



DETERMINATIONS

- **Surveyor's Assistant**
- **Survey Drafter**
- **Student of Surveying**
- **Recognised Qualification**
- **Board's Examination Part B – Mining Surveying Projects**

BOARD OF SURVEYING & SPATIAL INFORMATION

February 2008

In accordance with the Surveying Regulation 2006, Division 2, 75(1), the Board makes the following Determinations:

1. Surveyor's Assistant

Under the Surveying Act 2002 and the Surveying Regulation 2006, a **Surveyor's Assistant** means a person:

- (a) enrolled in a course of studies leading towards a "Recognised Qualification" as determined by the Board and who has three years' practical experience in mining surveying acceptable to the Board, or
- (b) is the holder of a technical qualification in land surveying acceptable by the Board and who has four years' practical experience acceptable to the Board in mining surveying since completion of that course of study, or
- (c) who has at least 10 years' practical experience in surveying acceptable to the Board.

All of whom carry out mining surveys under the general supervision of a NSW Registered Mining Surveyor who takes responsibility for their work.

2. Survey Drafter

A **Survey Drafter** means a person who is enrolled in a course of studies that leads to a recognised qualification as determined by the Board. (This is the same definition as Surveying Regulation 2006.)

3. Student of Surveying

A **Student of Surveying** means a person who is enrolled in a course of studies that leads to a recognised qualification as determined by the Board.

**4. Recognised Qualifications
Part B – Mining Surveyors**

A **recognised qualification** is a four year University degree equivalent to the Bachelor of Surveying at The University of Newcastle or the Bachelor of Engineering in Surveying & Spatial Information Systems at The University of New South Wales or a three year surveying University degree with specialist mine surveying components acceptable to the Board.

For the purpose of a "recognised qualification" such a degree program must be accepted by the Board of Surveying and Spatial Information from time to time.

5. Determination of the Board – Board’s Examination – Part B – Mining Surveying - Projects

1 Enrolment as a Candidate

- (1) A person is entitled to be enrolled as a Candidate for the purpose of obtaining a Certificate of Competency if the person:
- (a) is enrolled in a course of studies leading towards a recognised qualification, and has completed 50% of the units specified for achieving that recognised qualification, or equivalent, or
 - (b) is the holder of a recognised qualification, and
 - (c) is supervised by a NSW Registered Mining Surveyor.
- (2) An application for enrolment as a Candidate must:
- (a) be in writing, and
 - (b) be accompanied by evidence that the applicant is entitled to be so enrolled, and
 - (c) be accompanied by the appropriate fee, and
 - (d) be lodged with the Board.
- (3) If the Board is satisfied that an applicant for enrolment as a Candidate is entitled to be so enrolled, the Registrar must enrol the applicant as a Candidate.
- (4) A Candidate must before the month of July in each year pay to the Registrar the annual enrolment fee.
- (5) If a Candidate fails to pay the annual enrolment fee before or in the month of July in any year, the Board may remove the Candidate's name from the roll of Candidates.

2 Entitlement to certificate of competency

- (1) A certificate of competency may be limited by a condition restricting a person to the conduct of mining surveys in relation to Open Cut mines. A person is entitled to be granted a certificate of competency if the person:
- (a) is the holder of a recognised qualification, and
 - (b) is a Candidate, and
 - (c) obtains the required practical experience, and
 - (d) passes the prescribed examinations
- (2) A certificate of competency is to be in the approved form and is to be given under the seal of the Board.

3 Candidate practical experience

- (1) A candidate will obtain the required practical experience if the Board determines, in accordance with this paragraph, that:
 - (a) the person has been employed as a Candidate for a period of, or for periods totalling, not less than 104 working weeks, and
 - (b) while so employed the person has obtained practical experience (under the supervision of registered mining surveyor/s) in the conduct of mining surveys for a period of, or for periods totalling, not less than 104 working weeks.

Note: *A Candidate requires the equivalent of at least 3 years full-time employment during the 5-year period immediately preceding to be eligible for registration as a mining surveyor.*

- (2) For the purpose of making a determination under this paragraph about a person, the Board:
 - (a) must take into account any determination made by it under paragraph 8(1) about the person, and
 - (b) may take into account any practical experience in surveying obtained by the person:
 - (i) whether that experience has been obtained in New South Wales or elsewhere, and
 - (ii) whether or not that experience has been obtained while the person has been enrolled as a Candidate.

4 Entitlement to sit for examination

A person is entitled to sit for the examination if the person:

- (a) is enrolled with the Board as a Candidate, and
- (b) has satisfactorily completed a recognised qualification or equivalent, and
- (c) has obtained at least 104 working weeks of recognised practical experience together with the specific requirements for each particular examination.

5 Application to sit for examination

- (1) An application to sit for the prescribed examination must:
 - (a) be in writing, and

- (b) be accompanied by:
 - (i) evidence that the Candidate has satisfactorily completed a recognised qualification, or equivalent, and
 - (ii) evidence that the Candidate has obtained at least 104 working weeks of recognised practical experience, and/or any specific requirements for a particular examination, and
 - (iii) the fee prescribed in Schedule 6 of the Regulation, and
- (c) be lodged with the Board on or before the closing date specified for applications to sit for the examination.

6 Determination of application to sit for examination

- (1) If the Board is satisfied that a Candidate is entitled to sit for the prescribed examination, the Board:
 - (a) must permit the Candidate to sit for the examination, and
 - (b) must cause the Candidate to be given written notice, in person or by post, of that fact, and
 - (c) must specify in that notice a date for the conduct of the examination on which the Candidate must present the applicant's approved projects to the Board.
- (2) If the Board is not satisfied that a Candidate is entitled to sit for the prescribed examination, the Board:
 - (a) must not permit the Candidate to sit for the examination, and
 - (b) must cause the Candidate to be given written notice, in person or by post, of that fact, and
 - (c) must cause any fee paid by the Candidate under paragraph 5 (1) (b) (iii) to be refunded.
- (3) If a Candidate gives written notice to the Board that the Candidate intends to withdraw from the prescribed examination, the Board may cause any fee paid by the Candidate under paragraph 5 (1) (b) (iii) to be refunded.

7 Candidate to give notice of Recognised Practical Experience

- (1) A Candidate must, not later than 3 months after the expiration of:
 - (a) the period of 12 months immediately following the enrolment as a Candidate, and

(b) each subsequent period of 12 months,

furnish to the Board a notice that specifies the practical experience in surveying obtained by the Candidate during the period concerned.

(2) A notice referred to in this paragraph must:

(a) be in the approved form, and

(b) be duly signed by:

(i) the Candidate furnishing the notice, and

(ii) the NSW Registered Mining Surveyor under whose supervision the Candidate has obtained the practical experience specified in the notice,

in accordance with the directions (if any) appearing on the form.

8 Annual determinations of Recognised Practical Experience obtained by a Candidate

(1) On receipt from a Candidate of a notice referred to in paragraph 7, the Board must, in respect of the period of 12 months to which the notice relates, determine the following matters:

(a) the length of time for which it is satisfied that the Candidate has, during that period, obtained recognised practical experience in the various examination areas,

(2) For the purpose of making a determination under this paragraph about a Candidate, the Board:

(a) may ignore any single period of practical experience of less than 4 weeks' duration, and

(3) If the Board makes a determination under this paragraph about a Candidate, the Registrar must cause the Candidate to be given notice, personally or by post, of the Board's determination.

(4) A notice referred to in this paragraph must be in the approved form.

9 Prescribed examination

The prescribed examination for a Candidate will include the following:

(a) completion of the approved Projects, wherein the work displayed must comply with current legislation

- (b) a written examination (2 hours) wherein the candidate will be required to demonstrate a knowledge and understanding of the relevant Acts and Regulations as it applies to the mining surveyor.
- (c) an oral examination to demonstrate competency in each of the approved Projects.

10 Approved projects

- (1) The approved projects consist of:
 - (a) mining surveys, formal mine survey plans and archival research [see subparagraph (2)],
 - (b) design and survey of engineering works [see subparagraph (3)],
 - (c) mine planning and mining approvals [see subparagraph (4)].
 - (d) legislative compliance [see subparagraph (5)].

- (2) The **mining survey and formal mine survey plans project** shall consist of the following:
 - (a) a work portfolio which demonstrates knowledge and competency in mining surveying, the preparation of a Mine Workings Plan, the preparation of a Mine Workings Spatial Information data set and archival research of abandoned mines and abandoned mining areas. The work portfolio must comprise the candidates own work and all work must comply with current legislation requirements. The portfolio must contain the following:-
 - a Mine Workings Plan shall be produced by the candidate derived from surveys and calculations undertaken by the candidate. The Mine Workings Plan for any surface mine or underground coal mine shall be of mine workings having an area of greater than 7.5Ha. The Mine Workings Plan for any underground mine as defined by the Mines Inspection Act 1901 shall be of mine workings having an area greater than 7.5 Ha or lesser area as may be approved by the board upon application, and
 - Mine Workings Spatial Information as a digital file shall be produced by the candidate derived from surveys and calculations undertaken by the candidate. The Mine Workings Spatial Information data for any surface mine or underground coal mine shall be of mine workings having an area of greater than 7.5Ha. The Mine Workings Spatial Information data for any underground mine as defined by

the Mines Inspection Act 1901 shall be of mine workings having an area greater than 7.5 Ha or lesser area as may be approved by the board upon application, and

- A primary control traverse required for the preparation of the Mine Workings Plan component of the project must include the survey of a minimum of 6 survey stations. This primary control traverse must demonstrate primary control traversing skills that are common to both surface and underground traversing techniques and requirements , and
- The Mine Workings Plan and the Mine Workings Spatial Information data and all associated surveys must be the candidates own work. If necessary for the purpose of survey definition, surveys by other surveyors may be shown but must be clearly identified and endorsed, and
- A comprehensive written report detailing and describing all field results, calculations, Mine Workings Plan preparation and Mine Workings Spatial Information data preparation. Electronic field notes and observations must be supported with documentation describing the underlying electronic process and procedures used in the verification of the field observations. Documentation and reduction calculations of the instrument accuracy testing of all survey instruments used in the preparation of the Mine Survey and Formal Mine Plan Project must be included , and
- A comprehensive written report detailing an archival research undertaken by the candidate. This archival research shall be completed in relation to any abandoned or suspected abandoned mining areas.

A specific requirement is that a candidate for the mining survey and formal mine survey plans project will have obtained at least 104 working weeks of approved practical experience in mining surveys.

(3) **The design and survey of engineering work project** shall comprise a portfolio of the candidates work. This portfolio will include all surveys, calculations and preparation of engineering drawings associated with two of the following:-

(a) One of the following:-

- Major water management structure or water reticulation scheme, or

- Major surface infrastructure, or
- Realignment and regrading of an existing conveyor belt installation (min 500m)

And

(b) One of the following:-

- Major loop take up installation, or
- Shaft or drift installation, or
- Haul road design including associated water management, or
- Major surface rehabilitation

The Candidate will be required through the documentation for the project and the oral examination to demonstrate an understanding of design techniques, preparation of engineering plans and general principles that relate to the design and survey of engineering works.

(4) The **planning and mining approval project** shall comprise a portfolio addressing the following:-

- (a) A comprehensive report analysing the interaction between valid development consents and mining leases. The report should include a detailed reference to the granting and maintenance of development consents and mining leases. The report should have a working mine as a case study, and
- (b) A comprehensive report analysing the Mine Operations Plan (MOP) process and development of the MOP plans. The report should have a working mine as a case study, and
- (c) A comprehensive report using a working mine as a case study one of the following mine approval processes:
 - application and approval for emplacement area, or
 - application and approval to mine by method other than bord and pillar, or
 - Subsidence Management Plan application and approval, or
 - Annual Environmental Management Report (AEMR).

(5) The **legislative compliance assessment**. The candidate will be required to demonstrate knowledge and competency of all legislation as it applies to mining surveying and the role of a mine surveyor.

A specific requirement is that a candidate for the Legislative Compliance Assessment will have obtained at least 104 working weeks of approved practical experience in mining surveys.

11 Conduct of examination

- (1) On the date or dates appointed by the Board for the conduct of the prescribed examination, the Board is to cause to be examined each Candidate who attends the examination and whom the Board has permitted to sit for the examination.
- (2) The Board may conduct the examination in such manner as it thinks fit.

12 Competency

- (1) A Candidate is accredited with a prescribed examination if the Candidate reaches the level of competency as determined by the Board. In situations where the competency of the Candidate as judged by the Board requires improvement, the Board may advise the Candidate of extra work or approved mentoring to be undertaken to meet its standards outside the normal examination period.