

WRITTEN EXAM | CERTIFICATE OF COMPETENCE

Deputy of underground coal mines

Summary of written exam

Examination date: 4 March 2016

Examination times: 10.00am to 12.30pm

Coal mining practice and legislation

Legislation assessed:

Work Health and Safety Act 2011

Work Health and Safety Regulation 2011

Work Health and Safety (Mines) Act 2013

Work Health and Safety (Mines) Regulation 2014

Question 1 (total of 20 marks)

Q1 (a)

Clause 128 (5) (a) of the Work Health and Safety (Mines) Regulation 2014 deals with events referenced in clause 179 (a) (i)-(xviii).

What factors are required to make these events a high potential incident? (5 marks)

Note: Do not list the events (i) to (xviii)

Q1 (b)

Clause 179 (a) of the Work Health and Safety (Mines) Regulation 2014, deals with dangerous incidents.

What factors are required for these events to be considered a dangerous incident? (5 marks)

Q1 (c)

Sections 15, 16 and 17 of the WHS(M)A deal with notification of notifiable incidents and the handling of site of a notifiable incident. (10 marks)

What is a notifiable incident?

What are the requirements for notification?

What are the requirements for the scene of a notifiable incident?

Question 2 (total 20 marks)

Q2 (a)

Complete the following gas chart (5 marks)

| | <i>Chemical Symbol</i> | <i>Relative Density</i> | <i>Explosive Range</i> | <i>Legal Limits</i> |
|-----------------|------------------------|-------------------------|------------------------|---------------------|
| Methane | | | | |
| Carbon Monoxide | | | | |
| Carbon Dioxide | | | | |
| Oxygen | | | | |

Q2 (b)

What are the major constituents of air and what is their proportion, by volume, of air? (5 marks)

Q2 (c)

You are instructed to take a bag sample from a sealed area of the mine. What procedures would you use to take the sample and ensure their integrity? (10 marks)

Question 3 (total 20 marks)

Q3 (a)

Describe what is meant by the term “outburst” in relation to underground coal mining? (5 marks)

Q3 (b)

What effect does gas content and gas composition have on the likelihood and consequence of an outburst? (5 marks)

Q3 (c)

What are the principal procedures used to manage the risk of outbursts? (5 marks)

Q3 (d)

What are the typical “outburst warning signs” that may be evident prior to an outburst? (5 marks)

Question 4 (total 20 marks)

You are the Deputy in a longwall panel on production. Prior to going underground, the undermanager informs you that the creep is excessive towards the main gate and access is tight. When you reach the panel, you find there is insufficient space to access the face.

Q4 (a)

What are your immediate actions, and why? (4 marks)

Q4 (b)

What procedures could be put into place to provide safe access? (10 marks)

Q4 (c)

What are the possible causes of the excessive creep? (6 marks)

Question 5 (total 20 marks)

Q5 (a)

All ventilation devices (6 marks)

Q5 (b)

The location of the hazardous zone for each production area (2 marks)

Q5 (c)

The belt roads and boot end locations (4 marks)

Fill in the following charts

Q5 (d)

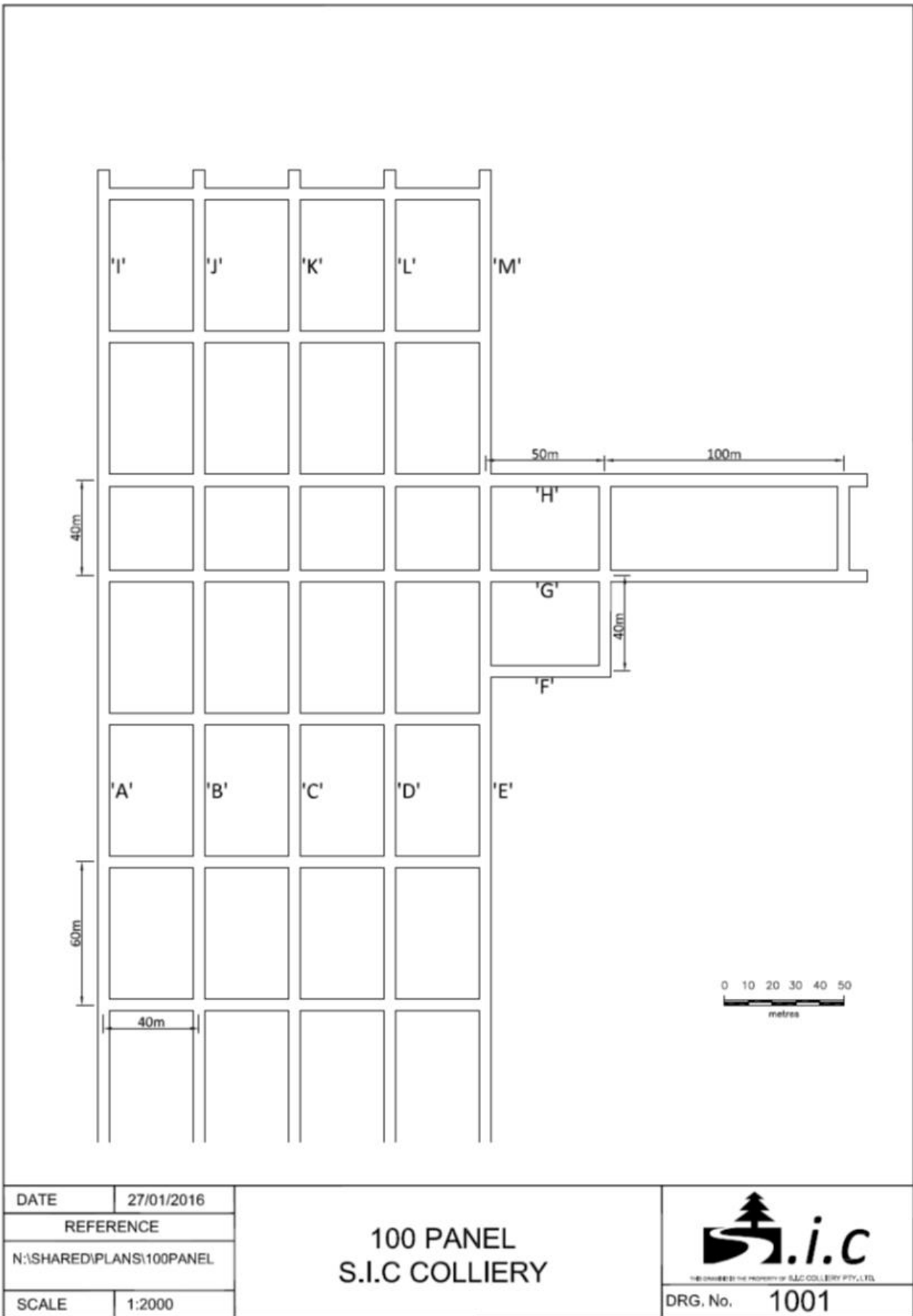
Quantities at points A to M (4 marks)

| A | B | C | D | E | F | G | H | I | J | K | L | M |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |

Q5 (e)

Methane concentrations at points A to M (4 marks)

| A | B | C | D | E | F | G | H | I | J | K | L | M |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |



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| DATE | 27/01/2016 |
| REFERENCE | |
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| SCALE | 1:2000 |

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More information

The Mining Competence Team, Business Processes and Authorisations

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Acknowledgments

Deputy Examination Panel

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