



CANDIDATE NUMBER: EvtNot/ \_\_\_\_\_

EXAMINATION: QUARRY MANAGER

EXAMINATION PAPER: QM1 – (PART A)

**Legislation knowledge**

DATE: Wednesday 7 October 2020

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## EXAMINATION BOOKLET

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Q #			Mark	Available mark	Marked by <i>Initials</i>	Summary comments to justify
1	a	i		2		
		ii		2		
	b	i		2		
		ii		4		
	<b>Total</b>			<b>10</b>		
2	a			5		
	b			2		
	c			3		
	<b>Total</b>			<b>10</b>		
3	a			10		
	b			5		
	c			5		
	<b>Total</b>			<b>20</b>		

QM1 Legislation Knowledge 2020

Q #		Mark	Available mark	Marked by <i>Initials</i>	Summary comments to justify
4	a		10		
	b		2		
	c		2		
	d		2		
	e		4		
	<b>Total</b>		<b>20</b>		
5	a		7		
	b		2		
	c		5		
	d		6		
	<b>Total</b>		<b>20</b>		
<b>PAPER</b>	<b>TOTAL</b>		<b>80</b>		<i>Marks checked by:</i>

**(QM1)**

**QUARRY MANAGER OF MINES  
OTHER THAN UNDERGROUND MINES OR 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 2014*

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 2014*

*Explosives Act 2003*

*Explosives Regulation 2013*

*Explosives Australian Standard AS 2187*

Examinations are held in the following regions:

Kurri Kurri TAFE

**7 October 2020**

**8:50 am to 11:00 am (2hrs + 10 mins reading time)**

**QM1 (Part A) - Legislation knowledge**

Abbreviations are permitted for references to legislation e.g. Work Health and Safety Act 2011 may be abbreviated as WHSA and reference to key terms in the legislation e.g. a person conducting a business or undertaking may be abbreviated as PCBU.

10 minutes reading time is allowed prior to the start of the examination. Candidates can use a **highlighter only** to mark points of importance during the reading time but may not begin answering the questions. You must NOT use any other writing item during the reading time such as a pen.

**PLEASE NOTE:**

Include in your answers how you use your Associated Non-Technical Skills (ANTS) competencies in solving the problems i.e. by demonstrating:

- Stakeholder engagement
- Leadership
- Decision making
- Teamwork
- Communication
- Situational awareness

In answering the questions candidates should explain, in their own words, what the legislation means. In doing so candidates are expected to demonstrate an understanding of the legislation and how they would apply it if they were appointed the Quarry manager of mines other than underground mines or coal mines.

Demonstrate awareness of relevant standards, codes of practice and/or MDGs for each answer if applicable.

**All five (5) questions are to be attempted.**

**All** questions are not of equal value. The marks applicable to each part of a question will be indicated adjacent to the question.

This examination is a **closed book** examination – that is you cannot bring any reference material in to refer to the exam, such as copies of legislation. Reference material will be provided in the exam paper as applicable.

Place your identification number only, NOT your name, at the start of this paper at the commencement of the exam – that is after the reading time is over.

**To gain a pass in this examination paper, candidates must receive a pass mark of 60 %.**

# ANSWER BOOKLET

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 – General Duties relating to Work Health and Safety (10 marks)**

A) The *WHS Act 2011 Part 2 s13 -17* outlines the principles that apply to duty holders pursuant to the legislation.

i) If more than one person has a duty what must each duty holder do? (2 marks)

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ii) What must a duty holder do in relation to managing risks to health and safety? (2 marks)

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B) The *WHS Act 2011 s18* provides a definition of what is 'reasonably practicable' in ensuring health and safety.

i) What is meant by "reasonably practicable" and (2 marks)

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ii) List four (4) relevant matters that must be taken into account? (4 marks)

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**QUESTION 2 – Consultation (10 marks)**

A) The WHS(MPS)R 2014 cl 121 requires the operator of a mine to consult with workers. List 5 examples of where this is required. (5 marks)

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B) *The WHSA 2011 s 50* provides for the election of health and safety representatives (HSR). Who can request that a HSR be elected? (2 marks)

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C) When is a WHS committee required to be established? *WHSA 2011 s 75* (3 marks)

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**QUESTION 3 – Safety Management System (SMS), Principal Hazard Management Plans (PHMP's) & Principal Control Plans (PCP's) (20 marks)**

You are the Quarry Manager of a new site and as part of the start-up you need to develop and implement a Safety Management System (SMS).

A) The *WHS(MPS)R 2014 cl 14(1)* outlines the contents of a Safety Management System. List 10 things that must be contained in a SMS (**not including PHMP & PCP**) (10 marks)

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B) List the Principal Control Plans (PCP) required for a typical large hard rock quarry? (5 marks)

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C) You have identified several Principal Hazards associated with mining operations and need to develop and implement a Principal Hazard Management Plan (PHMP) for each hazard.

*WHS(MPS)R 2014 cl 24 (2) & (3)* sets out what must be contained in a PHMP? List 5 of these items? (5 marks)

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**QUESTION 4 – Emergency Plan (20 marks)**

A) The *WHSR 2017 cl 43* and the *WHS(MPS)R 2014 cl 88* detail the requirements for the preparation of an emergency plan. There is also a requirement to include all matters specified in *schedule 7 of WHS(MPS)R 2014*.

List ten (10) items that are prescribed by the legislation to be included in an emergency plan. (10 marks)

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B) *WHS(MPS)R 2014 cl 93* details the testing requirements of an emergency plan, when should this occur? (2 marks)

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C) After notifying the Resources Regulator, the site of a notifiable incident remains preserved until either one of two things occur, what are they? *WHS(MPS)A 2013 s 17* (2 marks)

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D) The *WHS(MPS)A 2013 s 17* allows an incident scene to be disturbed for the purpose of what? Give two occasions. (2 marks)

a)

i

ii

E) You are completing a review of your emergency plan as a result of introducing a large gas storage facility on site. In your own words list the top four (4) considerations when reviewing the plan and what changes you might make. (4 marks)

**QUESTION 5 – Incident notification, Mine Record, Notices (20 Marks)**

A) The WHS(MPS)R 2014 prescribes the types of injuries, illness and incidents that are notifiable to the Regulator.

For the purpose of this question, consider whether the scenario is reportable and if 'yes', pursuant to which clause; (7 marks) (1 mark each)

- (A) Clause 178 Serious injury or illness
- (B) Clause 179 Dangerous Incident
- (C) Clause 128 (1) (a) Medical Treatment
- (D) Clause 128 (1) (b) High Potential Incident
- (E) Not notifiable

Circle the correct answer

i) A misfire of an explosive that cannot be refired safely. (A) (B) (C) (D) (E)

ii) A worker receives a laceration to her hand, she sees a doctor, has the wound sutured and returns to work.

(A) (B) (C) (D) (E)

iii) A supervisor observes a sizeable boulder on the main haul road during a morning inspection. The site works day shift only and no one was on site when it occurred.

(A) (B) (C) (D) (E)

iv) Two environmental consultants overturn a dual cab at slow speed, neither sustain any injuries and both can get out of the vehicle easily.

(A) (B) (C) (D) (E)

v) A contract truck driver jams his head in the tailgate of his truck and has minor concussion. He is admitted to hospital overnight for observation and is released the next morning.

(A) (B) (C) (D) (E)

vi) Two fitters are doing a screen change when a chain block fails and a screen falls landing in their work area, no one is hurt.

(A) (B) (C) (D) (E)

vii) A boilermaker receives an electric shock from a stick welder and the welder operates at 60 volts AC.

(A) (B) (C) (D) (E)

B) For the purpose of s 14(c) *WHS(MPS)A 2013 clause 179* of the *WHS(MPS)R 2014* prescribes those incidents that are dangerous incidents.

To be a prescribed dangerous incident it must satisfy the requirements of *WHS(MPS)R 2014 cl 179 (a)* in relation to exposure?

What is the exposure requirement? (2 marks)

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C) The operator of a mine site must keep a record (mine record) for the site *WHS(MPS)R 2014 cl133*. List 5 things the record must contain. (5 marks)

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D) Under what section (with reference to the legislation) and circumstance (legislative reason) may an inspector serve the following notices. (6 marks)

- a) A notice of concern (2 marks)
- b) An improvement notice (2 marks)
- c) A prohibition notice (2 marks)

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**END OF QUESTIONS**

**END OF PAPER**





CANDIDATE NUMBER:

EvtNot/ \_\_\_\_\_

EXAMINATION:

QUARRY MANGER

EXAMINATION PAPER:

QM2 – (PART B)

**Legislation application**

DATE:

Wednesday 7 October 2020

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## EXAMINATION BOOKLET

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Q #		Mark	Available mark	Marked by <i>Initials</i>	Summary comments to justify
1	a	i	2		
		ii	1		
		iii	2		
		iv	2		
		v	1		
		vi	4		
	b		8		
	<b>Total</b>			<b>20</b>	
2	a		4		
	b		8		
	c		8		
	<b>Total</b>			<b>20</b>	

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3	a			4		
	b			4		
	c			4		
	d			4		
	e			4		
	<b>Total</b>			<b>20</b>		
4	a			5		
	b			5		
	c			5		
	d			5		
	<b>Total</b>			<b>20</b>		
<b>PAPER</b>	<b>TOTAL</b>			<b>80</b>		<i>Marks checked by:</i>

**(QM2)**

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OTHER THAN UNDERGROUND MINES OR COAL MINES**

**EXAMINATION FOR CERTIFICATE OF COMPETENCE**

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*Explosives Regulation 2013*

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Examinations are held in the following regions:

Kurri Kurri TAFE

**7 October 2020**

**12:05 pm to 2:15 pm (2hrs + 10 mins reading time)**

**QM2 (Part B) – Legislation Application**

**INSTRUCTIONS TO CANDIDATES**

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**QUESTION 1 – Health Monitoring & Dust Management (20 marks)**

A) *Part 7.1 Division 6 of the WHSR 2017* sets out requirements for providing 'health monitoring' to workers. In your own words:

i) Who must a PCBU provide health monitoring to at a mine and why? *cl 368* (2 marks)

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ii) Which part of the legislation specifies the type of health monitoring to be provided? *cl 370* (1 mark)

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iii) What must the PCBU do with the health monitoring report after receiving it and when? *cl 375* (2 marks)

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iv) The PCBU has an obligation to provide a copy of the health monitoring report to the Regulator, when & why? *cl 376* (2 marks)

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v) Health monitoring records are required to be kept for what period? *cl 378* (1 mark) (circle the correct answer)

- a) 7 years
- b) 14 years
- c) 21 years
- d) 30 years

vi) *Schedule 2 of the WHS(MPS)R 2014* lists the matters that must be addressed (included) in a Health Control Plan. In your own words list four (4) of these matters (4 marks)

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B) You are the Quarry Manager at a large hard rock quarry producing aggregate for use in concrete production from a granite deposit. You have recently engaged an occupational hygienist to conduct personal dust monitoring at your operation. The diagram below is a cut down version of the hygienist's report highlighting the results for 3 out of the 15 workers who participated.

Name	Work task	Respirable Crystalline Silica mg/m <sup>3</sup> – 8hr TWA	Respirable dust mg/m <sup>3</sup> – 8hr TWA	Inhalable Dust mg/m <sup>3</sup> – 8hr TWA
Fitter 1	Screen changes 4hrs, replace conveyor drive motor 4 hrs	0.078	0.198	8.89
Fitter 2	Screen changes 4hrs, replace conveyor drive motor 4 hrs	0.065	0.205	9.24
Operator 1	Fixed plant cleaning 5hrs, plant inspections 3 hrs.	0.124	0.256	11.34





**QUESTION 2 – Workplace Inspections & Principal Hazard Management Plan (20 marks)**

Regular inspections of the work environment are required at all mines.

A) What are four (4) matters that the mine operator must take into account when making arrangements for inspections? *WHS(MPS)R 2014 cl 37 (2)* (4 marks)

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B) You are the Quarry Manager of a site that is entering a major expansion phase. The expansion is going to include the design and development of a multi bench overburden stockpile, which will work on day shift and afternoon shift, (*see photo below*).



*Schedule 1 of the WHS(MPS)R 2014* requires a PHMP for Ground and Strata to consider the design, layout, operation, construction and maintenance of any dump, stockpile or emplacement area at the mine, including any open cut dumps or stockpiles.

a) Outline eight (8) design principles you will implement to ensure the stockpile (dump) is constructed in a safe manner (8 marks)



QM2 Legislation Application 2020

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**QUESTION 3 – Community Impacts – Leadership (20 marks)**

You are a newly appointed Quarry Manager at a large open cut mine, which uses drill and blast techniques, a fleet of dump trucks and has a fixed crushing and screening plant that works 24/7.

The mine is nearby a community who have lodged in excess of 100 complaints in the past 2 years. Previous management have fallen out of favour with the community and have not been able to resolve the outstanding issues. The issues are largely operational, including dust generation and concerns relating to blasting vibration exceedances.

The Quarry’s Board has asked you to develop an action plan on what you will do to address the issues.

Against each heading below, list your top four (4) actions that you will consider in managing the situation.

**A) Initial community engagement (4 marks)**

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**B) Lowering dust emissions (4 marks)**

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C) Lowering blast vibration readings (4 marks)

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D) Ensuring compliance with your revised controls and consent conditions (4 marks)

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E) Approach with external Regulatory Authorities (4 marks)

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**QUESTION 4 – Contractor Management (20 marks)**

You are the Quarry Manager of a site that has engaged a contractor to clear, fell and mulch large quantities of trees prior to commencing stripping for a major highwall cutback.

The contract has been awarded via head office and normally your supervisor would be overseeing the introduction of the contractor to site, however she is ill and is away from work.

The contract will involve equipment comprised of a clearing dozer, excavator with a grab attachment, articulated dump truck and an industrial forestry mulcher operated by four contractor employees, (*picture below*).



The work is being carried out at the top of the quarry adjacent to the highwall where the main incoming 11 KV overhead power lines come to site.

A) Before the contractor commences work, outline how you will manage the contractor's introduction to site (5 marks)

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B) Describe the hazards associated with the clear, fell and mulching operations and controls required to manage those hazards (*reference hierarchy of controls*) (5 marks)







QM2 Legislation Application 2020

**END OF QUESTIONS**

**END OF PAPER**