

New South Wales

Board of Surveying and Spatial Information

MINING LAW ASSESSMENT

MINING SURVEYING

Surveying and Spatial Information Act 2002

(Mining Legislation)

Wednesday 24th February 2016

All questions to be answered

Duration 2 Hours

Pass Mark of 60% Required

1. As stated in the Work Health and Safety (Mines) Act 2013 what is the definition of a “*notifiable incident*”?
2. What is the meaning of “*mine*” as described in the Work Health and Safety (Mines) Act 2013 and what does it include?”?
3. What is the meaning of “*mining operation*” as described in the Work Health and Safety (Mines) Act 2013 and what does it include?”?
4. Name four mines where a survey plan is required as stated in the Work Health and Safety (Mines) Regulation 2014.
5. When must the mine operator review and as necessary revise the mine survey plan as stated in the Work Health and Safety (Mines) Regulation 2014?
6. What is the requirement and statutory function of the nominated mine surveyor as stated in the Work Health and Safety (Mines) Regulation 2014?
7. What is the definition of “***barrier mining***” as described in the Work Health and Safety (Mines) Regulation 2014?
8. What are the 2 datum’s must a mine survey plan reference as described in the Work Health and Safety (Mines) Regulation 2014?
9. What is the definition of a ***formal mining survey plan*** as defined in the Surveying and Spatial Information Act 2002?
10. The Surveying and Spatial Information Act 2002, defines ***spatial information*** as any information about a location in space and time for particular areas of interest; Name 3 of these?
11. What is the definition of ***surveyor’s assistant*** as described in the Surveying and Spatial Information Regulation 2012?
12. What is the definition of ***MGA*** as described in the Surveying and Spatial Information Regulation 2012?
13. Surveyor General’s Directions No.5 states that EDM instruments have 3 inherent systematic errors. What are they?
14. When must a surveyor verify any GNSS equipment as described in Surveyor General’s Direction No.5?
15. Surveyor General’s Direction No.11 states what procedure should be followed when permanent marks are disturbed/destroyed by mining activities?

16. What is the definition of **Endorsement** as described in the Survey and Drafting Directions for Mine Surveyors 2015?
17. What is the definition of **First Workings** as described in the Survey and Drafting Directions for Mine Surveyors 2015?
18. What is the positional accuracy required for a secondary survey when shown on a plan scaled at 1:500 as stated in the Survey and Drafting Directions for Mine Surveyors 2015?
19. Name 5 types of surveys that survey records shall be kept at a survey office as described in the Survey and Drafting Directions for Mine Surveyors 2015.
20. Disregarding clarity what is the reduction scale required for Seam Working, Void and Level Working Sheets as described the Survey and Drafting Directions for Mine Surveyors 2015?
21. By including the administration sheet what is the Nominated Mining Surveyor declaring as stated in the Survey and Drafting Directions for Mine Surveyors 2015?
22. What are the 4 files to be included in the certified copy of the Mine Survey Plan supplied as digital files on the CD-R as stated in the Survey and Drafting Directions for Mine Surveyors 2015?
23. What are the requirements for the preparation of Mine Working Spatial Information as described in the Survey and Drafting Directions for Mine Surveyors 2015?
24. What relationship needs to be shown on a letter of datum reference as described in the Survey and Drafting Directions for Mine Surveyors 2015?
25. A correlation between surface and underground surveys shall be consistent with what class as described in the Survey and Drafting Directions for Mine Surveyors 2015?
26. Name 3 digital themes that can be included on a Mine Survey Plan as described in the Survey and Drafting Directions for Mine Surveyors 2015.
27. With reference to ESG3 what is the difference between a Level 1 mine and a Level 2 mine?
28. With reference to ESG3 define relinquished lands.
29. With reference to ESG3 what information should be shown on Plan 2, Mine Domains at the commencement of MOP for a Level 2 mine?

30. With reference to ESG3 name 2 Primary Domains for a Level 1 mine.

Question 2 (10 Marks)

You are the Nominated Mine Surveyor for a modern UG coal mine and have been tasked with supervising contract surveyors working to install a transfer point, drive head and loop take-up for a new gateroad panel.

The area where the work will be carried out requires survey marks to be placed at heights greater than 3m as well as into the rib lines and floor.

Describe the planning process to ensure the surveys are carried out in a safe and efficient manner.

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

Question 3 (10 Marks)

Describe the process to obtain approval and transfer of part of a mining lease granted under the Mining Act 1992 to another company.

List and provide detail for all consents that would be required to enable the transfer to proceed.

Provide plan detail including departmental restrictions that would be required to accompany the proposed transfer application.

Question 4 (10 Marks)

You are the nominated surveyor for a small open cut coal mine that is looking to establish an emplacement area in an old mine void located within the mining lease area.

The proposal is to include buried services to provide power for decant water to be returned for reuse.

Detail the required application and the information to be recorded to comply with AS5488-2013(SUI)

Question 5 (10 Marks)

You are the Nominated Mining Surveyor for an open cut coal mine, where planning is underway to expand the Mine towards an area where a known but abandoned underground board and pillar coal mine operated.

The planned expansion is to initially operate in the same seam as the abandoned mine and then later, lower unmined seams.

Detail what archival research you would carry out and how you would verify the accuracy and extent of the workings depicted on various sources of information obtained.

Where a survey may be required on land not owned or under the control of the mining company detail who can enter the land, what can be surveyed and in which manner can entry be gained with reference to the Surveying and Spatial Information Act 2002.

Question 6 (10 Marks)

You are the nominated surveyor of an underground gold mine.

Detail the survey requirements for Control Surveys performed underground to be compliant to ICSM SP1 version 1.7

As well as general requirements our answer should include:

- Observation requirements including tolerances
- Equipment calibration requirements