

New South Wales

Board of Surveying and Spatial Information

MINING LAW ASSESSMENT

MINING SURVEYING

Surveying and Spatial Information Act 2002

(Mining Legislation)

Wednesday 15th February 2017

All questions to be answered

Duration 2 Hours

Pass Mark of 60% Required

1. As stated in AS4368 Mine Plans – Preparation and Symbols what is the conventional colour for an underground barrier pillar?
2. Sketch the symbol for each of the features described below, as defined in AS4368 Mine Plans – Preparation and Symbols.
 - a. In seam borehole
 - b. Surface magazine
 - c. Telephone
 - d. Survey station – surface
3. In the work Health and Safety (Mines and Petroleum) Act 2013, what are the 3 incidents describes as a notifiable incident?
4. What is the meaning of “mine operator” as described in the Work Health and Safety (Mines and Petroleum) Act 2013?
5. What is the definition of “extraction site” as described in WHS (Mines and Petroleum) Regulation 2014?
6. Name 2 areas described as “hazardous zone” in an underground coal mine as stated in the WHS (Mines and Petroleum) Regulation 2014?
7. Name 4 principal mining hazards as stated in the WHS (Mines and Petroleum) Regulation 2014?
8. Name 6 features a Mine survey plan must show (if present at the mine) as stated in the WHS (Mines and Petroleum) Regulation 2014?
9. What is the statutory function and requirement for nomination to exercise that statutory function of a Mining Surveyor as stated in the WHS (Mines and Petroleum) Regulation 2014?
10. What is the definition of a “mining survey” as described in Surveying and Spatial Information Act 2002?
11. What are the 4 points as described in the Surveying and Spatial Information Act 2002 in relation to entry to land for survey purposes?
12. What is the maximum term of a MOP as described in ESG3?
13. What is the name of and features shown in Plan 1A for a Level 1 Mine as described in ESG3?
14. What is the name of and features shown in Plan 1B for a Level 1 Mine as described in ESG3?
15. SP1 describes CLASS as a function of the planned and achieved precision of a survey network and is dependent on what 4 components?

16. What is the “range of fine readings” for Class D as specified for EDM observations in SP1?
17. To what estimate should temperature and pressure readings be taken for EDM observations as described in SP1 for Class D?
18. What are the calibration requirements for an EDM as described in SP1?
19. Name 1 (2D) and 4 (3D) digital themes to be supplied for an open cut coal mine?
20. Name 2 core attribute themes required for both coal and metalliferous mine spatial submission?
21. Name 2 of the attribute categories and give 1 example of each required in a digital theme submission?
22. What is the liability of a Nominated mining Surveyor as described in S&DD for Mine Surveyors (2015)?
23. What is the definition of “mine working spatial information” as described in S&DD for Mine Surveyors (2015)?
24. What is the minimum length of a mine baseline, as described in S&DD for Mine Surveyors (2015)?
25. To what class should each end be assigned for AHD Reduced Level (spirit, Trigonometrical or GNSS) as described in S&DD for Mine Surveyors (2015)?
26. What is the required positional accuracy for a secondary survey to locate mine workings at scale 1:2000 as described in S&DD for Mine Surveyors (2015)?
27. What is the nominated mining surveyor declaring by signing and dating the CD containing copies of the mine survey plan as described in S&DD for Mine Surveyors (2015)?
28. What are the digital 4 files to be included on the CD-R as described in S&DD for Mine Surveyors (2015)?
29. Give a description of what is contained in a “Metadata statement” and in what format it must be in as described in S&DD for Mine Surveyors (2015)?
30. Give a description of what is contained in the “Administration Sheet and in what format it must be in as described in S&DD for Mine Surveyors (2015)?

Question 2 (10 Marks)

You are the owner of a small contract Mine Surveying business that has just been engaged to perform a laser scan of an existing conveyor system transfer point and the roadways surrounding it, for an underground coal mine.

Detail the steps that you would take before commencing work onsite and also during the performance of your work, to ensure that you meet your obligations with regard to Work Health & Safety Act 2011 and Work Health & Safety Regulation 2011, both as an employer (PCBU) and as a worker.

Question 3 (10 Marks)

You are the Nominated Mine Surveyor for an underground coal mine.

The mine has recently been granted a Development Consent modification to augment an existing tailings emplacement area.

On further investigation it has become apparent that part of the augmentation will see tailings deposited in an area of an existing mining lease with a surface exemption.

Detail the steps necessary and the information to be provided to address the lease issue.

Your answer is not required to address the High Risk Activity application.

Question 4 (10 Marks)

Define which of the following activities require a Consent or Approval and provide explanation why or why not a Consent or Approval is required:-

- Mining Lease.
- Mining Purposes Lease.
- Exploration Lease.
- Monitoring of weather, noise, air, groundwater or subsidence associated with mining activities.
- Inclusion of freehold land into mine holding.
- Part Transfer of Mining Lease to another company.
- Sinking of a new shaft on an existing mining lease.
- Drilling of gas boreholes on private land.
- Longwall extraction.
- Installation of pipeline in council road reserve.

Question 5 (10 Marks)

You have been contracted as the mine surveyor on a proposed Open Cut Coal Mine project team.

You have been instructed by your employer to investigate and determine the limits of the abandoned underground workings, from closed operations that bound the project mining lease, to enable the proposed mine viability to be determined.

All of the abandoned underground workings exist beneath lands not owned by your employer and were not operated by your employer.

Detail your considerations in regards to the:

- Steps you would undertake for the archival research project
- Any restrictions you would face within your archival research project, how you would overcome these restrictions and what current Legislation enables you to resolve these restrictions.
- Any minimum standards to be completed during your research project.

Question 6

Part A (5 Marks)

You are a Registered Mining Surveyor employed by a Mining Company on a greenfield project to establish a new underground coal mine and the company has asked you to establish a Mine Baseline for the project.

With reference to Surveyor General's Direction No. 12, detail your considerations and the requirements to have the marks which will form the Mine Baseline established in SCIMS.

Part B (5 Marks)

With reference to Intergovernmental Committee on Surveying & Mapping (ICSM), Special Publication 1 (SP1) version 1.7, detail what recommended practices should be adopted to survey the above mentioned Mine Baseline to the minimum required standard.