

New South Wales

Board of Surveying and Spatial Information

MINING LAW ASSESSMENT

MINING SURVEYING

Surveying and Spatial Information Act 2002

(Mining Legislation)

Wednesday 20th February 2019

All questions to be answered

Duration 2 Hours

Pass Mark of 60% Required

1. As defined in AS 4368, what is the recommended maximum grid spacing on a plan regardless of scale?
2. As defined in AS 4368, what is the conventional colour to be used for power cables between 220 and 600 V?
3. As defined in AS 4368, sketch the symbol for a surface magazine.
4. As defined in AS 4368, sketch the symbol for a filled stope.
5. As defined in AS 4368, sketch the symbol for a fire seal.
6. As described in the Work Health and Safety (Mines and Petroleum Sites) Act 2013, what are 3 objects of the act?
7. As described in the Work Health and Safety (Mines and Petroleum Sites) Act 2013, what is the meaning of "mine"?
8. As described in the Work Health and Safety (Mines and Petroleum Sites) Act 2013, what is the meaning of "mine operator"?
9. With reference to the Work Health and Safety (Mines and Petroleum Sites) Regulation 2014, a mine survey plan is required for what mines?
10. With reference to the Work Health and Safety (Mines and Petroleum Sites) Regulation 2014, what are the requirements for the inspection of the mine survey plan?
11. With reference to the Work Health and Safety (Mines and Petroleum Sites) Regulation 2014, when is the survey plan to be provided to the regulator?
12. With reference to the State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007, name 4 types of development that are permissible without development consent.
13. With reference to the State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007, what are 4 examples of exempt development?
14. With reference to the State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007, define mining.
15. With reference to the Mining Act 1992, when can an application to renew a mining lease be lodged?
16. With reference to the Mining Act 1992, what are the requirements for registered subleases that authorise the holder to mine coal or to carry out ancillary mining activities being recorded on the register for a colliery holding?

17. With reference to the Mining Act 1992, what land may a consolidated mining lease be granted over?
18. With reference to the Mining Regulation 2016, what is the meaning of a marker post?
19. With reference to the Mining Regulation 2016, what is the spacing requirement for marker posts used in defining a right of way?
20. As described in the Surveying and Spatial Information Regulation 2017, a person is eligible to be registered as a surveyor if the person meets what 4 requirements?
21. As described in the Surveying and Spatial Information Regulation 2017, who may give directions with respect to the conduct of mining surveys, by order published in the Gazette?
22. As described in ICSM SP1 v1.7, when making horizontal angle measurements, residuals from mean of any direction within each set, should seldom and never exceed how many seconds, for class D surveys?.
23. With reference to the Surveying and Spatial Information Act 2002, what can a Registered Surveyor do in regards to entry to land for survey purposes?
24. With reference to the Surveying and Spatial Information Act 2002, what is the definition of a mining survey?
25. With reference to the Surveying and Spatial Information Act 2002, what is the definition of a land survey?
26. With reference to the Survey and Drafting Directions for Mine Surveyors 2015 (NSW Mines), define metadata.
27. With reference to the Survey and Drafting Directions for Mine Surveyors 2015 (NSW Mines), attributes are database fields attached to Mine Working Digital Themes. Name 2 core attributes.
28. With reference to the Survey and Drafting Directions for Mine Surveyors 2015 (NSW Mines), name 2 metadata attributes.
29. With reference to the Survey and Drafting Directions for Mine Surveyors 2015 (NSW Mines), what is the definition of a 'supervision'?
30. With reference to the Survey and Drafting Directions for Mine Surveyors 2015 (NSW Mines), what is the definition of a 'secondary survey'?
31. With reference to the Survey and Drafting Directions for Mine Surveyors 2015 (NSW Mines), correlation between surface and underground surveys shall be consistent with what class of survey, as prescribed in ICSM (2007) SP1?

32. With reference to the Survey and Drafting Directions for Mine Surveyors 2015 (NSW Mines), by signing and dating the CD-R containing the copy of the Mine Survey Plan, what is the Nominated Mining Surveyor declaring?

Question 2 (10 Marks)

You are sole trader specialising in laser scanning for engineering works and have been engaged by a large multi-disciplined survey company to assist with a project to provide a highly detailed point cloud model for the design of an acoustic wall at a coal handling and preparation plant for a mining company.

The plant will be operational on the day the survey is to be undertaken.

Detail the steps and processes that would enable you to go to site and complete the work.

Question 3 (10 Marks)

You have been employed as the Registered Mine Surveyor for a brand new open cut coal mine. The mining lease covers an area which has existing underground workings in one particular seam from the 1930's which are going to be mined through using open cut truck and shovel methods. You are required to carry out archival research to locate the position of all existing workings.

Detail the method and steps required to confirm the location of the existing underground workings and any other workings that surround the proposed mining lease. (5 marks)

An abandoned underground coal mine has been closed for 10 years and due to an increase in the price of coal your company has decided to re-open the mine and appoint you as the Registered Mine Surveyor.

In regards to the Work Health and Safety (Mines and Petroleum Sites) Regulation 2014, outline the duties of a Registered Mine Surveyor. Your answer should include all survey and mine plans required and any other relevant information as outlined in 'Part 5' of the Work Health and Safety (Mines and Petroleum Sites) Regulation 2014. (5 marks)

Question 4 (10 Marks)

Q4a (2.5 marks)

A mineral sand operation is establishing survey control for a long narrow resource within their mining lease. Detail how access to several high class Permanent Survey Marks (SCIMS marks), which exist adjacent to the site on private property, may be gained under the Surveying and Spatial Information Act 2002.

Q4b (7.5 marks)

For the same operation outlined above, detail with reference to ICSM (2007) SP1 (version 1.7), how you (as the Nominated Mining Surveyor) would plan and carry out the survey to achieve Class "D" as a minimum.

Question 5 (10 Marks)

Part A

You are the Nominated Mining Surveyor at an Underground Coal Mine, approaching retirement. Discuss the process and obligations around charting cessation of duties.

Part B

You are the newly appointed Nominated Mining Surveyor at an Underground Coal Mine.

You have been provided with a Robotic Total Station that has just been serviced.

Discuss what you might do in order to use this instrument for surveys to complete your Mine Survey Plan, mentioning how this process has addressed common errors and corrections associated with electronic distance measuring equipment.

Question 6 (10 Marks)

You are a contract registered surveyor for a small open cut mining operation.

The operation is struggling for water and is looking for any sources available.

They have informed you of some old UG workings that exist outside of their current Mining Lease but on land owned by the mining company, which may be flooded.

Explain some of the major points to be investigated in relation to this source of water.

What would be required by the company to be able to explore and extract water from these workings?