

EXAM PAPER | CERTIFICATE OF COMPETENCE

Open cut examiner of coal mines other than underground

Examination Date: 3 June 2016

OCE1 – Mining Legislation

This exam consists of only 4 questions
All four (4) questions are to be attempted

Question 1 (20 marks)

- List the roles that hold a statutory function in an open cut mine. (5 marks)
- Which of these statutory functions are key statutory functions? (5 marks)
- Due to downsizing the mine operator intends to nominate one person to cover both the electrical engineers function and the mechanical engineers function at the mine. Is this permitted? (5 marks)
- Identify all of the requirements before a person can carry out the functions of an OCE in a production area of the mine. (5 marks)

Question 2 (30 marks)

There are the 2 types of incidents that require information to be given to the regulator.

- Describe both types of incidents (10 marks)
- What are the notification requirements of each type of incident (10 marks)
- Where an incident is required to be preserved, in what circumstances can the site be disturbed? (5 marks)
- What are the record keeping requirements for every incident notified to the regulator? (5 marks)

Question 3 (25 marks)

In regards to managing risk;

- What is meant by “reasonably practical”? (5 marks)
- What is a duty holder? (5 marks)
- What must a duty holder do in relation to managing risks to health and safety? (5 marks)
- What must a duty holder do if risks to health and safety cannot be eliminated? (10 marks)

Question 4 (25 marks)

- Who is the regulatory authority for your mine in relation to explosives and shot firing at an open cut mine? (5 marks)
- What are the 2 key licencing requirements needed for a person to carry out shot firing activities at your mine? (5 marks)
- What other eligibility requirements are required to be a licenced shot firer? (5 marks)
- What is a secure magazine and its requirements? (10 marks)

OCE2 – Coal Mining Practice

Only four (4) of the six (6) questions are to be attempted
Questions 4 & 5 are compulsory

Question 1 (50 marks)

The clean coal stockpile at your mine is being upgraded to introduce underground valves for a new train loadout system. The upgrade works will be carried out by a contractor and will take approximately 6 months to complete. While the clean coal stockpile is being upgraded, product coal is loaded into the mine's 777 haul trucks via a temporary product coal bin and then dumped on a pad before being loaded into road trucks using a 992 loader. The coal is trucked to a nearby train loader via a public road.

- List the hazards and controls associated with this construction project and the operations (30 marks)
- How would you check to ensure the construction contractors and road truck/loader operations are complying with your controls? (20 marks)

Question 2 (50 marks)

You are an OCE at an operation that is in close proximity to the local community. There is residential housing in direct view of an out of pit dump you are hauling to. The mining activities are also moving closer to the community with each progressive mining block. Over the last few months there has been a 300% spike in the community complaints. The main issues raised being dust, noise, vibration and lighting at night.

- The mine manager has asked you to develop an action plan on what you will do to address these issues. Using the Nertney Wheel, outline what you would do to address the community concerns (30 marks)
- How would you ensure the operations are sticking to your controls? (20 marks)

Question 3 (50 marks)

You are an Open Cut Examiner at a small open cut mine. The mine shotfirer has misplaced the load sheet for an overburden blast that is needed for continuity of production. The Drill and Blast Engineer is on leave for 3 days requiring the information used in the load sheet to be recalculated. Showing all workings and formulas for calculations;

- For a 229mm hole diameter what is the charge weight per metre (*assume 0.80 ANFO density*) (10 marks)
- For a 229mm hole diameter what is the charge weight per metre (*assume 1.1 Heavy ANFO density*) (10 marks)
- The total charge for an 18m, 229mm diameter hole which is loaded with 50% ANFO / 50% Heavy ANFO. (10 marks)
- With the 50% ANFO/Heavy ANFO charge, which product would normally be loaded first and why? (10 marks)
- List 5 advantages of using ANFO and 5 advantages of using Heavy ANFO (10 marks)

Question 4 (50 marks)

Your site is introducing bias ply tyres for use on your 789 dump trucks. Your mine manager has approached you to be part of a risk assessment.

- List the advantages and disadvantages of both radial tyres and bias ply tyres (15 marks)
- Explain what TKPH means. (5 marks)

- c) How is TKPH rating information used in managing earthmoving tyres? (10 marks)
- d) If position 1 TKPH is being exceeded list 4 actions that would reduce the TKPH calculation and avoid an overheated tyre. (20 marks)

Question 5 (50 marks)

You are the Open Cut Examiner at a mine that is introducing a large dragline into the fleet. The interburden depth at the base of the pit is increasing and is now 45m deep, uncovering a single 8m seam at the bottom. Currently the mine uses hydraulic face shovels and excavators for all overburden and coal removal. All coal is washed through the CHPP on site.

Your manager has asked you to assist in the Risk Assessment for the introduction of the Dragline and in designing the first strip for the Dragline.

- a) List the top 5 hazards that you would address in the Risk Assessment with the controls for each hazard (30 Marks)
- b) Describe the design for the first strip for the dragline. Include sketches where appropriate (20 Marks).

Question 6 (50 marks)

You are the Open Cut Examiner whose statutory area extends to a tailings capping task. You receive a call on the two way from a truck operator who is hauling waste to the tailings capping job reporting that the D10 dozer on the capping job is on a strange angle and that the operator is out of the cab.

- a) How would you respond and what actions would you take from receiving the call through to and including incident recovery? (40 marks)
- b) Is this incident reportable and why? (5 marks)
- c) What are the most likely causes of this incident? (5 marks)

More information

The Mining Competence Team, Business Processes and Authorisations
NSW Department of Industry | Resources & Energy - Mine Safety | Governance Branch
T: 02 4931 6625 | Email: minesafety.competence@industry.nsw.gov.au

Acknowledgments

The open cut examiner of coal mines other than underground examination panel

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