder, part of which has collapsed due to structural failure.

The feeder is now wedged against the main belt. A small amount of pebble is trickling through the feeder into the tunnel. You are trying to stabilize the feeder by supporting it with a number of 6 x 6 timbers 5 feet long before attempting to jack it back into place so welding can be done.

You are carrying the timbers one at a time about 400 feet from the tunnel entrance and are laying them along the wall near the feeder. Bernie is there shoveling some spilled rock out of the way. As you return with another 6 x 6, you see Bernie starting to place a timber under the feeder on the far side of the belt. He is complaining of being tired and is having difficulty positioning the timber by himself. After studying Figure 1, turn the page and answer the first question.

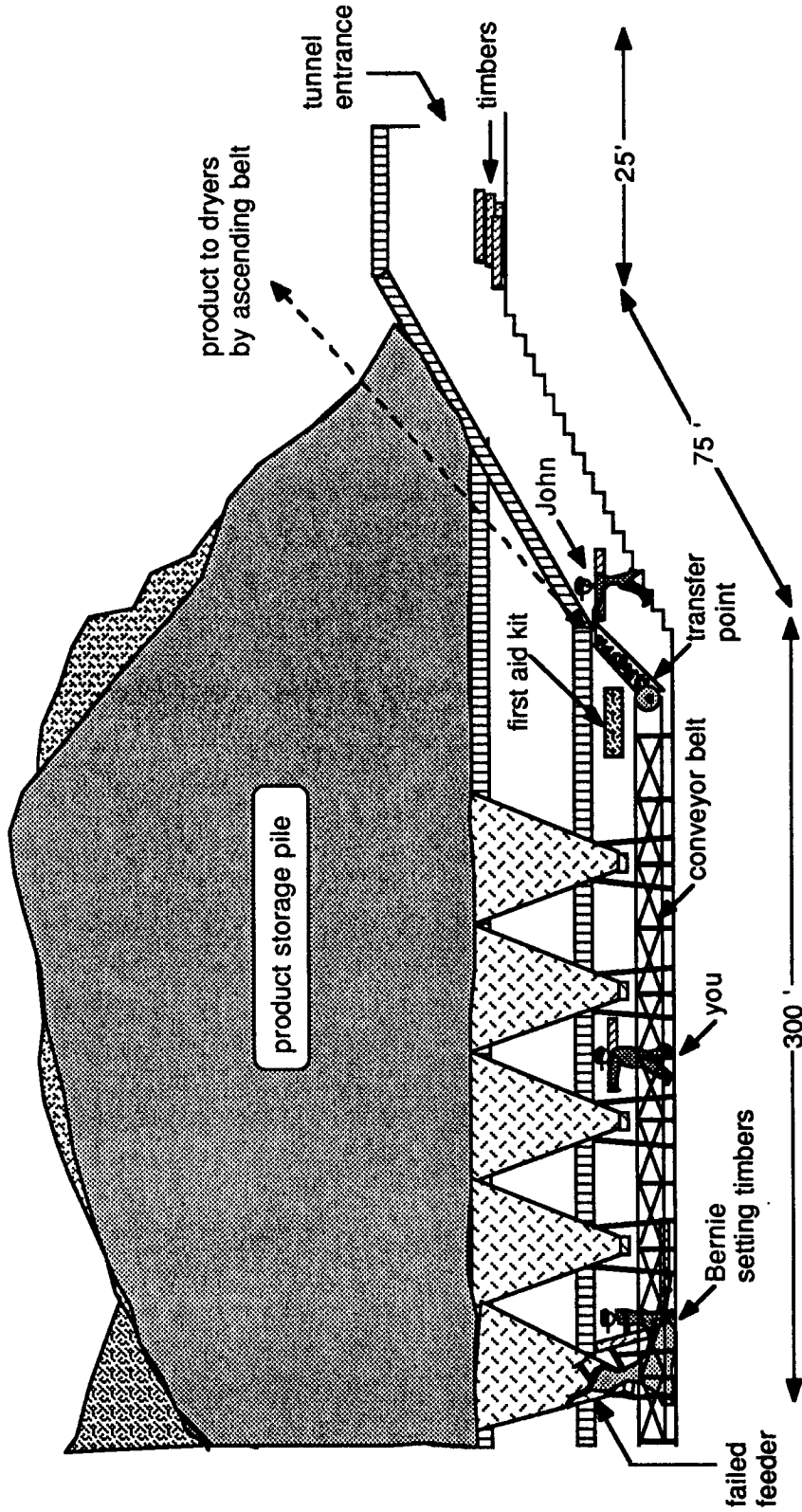


Figure 1: Schematic of reclaim tunnel under main product pile (not to scale)

Question A

You are anxious to finish propping the feeder up so it can be welded and production begun. What should you do to help complete the job safely and efficiently? (Select as MANY as you think are correct.)

1. Keep carrying timbers from the tunnel entrance to the bad feeder. Stack them carefully for Bernie.
2. Call John (the conveyor feedman) to assist you and Bernie.
3. Tell Bernie not to try handling the timbers by himself in such an awkward way.
4. Tell Bernie to get the remaining timbers while you wait.
5. Take your lock off at the breaker, start the main belt, and move the timbers in on the belt.

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

Question B

You and John go to help Bernie. You see Bernie positioning himself between the framework of the conveyor and the unstable feeder to reposition a timber. (See Figure 2.) What should you do now? (Choose only ONE unless you are told to "Try Again!")

6. Quickly position yourself beside Bernie to help him stabilize the feeder.
7. Tell him "That's OK, let's go get the jacks. "
8. Yell "Get outta there! You wanna get mashed?"
9. Wait until he positions the 6 x 6 so the feeder can't move anymore.

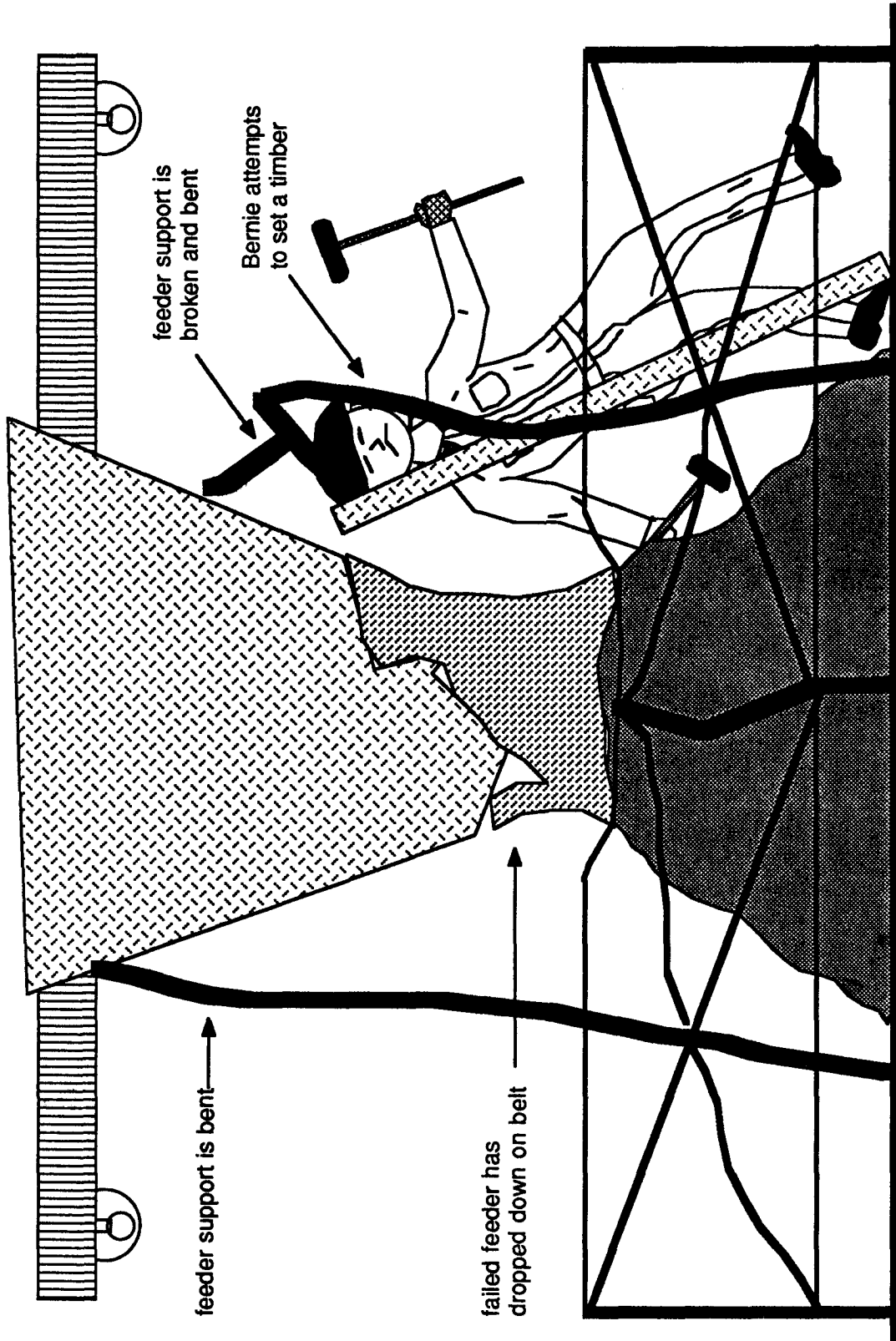


Figure 2: Bernie's position under the failed feeder as he sets a timber

Question C

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

10. Unexpected startup of the main belt.
11. Further movement of the feeder.
12. Severe crushing injuries if the feeder would move more.
13. Having his head or other extremities caught between the timber and the feeder.

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

Question D

Bernie changes his position from between the feeder and framework but is still reaching in to reposition a timber. You hear a "thud" followed by Bernie's loud screams. Although the feeder is now stable, a timber has fallen and pinned his right hand. You manage to move the timber from his hand. Bernie slumps to the floor, cusses, and looks at his hand, which is oozing dark red blood from a deep gash in the palm as shown in Figure 3. What is first thing you should do? (Choose only ONE unless you are told to "Try Again!")

14. Ask Bernie if anything else is hurt besides his hand.
15. Bandage his hand with your clean handkerchief.
16. Check his breathing.
17. Walk Bernie to the first aid kit at the product transfer point.

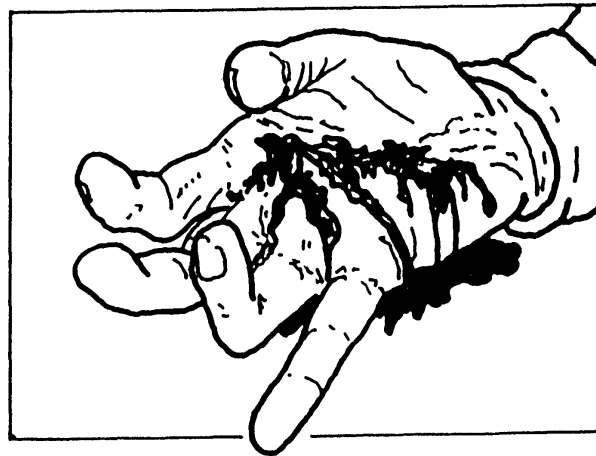


Figure 3: Bernie's injured right hand

Question E

You ask John to go for the first aid kit, to call for an ambulance, and to report the accident to the foreman. You give Bernie your clean handkerchief to apply to the laceration and help him hold his right hand at shoulder level. You are worried Bernie may have multiple fractures of the hand and wrist. How would you find out what his injuries are? (Select as MANY as you think are correct.)

18. Ask Bernie if he can make a fist and move his wrist up and down.
19. Ask him "Where does it hurt?"
20. Check to see if his fingers, palm, or wrist look deformed.
21. Look for bruising of the fingers, palm, or 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

John returns with the first aid kit and the foreman. He says that an ambulance is on the way. How should you care for Bernie? (Select as MANY as you think are correct.)

23. Before putting any bandages on, put a piece of gauze between each finger and a small roll of gauze in Bernie's palm.
24. Bandage his hand with roller gauze, but leave his fingertips showing.
25. Put Bernie's hand and forearm flat on a board splint extending from the elbow to the fingertips. Snugly bandage the entire length with roller gauze to keep his hand flat and immobilized.
26. After bandaging Bernie's hand, check his circulation by taking a wrist pulse.
27. After bandaging his hand, place his arm in a sling with his hand supported at collarbone level.
28. Watch him for symptoms of shock.

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

Question G

You examine Bernie and find no other injuries. John comes back just as you finish bandaging the injured hand and are leading Bernie out of the tunnel. Bernie says he's sick to his stomach. He looks a little pale. He asks "will my hand be OK?" Before you can answer, John responds with, "Looks like it's so bad they'll have to amputate!" Then he laughs. Bernie's legs get shaky. He faints, and you catch him and lay him on his back on the concrete tunnel floor. What should you do now? (Choose only ONE unless you are told to "Try Again!")

29. Tell John he's an absolute fool.
30. Sit Bernie up, slap his face gently to wake him up.
31. Undo the dressing on his hand to see if the bleeding has stopped.
32. Make sure he's breathing OK and then take a neck pulse.

Question H

Bernie is still unconscious. John is very upset, feeling his joke made Bernie worse. You are about 400 feet from the tunnel entrance. What would you do now? (Select as MANY as you think are correct.)

- 33. Leave Bernie where he is, cover him with a blanket, and wait for an EMT to arrive and assist you.
- 34. Work with the foreman and John to use a 3-man carry to get Bernie out.
- 35. Wrap Bernie in the blanket from the first aid kit, keeping him on his back and keeping his injured hand across his chest.
- 36. Send John to get a stretcher. Then immobilize Bernie on the stretcher with 7 or 8 bandages.
- 37. Begin carrying Bernie outside keeping the head end of the stretcher a foot or so lower than the foot end.
- 38. Have one person precede the stretcher making sure there are no tripping hazards in the narrow walkway.

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

Question I

You are now at the entrance of the reclaim tunnel under a metal shelter. It is raining heavily. Bernie is on his back, covered with a blanket and legs elevated. You and the foreman are taking care of Bernie. He is still unconscious. What things should you do to help him? (Select as MANY as you think are correct.)

- 39. Send John for some water to give to Bernie.
- 40. Watch his breathing and check his pulse frequently.
- 41. If he starts to regain consciousness, sit him up.
- 42. Tilt his head and lift his chin to maintain a good airway.
- 43. Talk to him. Tell him what you're doing. Gently pinch his neck muscle at his shoulder every now and then.

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

Question J

Within a few minutes a basic life support ambulance arrives. One of the two EMTs asks, "What happened?" You tell them about the crushed right hand. As they check Bernie, they ask more questions. What questions should they ask? (Select as MANY as you think are correct.)

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

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

Question K

Bernie was taken to the hospital where he was found to have multiple fractures and a deep laceration of the right hand. He had little blood loss. He was in shock. Your prompt and good treatment saved his hand from further harm and prevented shock from deepening. What caused Bernie's shock? (Select as MANY as you think are correct.)

- 52. The appearance of and pain from his mutilated hand.
- 53. Loss of body fluids.
- 54. Failure to promptly evacuate him before bandaging his hand.
- 55. Bernie's being sick to his stomach and his fainting.
- 56. John's remark that Bernie's hand might have to be amputated.
- 57. Pooling of blood in Bernie's abdomen and legs.
- 58. His rapid and 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 29. 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 highest possible score is 58.