

## **Problem in the Shop**

### **Problem Booklet**

## **Instructions**

Read the problem situation described on the next page. Next, answer each of the 12 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.

## **Problem in the Shop**

### Background

You have worked for this company for 8 years at its Rim Rock Mine.

You have just been transferred to its Horse Shoe Mine. You are the new foreman for the mine equipment maintenance shop.

After several years at this shop the previous foreman recently was transferred to another portal. You've heard he was disorganized and ran a sloppy operation.

There are 8 mechanics in this shop, including "Good Ole Bill."

Good Ole Bill has worked in the shop for 25 years and is well-liked. He is known as an excellent mechanic and works hard and well for the company. He is good-hearted and does repair work at his home shop on his buddies' cars and trucks for the price of parts.

This company has a tool crib check-in/check-out policy at all its shops.

Company policy prohibits transport of company tools and equipment in private vehicles on mine property.

There are 490 employees at this mine.

Last year's coal production was 2 million tons.

### Problem

Company management has communicated to all supervisory personnel that costs in many areas are escalating and the market price of coal is declining. When you were transferred, the mine superintendent made it clear he is concerned about loss and/or pilferage of tools and equipment in your department.

Turn the page and answer the first question.

**Question A**

After a few days on the job, you find the shop has poor housekeeping and that a number of tools appear to be missing. You hear rumors from other company supervisors and workers that Good Ole Bill is "borrowing" tools and parts for his home shop. You have noticed Bill carrying tools in his lunch bucket while he is working.

What should you do now? (Select as MANY as you think are correct.)

1. Immediately confront Bill about his possible theft of tools.
2. Look at the tool crib check-in/check-out records.
3. Get the shop mechanics together and tell them they had better quit stealing tools.
4. Meet with the entire crew. Level with them. Discuss your concerns about the missing tools and poor housekeeping.

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

**Question B**

For the next few days, you work with your crew and improve housekeeping while you also try to get the tool crib in order. You decide to meet with the shop crew to discuss the problems of missing tools. What points should you discuss? (Select as MANY as you think are correct.)

5. Describe the impact of tool and parts loss on production.
6. State that your reputation and career are at stake here and you will not tolerate pilferage.
7. Tell the shop crew if the tool loss doesn't stop you will ask the superintendent to require mechanics to buy all their own tools.
8. Explain that tool loss may lead to inadequate maintenance and possible accidents and injury.
9. Describe the need to adhere to the proper tool crib check-in/check-out procedures and to maintain good housekeeping.
10. Ask the shop crew what ideas they have for solving the problem.

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

**Question C**

Two weeks later, a section foreman calls you. The brakes on a shuttle car have failed and the car has rammed the miner and damaged the trailing cable. You immediately send Larry, one of your mechanics, to assist the section mechanic. Soon Larry comes back. He says a special tool needed for the job is missing. He and the section mechanic cannot complete the repairs properly without the tool. What should be your main concern at this point? (Select as MANY as you think are correct.)

11. Establish that the tool is missing.
12. Immediately start an investigation to determine what happened to the tool.
13. Call the warehouse. Have the proper tool rushed to the section.
14. Immediately report the situation to the mine superintendent.
15. Tell the section foreman to keep the shuttle car in operation until your crew can find the missing tool and properly repair the brakes.

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

**Question D**

Later that day, Larry and the section mechanic come to see you. They are upset about the missing tool. They say the section foreman is angry about the accident and the production loss, and that he chewed them out when they couldn't fix the brakes properly. Then Larry says, "I think Bill knows where the tool is!" What should you do now? (Select as MANY as you think are correct.)

16. Question Larry and the section mechanic. Try to learn more details.
17. Make a lunch box check on each mechanic as he comes off the shift.
18. Talk to each mechanic as he comes off the shift. Try to locate the tool.
19. Just forget about it. Tomorrow is another day.
20. Ask the mine superintendent what you should do.
21. When you can do so without being observed, secretly look for the tools inside Bill's lunch box and his jacket.

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

**Question E**

Two days later Larry tells you he thinks Bill has been stealing tools, including the missing brake tool. When you finish straightening up the tool crib, examining records, and taking inventory, you find several tools have disappeared over the last few months. You notice Bill rarely checks tools in and out. What should you do now? (Choose only ONE unless you are told to "Try again!")

- 22. Take immediate disciplinary action against Bill.
- 23. Meet with Bill privately to discuss the missing tools, and the need to check tools out and in.
- 24. Confront Bill with your suspicions about his thievery.
- 25. Privately select one of the other mechanics you trust. Ask him to watch Bill and to report any suspicious actions to you.



## **Question F**

Two weeks later most of the mechanics are properly checking tools in and out of the tool crib, and housekeeping is better. Bill sometimes signs tools out, but often doesn't bother to. Twice when you have talked to him about this, he has gotten angry, and says this nonsense slows him down. You observe he is a good mechanic who is productive, fast, and always busy.

Today you and some of the shop mechanics, including Bill, have been working overtime. On your way home, you see Bill's pick-up stopped to help another miner whose car has broken down. Bill's truck is still on mine property, about a quarter mile from the mine entrance and 4 miles from the mine shop. You stop to help. As you walk by Bill's truck, you notice his truck box is open. Inside you see a tap and die set labeled with the company name and inventory number. What would you do now? (Choose only ONE unless you are told to "Try again!")

26. Make a deal with Bill to let him off this time if he promises not to carry tools in his personal truck and not to take them off the property again.
27. Take Bill aside and ask him for an explanation.
28. Tell Bill he is immediately suspended and that you intend to recommend discharge.
29. Tell Bill to sign out the tools on the spot.
30. Pretend you don't see the tools. Tomorrow, tell the superintendent what you observed.

**Question G**

After you take Bill aside, and he gives his explanation, you ask him to immediately return to the shop and check the tools in. He gets angry and, says, "Get off my back!" Then he ignores you and goes back to helping the other miner fix his car.

Now what should you do? (Select as MANY as you think are correct.)

31. Tell Bill you are going to confiscate and return the tools, and file a written report about what you have observed.
32. Record the name of the other miner who is present.
33. Ask the other miner why the tap and die set is in Bill's truck box.
34. Immediately return the tools to the shop and sign them in.
35. Take the tools with you and return them to the shop the next morning.
36. Immediately make a written record of what you have observed.

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

## **Question H**

As soon as you return the tools to the shop, you prepare to make a written report. What information should be included in your report about Bill transporting company tools off the property? (Select as MANY as you think are correct.)

37. Summarize the earlier rumors about Bill's theft of tools.
38. Note the time, date, location, and Bill's destination when you observed the tools in his truck box.
39. State your name, title, and the activity in which you were engaged when you observed the tools in Bill's truck box.
40. Include factual statements concerning Bill's strengths and weaknesses.
41. List the name of the miner Bill was helping.
42. Describe the tap and die set including the inventory number.
43. Describe the sequence of actions you took after observing the company tools in Bill's truck box.
44. Refer to your notes from your earlier meetings with Bill to discuss the company procedures for checking tools in and out.
45. Report that your subsequent check of the tool crib records showed that the tap and die set was not signed out.
46. Explain why you think Bill was transporting tools off the property.
47. Quote Bill's explanation for why he was taking the tools off the property.
48. Include a statement that Bill is the best and most senior mechanic in the shop.

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

**Question I**

The next day you file your report and call the superintendent. That noon he calls you to his office to discuss the report. It has been established that Bill .was transporting company tools off the mine property, without signing them out, without permission, and in violation of company policy. As the shop foreman, what should be your main concerns at this point? (Select as MANY as you think are correct.)

- 49. Make sure you have accurately and fully documented and reported the events surrounding Bill's taking the company tools off the property.
- 50. Suggest that Bill was responsible for earlier theft and loss of tools.
- 51. Suggest a warrant be obtained for a search of Bill's home and garage.
- 52. Recommend that Bill receive counseling for his stealing problem.
- 53. Find another mechanic who can replace Bill.

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

**Question J**

Subsequently the superintendent calls a meeting involving Bill, you, and company and miner representatives. Bill admits that he was transporting tools off the company property without permission, but maintains he simply forgot to check them out and bring them back. Bill's high productivity and good work record are noted by the miner representative and you confirm this information. After the hearing Bill is reprimanded and suspended for 3 days without pay.

A week later, after Bill has returned to work, you schedule a meeting with the shop crew to review the company policy for checking-out and transporting tools on mine property. You want the mechanics to understand the reasons for the policy, and to also understand the personal risks involved in tool theft or in behavior that can appear as theft. What are some of these risks? (Select as MANY as you think are correct.)

- 54. Loss of personal income.
- 55. Alcohol and drug abuse.
- 56. Loss of personal and family prestige and opportunity.
- 57. Increased difficulty in work and social relationships.
- 58. Loss of professional status among fellow workers.
- 59. Loss of professional skills as a mechanic.
- 60. Difficulty in obtaining employment in a different place within or outside the company.

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

### **Question K**

After Bill returned to work, he continued to be a productive and good mechanic, and he followed the company procedures for signing tools in and out. After you got to know him a little better, he apologized for giving you a "rough time." He explained that he thought he was in line for the foremen's job and was angry when you got it instead. A couple of weeks later the missing brake tool was found pressed into coal dust and dirt on the floor of the tool crib near a bench. Now think about this whole exercise and the problems this company is having. Then answer the next two questions.

Bill's company mines 2 million tons of coal per year and sells it for \$30 per ton. The profit margin is 4%. How many tons of coal must be mined to pay for \$120 worth of lost tools? (Choose only ONE unless you are told to "Try again!")

61. 4 tons

62. 15 tons

63. 40 tons

64. 75 tons

65. 100 tons

## **Question L**

Last year Bill's company had total revenues of 60 million dollars, from 2 million tons of coal mined and sold at \$30 per ton. At a 4% profit margin, the company earned \$2,400,000 net profit.

The large majority of workers at this company do not steal tools and materials. But many workers unintentionally lose and damage tools, equipment, material, and resources. Table 1 on the next page summarizes some of the costs for lost and damaged equipment for a six month period. Study Table 1, then answer this last question.

What steps should be taken to keep this coal mine in business? (Choose only ONE unless you are told to "Try again!")

- 66. Extra tonnage should be mined to cover the losses.
- 67. Losses should be cut through better work procedures, better housekeeping, and increased awareness of the problem among employees.
- 68. Company marketing officials should obtain a higher price for the coal.
- 69. The company should continue on as usual because the net annual profit is still reasonably high.

## **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 37. 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 69 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.

Table 1: Estimated Costs from Lost and Damaged Equipment for Six Months<sup>5</sup>

Description of Damage and/or Loss	Estimated Cost	
	Dollars	Tons Coal
A maintenance crew leaves gas welding equipment in a shuttle car. Next shift the operator loads the car and dumps the welding tanks into the feeder-breaker with the first load of coal. An explosion and fire result. No one is hurt, but production is down for 3 days and repairs are costly.	62,000	51,667
A supply man transports roof bolts to the face in a shuttle car. He accidentally leaves two bolts in the bottom of the car. One gets all the way to the prep plant where it damages equipment and shuts down production for 9 hours. Repairs are costly.	28,600	23,833
A secretary in the company office keeps her computer disks in a storage compartment with salt and pepper shakers, sugar, soft drinks and other food. She eats and smokes over the keyboards of two computers. Two keyboards and three disk drives are damaged. She made no backup files. Equipment repair costs are \$1,450 and data re-entry labor costs are \$6,350.	7,800	6,500
A supply man for one mine routinely tangles roof bolts, timbers, bearing plates, rock dust, oil cans, stopping blocks and other supplies. This damages materials, makes it more difficult for miners at the face to get and use the supplies, results in lost production and in increased lost time and medical claims from miners who receive strains and sprains from trying to lift and move poorly stacked supplies.	240,500	200,417
A surveyor parks his 4X4 utility truck in a blind spot for a 180 ton surface mine haul truck. The haul truck runs over and totals the utility truck. Costs include replacing the 4x4, conducting an investigation, and making out reports.	19,500	16,250
Replacement costs for loss, pilferage, and damage to small hand tools and equipment like SCSRs, fire extinguishers, methane spotters, grease guns, etc. total \$56,000 for the 6 month period.	56,000	46,667
Two company administrators spend \$11,600 more than necessary for travel expenses and fancy accommodations related to company business.	11,600	9,667
<b>Totals</b>	<b>426,000</b>	<b>355,000</b>

<sup>5</sup> Some loss will always occur, and some loss is always anticipated and budgeted for in the mine planning process. If these types of losses can be kept low, the company has a better chance of competing in a tight market, and the mine is more likely to continue in operation.