

DEPUTY CERTIFICATE OF COMPETENCE | JULY 2015

Written examination questions

DEP1 – Coal mining practice and legislation – Wednesday 29 July 2015

Question 1

- (a) The term “reasonably practicable” is used in work health and safety legislation in New South Wales. The *Work Health and Safety Act 2011* defines the terms “reasonably practicable” in section 18.

In your own words, state the matters that have to be taken into account in determining whether an action is “reasonably practicable”.

10 marks

- (b) Clause 21 of the *Coal Mine Health and Safety Regulation 2006* imposes a requirement for ventilation arrangements, and clause 62 of the *Work Health and Safety (Mines) Regulation 2014* refers to a duty to prepare a ventilation control plan.

Choose either one of the following parts to answer (do not answer both parts):

- (i) List the five elements that are required to be included in the ventilation arrangements as specified in clause 21 *Coal Mine Health & Safety Regulation 2006*.
- (ii) List five elements that are required to be described in the ventilation control plan as specified in clause 62 *Work Health & Safety (Mines) Regulation 2014*

10 marks

Question 2

- (a) What is meant by the term “intrinsically safe” in relation to electrical equipment?

5 marks

- (b) What is meant by the term “flameproof” in relation to electrical equipment?

5 marks

- (c) What is the purpose of a “scrubber” on underground diesel equipment?

5 marks

- (d) With the aid of a simple diagram, describe how a scrubber on underground diesel equipment works.

5 marks

Question 3

- (a) You are the deputy of a panel, on production, developing the mains. You receive a PED message informing you that there is a fire on the longwall face and you are to immediately evacuate to an underground workshop at 80 cutthrough. You are at 140 cutthrough and the entrance to the longwall is at 120 cutthrough. What actions do you take?

10 marks

- (b) You are a deputy fighting a fire on a drivehead. You have four men with you. All equipment is in place, there is no one inbye. The undermanager is on the surface and is the incident controller. What factors would cause you to cease fighting the fire and head to the surface?

5 marks

- (c) What are the signs and symptoms of heat stroke? What is the recommended treatment for heat stroke?

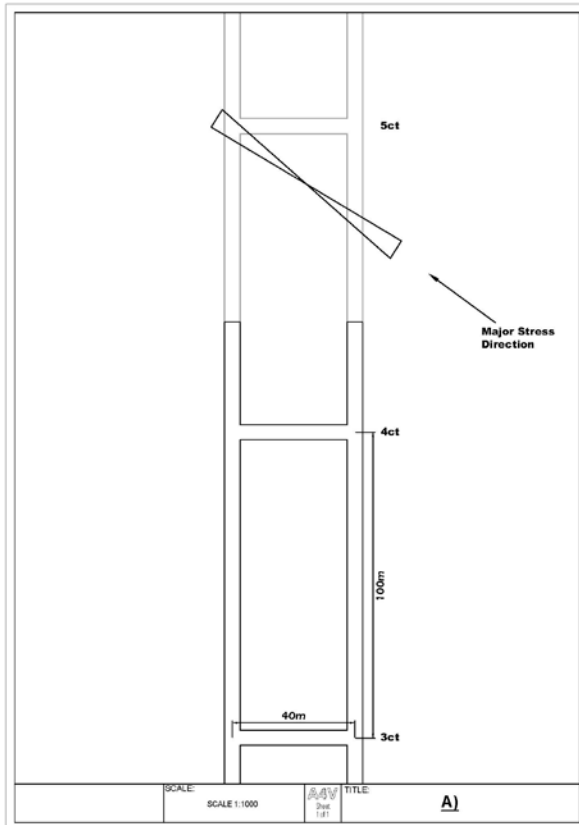
5 marks

Question 4

- (a) A 2 heading gate road panel is approaching a known high stress zone as shown on the accompanying plan. This zone has, in the past been associated with severe guttering.

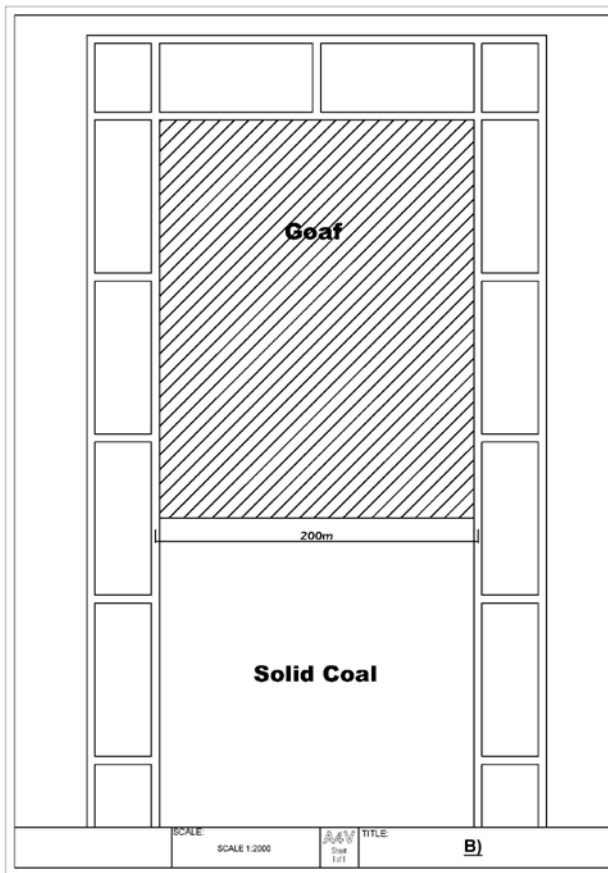
On plan A on the following page, show the sequence for driving 4 to 5 cutthrough. Mark on the plan where you would expect to see guttering occurring for each drivage based on the stress direction indicated. Indicate where you would expect to see the most severe guttering.

10 marks



- (b) What is meant by the term abutment loading in relation to strata in underground coal mines? What are the possible signs of abutment loading? Mark on plan B on the following page where you would expect to find the front, side and rear abutment loading.

6 marks



- (c) How would the abutment loading associated with a longwall influence the installation of secondary support?

4 marks

Question 5

Plan C on the following page shows a working longwall. The seam is very gassy and is not prone to spontaneous combustion.

- (a) On the plan, show all ventilation devices.

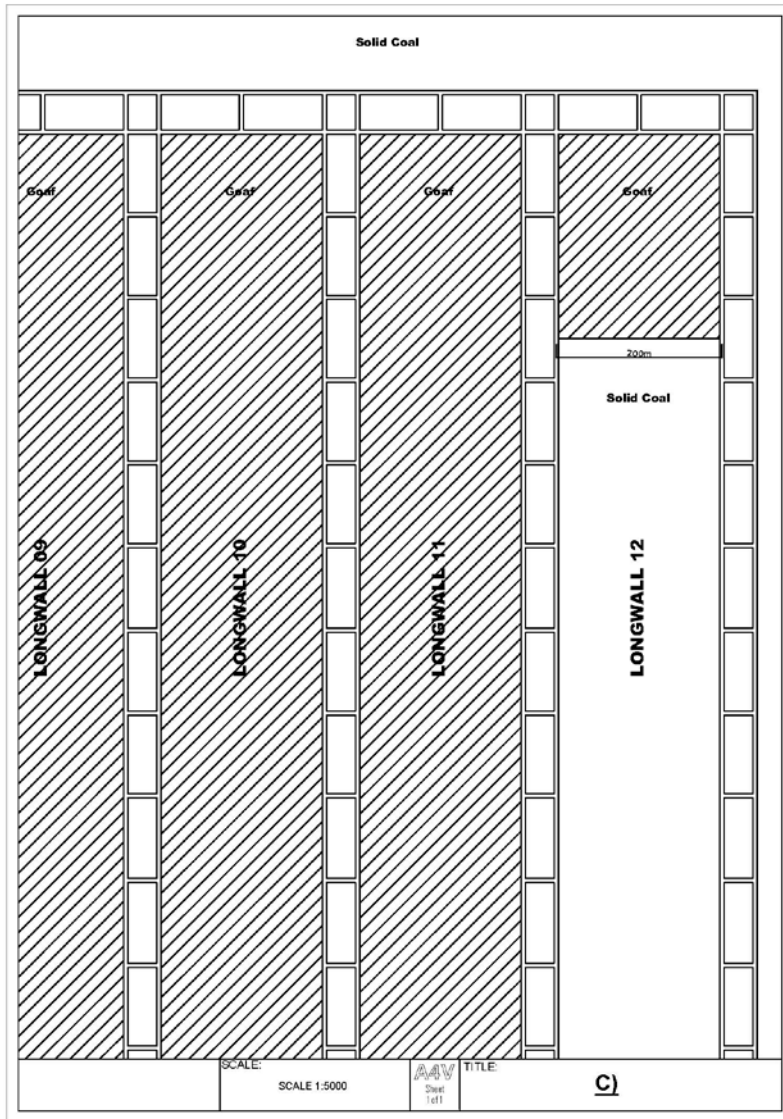
10 marks

- (b) On the plan, show the intake and return quantities. Give the quantities at each location the air path splits.

5 marks

- (c) On the plan, show the expected methane concentrations in the returns.

5 marks



More information

Business Processes & Authorisations

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Acknowledgments

Deputy Examination Panel

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