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OCM1 - Legislation

MINING ENGINEERING MANAGER OF COAL MINES OTHER THAN UNDERGROUND COAL MINES

EXAMINATION FOR CERTIFICATE OF COMPETENCE

Work Health and Safety (Mines and Petroleum Sites) Act 2013 Work Health and Safety (Mines and Petroleum Sites) Regulation 2022

Legislation to be assessed:

Unless otherwise stated all references to Act and Regulations are to:

Work Health and Safety Act 2011

Work Health and Safety Regulation 2017

Work Health and Safety (Mines and Petroleum Sites) Act 2013

Work Health and Safety (Mines and Petroleum Sites) Regulation 2022

Explosives Act 2003

Explosives Regulation 2013

This Examination is held in the following location:

Region: New South Wales

Venue: Tocal College

Room: North Court

Start date/time: 15 Jun 2023 09:00:00

OCM1 - Legislation

INSTRUCTIONS TO CANDIDATES

Q #	Marks	Available Marks	Marked by Initials	Summary comments to justify
1		20		
2		20		
3		20		
4		20		
5		20		
Paper Total		100		Marks checked by:

EXAM BOKLET

Answers are to be written in the allocated spaces within this booklet ONLY

Answers must be written in pen however, drawings may be completed in pencil

This booklet is not to be altered in any way, pages are not to be added or removed

Additional space is provided at the end of the paper. Please label which question the answer relates to.

Question 1

The Work Health & Safety Act 2011 prescribes certain notices that may be served at an open-cut mine. Name four(4) of these notices that may be served by the Regulator or an Inspector. For each, outline the purpose of the notice and the actions required to be taken in response to each notice. (20 marks)		

Question 2

The Work Health and Safety (Mines and Petroleum Sites) Regulation 2022.
Details the required content of a safety management system:
a. What are the management structure requirements? (5 marks)
b. What are the requirements in regard to control measures used to control risks associated with contractors? (5 marks)
c. What must a mine operator inform workers about in relation to the site's safety management system before a worker commences work at the mine? (5 marks)
d. When must a safety management system be reviewed? (5 marks)

Question 3

Work Health and Safety (Mines and Petroleum Sites) Regulation 2022		
Operational controls: Communication between outgoing and incoming shifts. List four (4) requirements of this clause. (20 marks)		

Question 4

The Work Health and Safety (Mines and Petroleum Sites) Regulation 2022
Operational controls refers to Movement of Mobile plant
List seven (7) requirements of this clause. (20 marks)

Question 5

reported having seen a small flame and smelt smoke coming from the rear tyre of the haul truck they were operating; the truck is parked safely and water carts are in place cooling the tyre the operator is uninjured.
List the key immediate and foreseeable legislative requirements that are required to be complied with in relation to this incident. (20 marks)

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CANDIDATE NUMBER:	
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OCM2 - Open cut mining practice

MINING ENGINEERING MANAGER OF COAL MINES OTHER THAN UNDERGROUND COAL MINES

EXAMINATION FOR CERTIFICATE OF COMPETENCE

Work Health and Safety (Mines and Petroleum Sites) Act 2013 Work Health and Safety (Mines and Petroleum Sites) Regulation 2022

Legislation to be assessed:

Unless otherwise stated all references to Act and Regulations are to:

Work Health and Safety Act 2011

Work Health and Safety Regulation 2017

Work Health and Safety (Mines and Petroleum Sites) Act 2013

Work Health and Safety (Mines and Petroleum Sites) Regulation 2022

Explosives Act 2003

Explosives Regulation 2013

This Examination is held in the following location:

Region: New South Wales

Venue: Tocal College

Room: North Court

Start date/time: 15 Jun 2023 11:00:00

OCM2 – Open cut mining practice

INSTRUCTIONS TO CANDIDATES

Q #	Marks	Available Marks	Marked by Initials	Summary comments to justify
1		60		
2		60		
3		60		
4		60		
5		60		
Paper Total		300		Marks checked by:

EXAM BOKLET

Answers are to be written in the allocated spaces within this booklet ONLY

Answers must be written in pen however, drawings may be completed in pencil

This booklet is not to be altered in any way, pages are not to be added or removed

Additional space is provided at the end of the paper. Please label which question the answer relates to.

Question 1

You are the Mining Engineering Manager of an open cut operation where you have been tasked with managing the capping of an existing 30-hectare tailings facility at your site. Tailings have not been placed into the facility in over 2 years. However there is a tailings delivery line which remains operational, and the facility still has capacity to store additional tailings. The dam is also being used to store excess water from the operation and is currently holding a significant volume of water on top of the tailings. The facility is fully contained within an existing open cut void and contains an unknown depth of tailings, however, the water level is 50 meters above the floor of the void.

a. What information would you obtain to help understand capping options and methods available? (20 marks)

b. List some changes that could be made to the tailings facility to help the capping process. (10 marks)
c. List the key steps and process you would go through to get to the stage where you are ready to begin actual capping activities. (20 marks)

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d. List some typical controls you might see in the capping process (10 Marks)	
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Question 2

You are the Mining Engineering Manager of a large mine site consisting of large rope face shovels, hydraulic excavators, front end loaders and a dragline doing the bulk earthmoving activities. There have been several incidents in recent years where highwalls have had major slope stability failures. Most recently, you had an incident where the highwall failed and buried a hydraulic excavator beneath it while the excavator was in operation. The excavator operator was able to escape from the cab with minor cuts and bruising.

a. Was this most recent event a reportable incident and why? (10 marks)								

b. List the different types of major highwall failures and provide a brief explanation of each type. Diagrams may be used (20 marks)

Blank page for answers to Question 2b

c. List ten (10) ground conditions that could increase the risk of a major highwall failure? (10 marks)
d. List and explain ten (10) controls to reduce the risk of a major highwall failure? (20 marks)

Question 3
You have accepted the role as Mining Engineering Manager at a recently approved new open cut mine. The mine will produce approximately 8 million tonne ROM per annum. You currently have a small team developing the site's SMS which includes a technical services team consisting of a Technical services Manager, Geologist and 2 Mine Engineers. Given that it is a new operation at which no blasting has occurred, it is recommended that an assessment for elevated temperature and reactive ground be conducted.
a. Describe what reference material and other resources you could review or use for the identification and analysis for the risk? (12 Marks)

b. Describe the contents of your action plan including any recommendations identified during review of reference material and other resources for the identification and analysis for the risk? (12 Marks)
c. Reactivity screening has identified a number of the samples as being reactive after it comes into contact with nitrates describe the next steps in your action plan to manage the risks associated with reactive ground. (12 Marks)

d. Briefly outline the contents of your reactive ground blasting procedures. (12 Marks)	
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e. Given the restrictions on sleep time for blasting products briefly describe what effect this may have on the mining operation once it is in full operation (12 Marks)	
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Question 4

You are the Mining Engineering Manager (MEM) for an open cut mine, the site has just reported its second high potential near miss incident between a light vehicle and a haul truck at intersections on your site in the last seven days. Your site's traffic rules are based on NSW road rules with signage controlling traffic flow, Workers including the site's SHSR have requested a review of control measures and change to "hierarchy of control" to manage traffic flow at intersections.

a. What immediate action would you take as the Mining Engineering Manager to prevent a similar type of near miss incident from occurring at your site? (20 Marks)	
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b. How would you evaluate the two methods of traffic control? (10 Marks)
c. If you were to transition to hierarchy of control, outline how you would manage a safe transition to this method of operation. (20 Marks)

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d. How would you validate the success of the transition (10 Marks)	
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You are the Mining Engineering Manager and receive a call at shift change on Sunday afternoon from the N/S OCE that a man transport bus has rolled on a ramp on route to the crib hut. There are 16 workers on

Question 5

the bus and the driver of the bus states that several of the workers have been seriously injured and are trapped in the bus. Access to the area is restricted due to road conditions from recent wet weather.		
a. List in sequence the actions you would undertake as MEM in response to the incident. (20 Marks)		

o. You are required to engage external services to assist in recovering and managing the number of injured persons at the incident site how would you manage this. (20 Marks)

c. As the site Mining engineering manager (MEM), summarise all the immediate and foreseeable legislative requirements that are required to be complied with in relation to this incident. (20 Marks)			
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