

New South Wales

**Board of Surveying and Spatial Information**

# **MINING LAW ASSESSMENT**

## **MINING SURVEYING**

**Surveying and Spatial Information Act 2002**

(Mining Legislation)

Wednesday 26<sup>th</sup> September 2012

**All questions to be answered**

Duration 2 Hours

Question 1 (50 Marks)

1. Sketch the following symbols as defined in AS4368 Mine plans – preparation and symbols.
  - a. Intake Air
  - b. Stone Dust Barrier
  - c. Survey Station underground
  - d. Top of a Circular Shaft
2. List 2 circumstances a Registered Mining Surveyor would use Australian Standards?
3. Who can approve the establishment of emplacement areas under CMHS Act 2002?
4. The Coal Mine Health and Safety Act 2002 is to be read in conjunction with which other Act?
5. Who has access to the Health and Safety Management system at a coal operation, as described in the Coal Mine Health and Safety Act 2002?
6. What must happen at a coal operation **without** an emergency management system as stated in CMHS Act 2002?
7. List 2 areas defined as **hazardous zones** as stated in CMHS Regulations 2006?
8. When should the Fire Fighting Plans plans be updated as described by CMHS Regulations 2006?
9. What are the 2 steps required to designate a construction zone as stated under the CMHS Regulations 2006?
10. What are the duties of a mining surveyor as stated in CMHS Regulations 2006?
11. The CMHS Regulations 2006 requires that mine record tracings be sent to whom?
12. What is the definition of a **registered mining surveyor** as stated in CMHS Regulations 2006?
13. What are the 2 contents required to be shown on an Emergency plan as described in the Mine Health and Safety Act 2004?

14. What duties does a contractor have regarding safe work method statements before undertaking work at a mine as defined in the Mine Health and Safety Act 2004?
15. Name 2 **prescribed hazards** as defined in the MHS Regulations 2007?
16. The MHS Regulations 2007 states that an operator must ensure **what** regarding the certification of mine plans?
17. The MHS Regulations 2007 states that Escape and Rescue plans for an underground mine must be reviewed how often?
18. Where must copies of the Escape and Rescue plans be displayed?
19. What rights does a Registered Surveyor have when entering land for the purpose of carrying out a mining survey under the Surveying and Spatial Information Act 2002?
20. What is the definition of a **mining survey** as defined under the Surveying and Spatial Information Act 2002?
21. What are the 2 requirements for a Surveyor when signing and dating field notes as described in Surveying and Spatial Information Regulations 2006?
22. Verification of EDM testlines by the Surveyor General needs to be carried out how often according to SG Directions 5?
23. What procedure does the Surveyor General's Directions 11, Preservation of Survey Infrastructure, recommend for permanent marks destroyed/disturbed by mining activities?
24. Who has the authority to undertake a survey to recover the position of survey marks proposed to be destroyed under the Surveyor General's Directions 11, Preservation of Survey Infrastructure?
25. The maximum length of sight recommended in SP1 for differential levelling observations for Class LD and LE is?
26. What is the formula, and describe the constants used in SP1 for calculating the maximum allowable semi major axis in mm?
27. The calibration requirements for an EDM are as stated in SP1 are?
28. How many Sets and Arcs are required for a Class C or lower survey as described in SP1?
29. What is the definition of Class as described in SP1?

30. What is the definition of an “**endorsement**” as defined in the SDD for Mine Surveyors 2007?
31. What information has to be recorded on the label of the CD-R submitted to the Director General, as described in the SDD for Mine Surveyors 2007?
32. SDD for Mine Surveyors 2007 states that Fire Fighting Plans for UG mines should be at a scale not less than ?
33. Name 4 themes to be shown for Underground Mines (Seam Working Plans) as described in the SDD for Mine Surveyors 2007?
34. What is the definition of a Mine Services Plan, as described in SDD for Mining Surveyors?
35. Name 4 purposes that Survey Records should be kept at the survey office of a metalliferous mine?
36. Name 2 pieces of information to be shown on Void Plans in an open cut mine as described in SDD for Mining Surveyors?
37. What does a Registered Mining Surveyor at an open cut metalliferous mine declare by signing and dating the Certification of Accuracy state?

Question 2 (10 marks)

As the surveyor for an open cut mine you have been instructed to engage a contracting company to undertake some monitoring of a national highway that has been damaged by movement related to the mine.

It is proposed to establish a network of monitoring marks either side of a series of cracks that extend from the mining area across the highway and into a parcel of land not owned by the company.

Describe the planning process to ensure the surveys are completed efficiently and safely to provide the planned outcome?

Ensure all legislative requirements are considered and identify risks and provide risk mitigation measures in compliance.

Question 3 (10 marks)

You are the surveyor at an open cut coal mine which is proposing to develop an underground coal mine from one of the existing high walls.

You are to be responsible for the surveying in the new underground mine as well as the open cut.

What are the requirements and how would they be satisfied for you to be able to use your electronic total station throughout the new underground mine?

Question 4 (10 marks)

Your Company has finalised negotiations to transfer part of an existing Mining Lease to another company.

Describe the process to obtain approval under the Mining Act 1992 to facilitate the transfer and what Development Consents are required to enable the proposed transferee to undertake a mining operation in the transfer area?

Question 5 (10 marks)

Part A. (5 marks)

You are the Nominated Registered Mining Surveyor for an underground coal mine. The operator of the Mine proposes to develop workings adjacent to an abandoned Colliery last worked in the 1950's and there is suspicion about the extent of the mine workings shown on a Record Tracing.

Detail what additional research, measures or other actions you would take or recommend to the operator to ensure that safe mining occurs.

Part B. (5 marks)

EDG03 - "Guidelines to the Mining Rehabilitation and Environmental Management Process" requires Mining Operations Plans to be signed by a "surveyor or person responsible for the plan". Detail with reference to other documents and legislation, why these plans must be signed by a Registered Mining Surveyor and what endorsements you as the surveyor would place on the plan and why.



Question 6 (10 marks)

You are the surveyor at an underground coal mine which is proposing to develop into a new area of an existing lease where no surface tenure held.

The proposed area has some existing old workings which have not been correlated.

What are a registered mining surveyor's rights under the Surveying and Spatial Information Act and Regulations to enter this land, how are they exercised and what features may be surveyed?