

New South Wales

Board of Surveying and Spatial Information

MINING LAW ASSESSMENT

MINING SURVEYING

Surveying and Spatial Information Act 2002

(Mining Legislation)

Wednesday 27th February 2013

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. Deputy's Station
 - b. Survey Station Underground
 - c. Shaft (Intermediate Level)
 - d. In-Seam borehole
2. AS4368 Mine Plans – Preparation and Symbols states that all plans shall have a grid spacing that does not exceed how many millimetres regardless of scale?
3. What system must an operator of a coal operation have in place before mining can be carried out as described in Coal Mine Health and Safety Act 2002?
4. Describe 3 things a Health and Safety Management System must provide as stated in the Coal Mine Health and Safety Act 2002?
5. What is the definition of **Inrush** as described in the Coal Mine Health and Safety Regulations 2006?
6. What are the **duties of mining surveyor** as stated in Coal Mine Health and Safety Regulations 2006?
7. Where must **Escape and Rescue plans** be displayed as described by Coal Mine Health and Safety Regulations 2006?
8. The operator of a coal operation must put in place **survey and plan arrangements** to ensure up to date surveys and plans are prepared and retained on site. Regarding **retention of plans** what **must** these arrangements cater for as described by Coal Mine Health and Safety Regulations 2006?
9. Who has access to the Mine Safety Management Plan under the Mine Health and Safety Act 2007?
10. What 2 points are covered in **Contents of emergency plan** as stated in Mine Health and Safety Act 2007?

11. What is the definition of a **formal mining survey plan** as defined under the Surveying and Spatial Information Act 2002?
12. Describe **entry to land for survey purposes** for **Registered Surveyors** as stated in the Surveying and Spatial Information Act 2002?
13. What is the definition of a **mining survey** as defined under the Surveying and Spatial Information Act 2002?
14. What are 3 actions that the board take regarding **professional incompetence** as stated in Surveying and Spatial Information Act 2002?
15. What are the 2 requirements for continuing professional development stated in Surveying and Spatial Information Regulations 2006?
16. What are the 3 inherent systematic errors EDM instruments have as stated in Surveyor General's Direction No.5, Verification of Distance Measuring Equipment?
17. What is the minimum number of individual slope distances that should be measured to the same single reflector during verification of an EDM on a Testline check?
18. What is the definition of **Verification** and **Calibration** as described in Surveyor General's Direction No.5, Verification of Distance Measuring Equipment?
19. List 4 plans to accompany a MOP in accordance the Departments Guideline to the Mining, Rehabilitation and Environmental Management Process as stated in EDG03.
20. What 4 plans are to accompany an AEMR in accordance the Departments Guideline to the Mining, Rehabilitation and Environmental Management Process EDG03?
21. On a MOP, what is the recommended contour interval for open cut coalmine as stated in EDG03?
22. Name the 3 main file types that make up an ESRI shapefile?
23. What format must a Metadata statement be in, and the filename must indicate what 3 things?
24. What file format must all Mine Working Digital themes be submitted to the Director General in?

25. What information must be recorded on the label of the CD-R with a permanent marking pen as described in the new Survey and Drafting Directions for Mine Surveyors 2013?
26. Under the new Survey and Drafting Directions for Mine Surveyors 2013 what is the reporting period for the supply of the Mine Workings Spatial information to the Director General as a digital file?
27. What does a surveyor declare by signing and dating of field notes as described in Survey and Drafting Directions for Mine Surveyors 2013?
28. What is the definition of **certification** as described in Survey and Drafting Directions for Mine Surveyor 2013?
29. To what scale should Seam Working Sheets and Void Sheets be compiled at as described in Survey and Drafting Directions for Mine Surveyor 2013?
30. Name the 3 themes to be shown for Open Cut Mines (Void Plans) as described in the Survey and Drafting Directions for Mine Surveyors 2013?
31. What is the definition of a Subsidiary Survey as defined in Survey and Drafting Directions for Mining Surveyors 2008?
32. Name 4 themes to be shown on **level working plans** for underground mines as stated in Survey and Drafting Directions for Mining Surveyors 2008?
33. To what scale should an Escape and Rescue plans be compiled at and how often should they be reviewed as stated in Survey and Drafting Directions for Mining Surveyors 2008?
34. What does a Registered Mining Surveyor at a metalliferous operation declare by signing and dating the CD-R?

35. What is the file naming convention to be used on a Mine Working Outline as stated in Survey and Drafting Directions for Mining Surveyors 2008?

Question 2 (10 marks)

As the surveyor for an open cut mine you have been instructed to prepare applications to create a new emplacement area in a disused section of the open cut void and cease using an existing approved emplacement area.

Describe the process and what should be included in these applications.

Question 3 (10 marks)

As the surveyor for mine you have been instructed to check the alignment and levels of a rotary breaking station for a coal handling and preparation plant.

The work is planned to take place on a weekend shut down and use existing staff members.

Describe the planning process to ensure the survey is carried out in a safe and efficient manner for the proposed checks.

What legislative requirements must be considered and addressed to cover the risks involved?

Question 4 (10 Marks)

Section 164 of the Mining Act 1992 provides for the holder of an Authority to have access to the Authority by a Right of Way.

Regulation 37 of the Mining Regulation details how the Right of Way is to be identified.

List the requirements to mark a Right of Way and the process to resolve any dispute that may arise as to the exercise of the Right of Way.

Question 5 (10 Marks)

You are the surveyor at an open cut gold mine which is planning to extend an out of pit dump over an existing Class B permanent mark.

The company has given a commitment to establish a new mark in an area to be unaffected by mining.

Detail the process to destroy and replace the permanent mark and the survey techniques to be used.

Question 6 (10 Marks)

Part A) Historical Research

The mining company that you work for is planning on developing its open cut operation towards an area that is suspected of being mined by underground methods in excess of 50 years ago.

Outline what steps you would take to discover what workings exist and ensure that their extents are accurately and reliably mapped.

Part B) MHS Regulation

The operator of a Metalliferous Mine must ensure that an up-to-date mine plan for the mine is prepared and retained at the mine.

Outline who can prepare such a plan and generally what features must the mine plan include.