

EXAMINER'S REPORT

July 2021

Mining engineering manager of underground mines other than coal mines certificate of competence

Written examination

Summary of results and general comments

Examination date:	24 February 2021
Number candidates:	3
Number who passed:	3
Highest overall mark:	67%
Median overall mark:	63%
Lowest overall mark:	63%

Paper 1 - Part A - Legislation knowledge

Summary of results and general comments

Exam date:	24 February 2021
Number of candidates:	3
Number who passed:	3
Highest mark:	64.29%
Lowest mark:	60%

Question 1 (total of 10 marks)

Highest mark: 7

Lowest mark: 6

Examiners' comments - All candidates passed this section. Common areas to improve were candidates understanding of scaffolding, distance mobile plant can be from a detonator magazine and what constitutes mining activity, with candidates failing to identify that exploration does constitute mining as per *Work Health and Safety (Mines and Petroleum sites) Act 2013 (WHS (M&PS) A 2013) Sect 7(1)(a)(iii)*.

Question 2 (total of 10 marks)

Highest mark: 7

Lowest mark: 5.5

Examiners' comments - All candidates demonstrated a basic understanding of what is required in the design of an underground magazine. Two of the designs were impractical from an operational perspective. While this was not the subject of the question, it is recommended candidates review Australian Standard (AS) AS2817 Appendix G for guidelines on the design of a magazine. Candidates had a limited understanding of the areas that Underground Magazines can be constructed near. It is recommended they review AS 2187 for these details.

Question 3 (total of 10 marks)

Highest mark: 7.5

Lowest mark: 5.5

Examiners' comments - One candidate demonstrated a reasonable level of understanding of what is required in a ventilation control plan, while two others failed to demonstrate this. However, these lost marks were made up for with a reasonable understanding of the day to day management of a mine's ventilation system.

Question 4 (total of 10 marks)

Highest mark: 8

Lowest mark: 7

Examiners' comments - Candidates were able to demonstrate a good understanding of the legislation around conducting a risk assessment.

Question 5 (total of 10 marks)

Highest mark: 9

Lowest mark: 3

Examiners' comments - One candidate demonstrated a competent knowledge of Principal Hazard Management Plans and what Work Health and Safety (Mines and Petroleum sites) Regulations 2014 (WHS (M&PS) Reg 2014) CI 24 requires them to discuss. Two of the candidates listed the Principal Hazards as prescribed in WHS (M&PS) R 2014 Schedule 1.

Question 6 (total of 10 marks)

Highest mark: 7.5

Lowest mark: 5

Examiners' comments - Candidates demonstrated basic competence in the requirements of High-Risk Activities (HRA) though nothing more.

Question 7 (total of 10 marks)

Highest mark: 7

Lowest mark: 3

Examiners' comments - Candidates demonstrated basic competence in the requirements understanding dangerous incidents. Candidates did not receive full marks due to incomplete description of the dangerous incident or confusing a dangerous incident with a reportable incident.

Paper 2 - Part B - Legislation knowledge and application**Summary of results and general comments**

Exam date: 24 February 2021

Number of candidates: 3

Number who passed: 3

Highest mark: 83.33%

Lowest mark: 60.00%

Question 1 (total 15 marks)

Highest mark: 13

Lowest mark: 7

Examiners' comments - All candidates demonstrated a reasonable level of competence in the management of an emergency scenario. To achieve full marks, candidates needed to demonstrate the use of concise language and provide clear, tangible actions they would take in an emergency and its aftermath.

Question 2 (total 15 marks)

Highest mark: 12

Lowest mark: 10

Examiners' comments - The best candidates provided clear and concise answers as to describing the roles of supervisors and how they will be measured and held accountable for the safety performance of the operation.

Oral examination

Date: 19 May 2021

Number of candidates: 3

Number deemed competent: 0

Examiners' comments - All candidates failed to demonstrate competence in the fundamental principles of mine ventilation. This lack of understanding was concerning to the panel members. Candidates could not demonstrate competence in basic concepts such as the purpose of mass balance reconciliations, the need to pressure test fans, how to read a fan curve, the different types of primary fans, adiabatic compression/expansion or the purposes of Atkinsons formula. Candidates must ensure they understand the fundamental technical skills required for the role of Mining engineering manager underground mines other than coal mines (MEM). As the MEM they have statutory responsibility for key technical functions and must be able to satisfy the panel that they have the competence to question and manage any persons on at a mining operation performing these key technical roles.

The majority of candidates failed to demonstrate competence in situational awareness of the some of the scenarios posed to them. They failed to grasp the gravity of the scenarios posed and the safety implications the scenario posed. This failure meant candidates could not manage the scenario effectively and could not demonstrate the Associated Non-Technical Skills (ANTS) required. The panel was satisfied as to the candidate's industry experience, however, the experience may have been limited to particular mining methods or environments.

It is recommended that candidates prepare for the ANTS elements of the exam by conducting mock oral scenarios with colleagues onsite. Candidates can expect they will be posed scenarios for mining methods they may not be familiar with and need to prepare accordingly. The Regulator will provide some examples on its website of examples of oral questions to also assist with preparation.

Most candidates failed to demonstrate competence with their understanding of the legislation. For example, some candidates did not know to contact the Regulator after a serious incident, others could not describe incidents that are reportable under Work Health and Safety (Mines and Petroleum sites) Regulations 2014 (WHS (MPS) Reg 2014) Cl 179. With any legislation question, the panel does not expect the candidate to be able to quote relevant legislation verbatim. However, they must be able to describe its intent and critical elements of the relevant clause. For example, a reportable incident is, under WHS (MPS) Reg 2014 Cl179 (a)(xviii) *a vehicle or plant making contact with an energised source having a voltage greater than 1,200 volts*. The critical element is 1,200 volts, not simply striking any energised source. It is recommended candidates thoroughly study legislation before the oral exam.

More information

Department of Regional NSW

Resources Regulator

Mining Competence Team

T: 02 4063 6461

Email: mca@planning.nsw.gov.au

Acknowledgments

Mining engineering manager underground mines other than coal mines examination panel.

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