



NEW SOUTH WALES
DEPARTMENT OF MINES

DIRECTIONS
FOR THE GUIDANCE OF
MINING SURVEYORS

Approved by
the Hon. J.B. Simpson, Minister for Mines
on 18th September, 1963
to be effective on and after 1st October, 1963



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1. Crown land is defined in section 3 of the Mining Act. Generally speaking it comprises all lands of the State except:

- (i) land alienated or in course of alienation
- (ii) land held under tenure under Lands Act for other than pastoral purposes.
- (iii) land resumed for closer settlement.
- (iv) land held under lease under the Mining Act.

Private land means land other than Crown land.

2. The following classes of leases are granted: -

Gold leases of Crown land,
Mineral leases of Crown land,
Private lands leases (gold or minerals) of private land,
Special leases of Crown land,
~~Special leases of private land.~~
Dredging leases of Crown or private land or both,
Mining purposes leases of Crown or private land or both.

Except in dredging leases and mining purposes leases survey must not include both Crown and private land.

An applicant (other than an owner) for a private lands lease must first obtain an authority to enter and the area of the lease is restricted to the area pegged under the authority.

3. Possession and marking out.

Initial placing of posts on the land by applicant or Warden's bailiff is a first requirement of all titles under the Mining Act except where land is inaccessible.

For details of how areas are taken possession of or marked out see Regulation 6 of the Mining Act, 1906, as amended. (Appendix 1).

Where an applicant for a lease of private land requires a lease of an area less than that granted under the authority and/or requires only part of the surface, he is required to mark out the reduced area or the reduced surface area, the latter is known as a "surface right".

4. THE LAND TO BE SURVEYED

The applicant's pegging is the guiding factor in determining the area to be surveyed and as a general rule survey should be confined to those limits.

The following departures from this general rule are in order:

Crown land. Survey may extend beyond pegging to include additional Crown land (if available).

- (a) to permit of regularity of form;
- (b) to avoid creating a hiatus between area surveyed and adjoining mining leases or adjacent private land;
- (c) at specific request of applicant;
- (d) to include land between high water and low water.

It is undesirable to include additional land to the extent that more than one third of acreage surveyed is outside applicant's pegs.

Private Land. Any departure beyond limits of pegs placed by applicant must be only of a very minor nature and will be subject to consent of the land owner. The surveyor should avoid any such departure as far as possible. One reason for extending beyond pegging would be to permit surveyed area to adjoin another lease.

In cases where the area applied for as a lease is less than that granted under the authority to enter or in cases where only part of the surface is required, the pegs placed by the applicant to define the reduced area will limit the survey in the same way as the authority to enter pegs.

If, however, applicant has time to amend his application, e.g. to increase acreage applied for before the authority to enter expires, the surveys may go beyond applicant's lease pegs but not beyond authority pegs.

5. FORM Regulations 84 and 96 of the Mining Act, 1906, as amended, provide: "The area of land applied for as a mining lease shall, where practicable, be measured in the form of a parallelogram, the length of which shall not exceed three times the width; provided the Minister may authorise a departure from such form and dimensions". This does not apply to Special, Dredging, or Mining Purpose Lease Applications.

In the case of surveys of private land, the location of authority to enter pegs will often make it impracticable to maintain regularity of form and at the same time measure the area required by applicant.

There will be occasions in surveys of both Crown and private land where the area is a "filling in" area or the intrusion of existing leases will make irregularity, or a creek forms a boundary. In all these cases departure from regular form is in order.

6. Missing Pegs. When the surveyor is unable to find posts placed by applicant, he can either accept applicant's statement as to their original position or if applicant is not present, effect survey to agree with description on notice to survey, providing location is fairly definite.
7. Acceptance of Survey. Signed acceptance of survey should be obtained from applicant where possible, particularly when there is any variation in acreage or departure from pegging. Pro forma provided by Department.

8. Marking of Surveys. Surveys shall be measured and marked as portions in accordance with the Department of Lands Survey Directions, 1963, and shall also comply with the Survey Practice Regulations, and these directions.

Marking of races, roads, transmission lines and other similar forms of measurements should follow the rule laid down for roads. The sides marked should be so located that the race or line is entirely included in the width specified. Four terminal angles should be marked.

Principal corners shall be marked with broad arrow over letters and number given in notice to survey.

9. Acreage. Unless the applicant specifically directs or for the reasons given in paragraph 4 the acreage applied for should not be increased, as even where only a few perches extra are measured, it may involve additional labour requirements as well as additional rent and fees.

There are maximum areas permitted for various leases and under no circumstances must these be exceeded.

Maximum area for a gold mining lease or lease of private land to mine gold	25 ac.
Maximum area for a mineral lease or lease of private land to mine for Opal	$\frac{1}{2}$ ac.
Coal and shale	640 acs.
other minerals	80 ac.
Maximum area for dredging leases	100 ac.
Mining Purposes and Special leases	no maximum
Lease under the Petroleum Act, 1955, as amended	100 sq. miles

10. Exclusion. see also "Improvements" paragraph 12.

See paragraph 14 ("Roads") for detail in respect of roads.

Certain mining occupations are for surface and to a limited depth and in cases where these are within the external boundaries of the area to be measured there is no reduction of area required. The following occupations are of this type:

- (a) leases for mining purposes which are essentially surface leases
- (b) sometimes leases for mining e.g. where the mineral being mined is a surface proposition. The notice to survey will deal specifically with such a case
- (c) certain tenements such as residence areas and business areas
- (d) some roads

As a general rule any exclusion for improvements is for surface and a limited depth and no reduction of area should be made from survey. However, if the area a, b, c or d, abovementioned is a surveyed area, a connection and comparison of azimuth with the portion being surveyed should be given so that the affected part of the surveyed area may be excluded if necessary.

Cultivation areas and unsurveyed occupations should be traversed so that they can be excluded if necessary.

If a measured portion is to be excluded, it will usually suffice to give a connection to and a comparison of azimuth with such portion.

11. Conflicts. When there is a conflict or where adjoining areas of Crown land have been taken possession of strict adherence to applicant's possession posts is essential and survey information of the conflicting areas supplied clearly illustrating the conflict.
12. Improvements. All improvements should be shown on field notes with particular attention given to those mentioned in Sections 47 and 48 Mining Act. Protection under Section 47 extends to all portions in the one ownership, even if separated by a road, although the principal residence is on only one portion.

Although these sections prohibit mining within 50 ^{yards} ~~years~~ of a garden or orchard or within 200 yards of the principal residence of the owner or occupier, the restriction is in respect of surface only and a lease may be granted below all improvements.

If a surface right has been applied for, the surveyor should not measure the surface right within the distances mentioned above unless the applicant has acquired owner's consent or the mining lessee anticipates acquiring it. If there is any doubt, surface right can be surveyed according to applicant's pegging. In all cases connection should be given to these improvements and the area within 50 yards or 200 yards respectively traversed so that they can be excluded if necessary.

Cultivation for the growth and spread of pasture grasses shall not be deemed to be cultivation under Part IV of the Mining Act, unless the Minister considers the circumstances so warrant.

Generally location of dams, tracks, races, fences, sheds, shafts, tunnels, dumps, etc., do not require survey but should be shown on field notes with reasonable accuracy and those requiring survey will be on a special instruction.

Ownership of all improvements should be given if available.

Where the area surveyed includes improvements mentioned in Section 47 and 48, Mining Act, 1906, as amended, or is within the prescribed distances of such improvements, the surveyor is asked to:

- (a) indicate extent and nature of same on field notes by traverse and provide a surveyed connection to the survey, and
- (b) furnish a certificate that the area is or is not affected by such improvements, or

- (c) state that he is unable to certify that the area is not affected as the adjoining area was not under observation during the course of his survey.

See Appendix 2 for provisions of Sections 47/48 Mining Act, 1906, as amended.

13. Surveys affecting more than one portion.

Where application is to mine surface or is ~~for a~~ surface right of land including more than one portion, lot or allotment, unnumbered pegs should be placed and cuts shown where boundaries of mining portion crosses boundaries of other portions, lots or allotments.

Where application is to mine exclusive of the surface of land including more than one portion, lot or allotment, sufficient survey information should be supplied to enable calculation to be made of the areas of portions, lots or allotments included in the mining portion, but marking is not required.

14. ROADS IN MINING SURVEYS.

- (a) The following general rules regarding surveys affected by roads are intended only as a guide in the absence of specific instructions with the notice to survey.

Private Land and Crown Land.

- (b) Surveyed roads - As there is an exclusion of the surface and of the land below either to a limited or unlimited depth it is necessary to establish the position of the road by survey. It will often suffice where the road has already been surveyed to connect to the road survey and give cuts where the road crosses the boundaries of the mining portion.

- (c) Unsurveyed road - If a reserved road traversing private land has not been surveyed, the surveyor should define by survey the road to conform with the position of road in use if it departs from the location of the reserved road. If the reserved road departed from is also surveyed its position should also be shown.

15. Marking of Beach Surveys - See Appendix 3.

16. Survey of boundaries along high or low water mark - see Appendix 4

17. TO
NOTICE ~~OF~~ APPLICANT

Surveyors are required to give reasonable notice of survey to applicants so that they or their representative may attend to point out their pegs. A pro forma is provided by this Department.

APPENDIX 1

MINING ACT, 1906 - as amended.

REGULATION 6.

MODE OF TAKING POSSESSION AND MARKING OUT.

A. - UNSURVEYED LAND.

Any person intending to occupy or apply for any tenement, authority to prospect, license to prospect, agreement or lease (other than a lease of the nature specified in paragraph A (i), or a lease exceeding 100 acres) of unsurveyed Crown land, or any part of a surveyed portion, shall, either personally or by his authorised agent, take possession of the land by fixing firmly in the ground at each angle thereof, a post not less than three inches in diameter, projecting above the surface not less than three feet; and by cutting trenches, each arm of which shall be not less than three feet in length and six inches in depth, placed so as to indicate the general direction of the boundary lines from the post, and commencing at a distance of not more than two feet therefrom. Where, owing to the nature of the ground, it is impracticable to cut trenches, mounds or rows of stones, not less than three feet in length and six inches in height, may be substituted. One of such posts shall be deemed the datum post, and the person taking possession shall forthwith fix to such datum post a board or metal plate having legibly written thereon, or on a calico notice affixed thereto:-

POSSESSION taken this day of at o'clock in the noon,
for the purpose of (here insert class of holding to be applied for, e.g.,
"prospecting area " "gold-mining lease" "railway lease for mining purposes,"
etc.)

AREA acres
 x feet.

(If a surveyed portion, state Portion No.)

(Name of intending applicant or applicants)

Provided that where land is marked out for the purpose of a dredging lease, the posts shall be fixed at the terminal angles, and also at such points as will enclose an area not within the bed or banks of a river; and a description of the area shall be added to the notice on the datum post, stating whether it includes the bed of a river, lake, lagoon, swamp, tidal waters, or ocean, and whether it includes the banks, and, if so, to what distance back; and specifying the portions as shown by the official maps of the land within which such area is situated.

Where possession is taken for a railway, tramway, water-race, pipe-line or road, or other purposes requiring a similar form of measurement, the posts shall be fixed at the terminal angles, and also along the proposed route at distances not exceeding four hundred and forty yards.

(i) AREAS INACCESSIBLE FROM THE SURFACE.

Where, by reason of the land being under water, or from any other sufficient cause, possession cannot be taken in the manner hereinbefore indicated, the applicant shall attach to his application a plan or sketch of the land applied for and shall give such description as will lead to the ready identification thereof.

(ii) AREAS EXCEEDING 100 ACRES.

The intending applicant for an authority to Prospect or a lease to mine on an area exceeding one hundred acres shall fix a post and cut trenches in the manner hereinbefore prescribed at any one angle of the said land. Such post shall be the datum post, and notice of possession as hereinbefore prescribed shall be affixed thereto. The applicant shall insert a description of the land in his application, or attach thereto a plan of such land.

(B) SURVEYED LAND

Any person intending to take possession of the whole of any surveyed portion of Crown Land or marking out the whole of any surveyed portion of private land, shall fix a post of the dimensions specified in the first paragraph of this Regulation at any angle of the said land. Such post shall be deemed the datum post, and notice of possession as prescribed in the said first paragraph, or (in the case of private land) such notice as may be prescribed shall be affixed to such datum post: Provided that where, by reason of the land being under water, or from any other sufficient cause, possession cannot be taken in the manner hereinbefore indicated, the applicant shall attach to his application a plan or sketch of the land applied for, and shall give such description as will lead to the ready identification thereof.

APPENDIX 2

Sections 47/48 Mining Act, 1906, as amended.

"47.(1) No authority to enter and no lease under this Part shall, except with the consent of the owner, extend to the surface of any land --

- (a) within fifty yards of any land bona fide in use as a garden or orchard; or
- (b) within two hundred yards of the principal residence of the owner or occupier; or
- (c) whereon is any substantial building, bridge, dam, reservoir, well, or other valuable improvement other than an improvement effected for mining purposes, and not bona fide used for any other purpose. The Minister shall determine whether any such improvement is substantial or valuable, and may define an area adjoining such improvement within no mining operations shall be carried on.

(2) Except with the consent of the owner no operations under any such authority shall be conducted below the surface of any land referred to in subsection one of this section, and no lease shall be granted below the surface of any such land, except at such depths and upon such conditions as the Minister may, after full inquiry, deem to be sufficient to prevent damage to the surface.

"48. No authority to enter and no lease under this Part shall, except with the consent of the owner and occupier, extend to the surface of any land enclosed and under cultivation when the application for the authority was made; and without such consent no operations under such authority shall be conducted, and no lease shall be granted below the surface of any such land, except with the authority of the Minister, and at such depths as the Minister may, after full inquiry, deem to be sufficient to prevent damage to the surface: Provided that --

- (a) a lease under this Part may be granted of such portion of the surface of such land as the Minister may deem necessary for giving access to the gold or minerals therein; but before any such lease is granted the warden shall assess the amount to be paid as compensation for any loss of or damage to any crop or improvements on such land; and
- (b) cultivation for the growth and spread of pasture grasses shall not be deemed to be cultivation within the meaning of this section unless, in the opinion of the Minister, the circumstances so warrant; and
- (c) in the case of dispute as to whether land is or is not under cultivation within the meaning of this section the Minister's decision thereon shall be final."

APPENDIX 3

MARKING OF BEACH SURVEYS

Surveys of areas of coastal beaches applied for under special lease applications for the mining of mineral sands, (zircon rutile etc.), present a serious problem with regard to the marking of boundaries.

Areas applied for in these circumstances are usually bounded by Low Water Mark and generally comparatively narrow in width, with the result that the western boundaries are frequently located on frontal sand dunes, making it extremely difficult for the surveyor to establish satisfactory reference marks.

Because of the nature of sand dunes, boundary marks and reference marks will frequently move or be buried, and consequently the areas which have been marked in this manner - and subsequently granted under ~~special~~^{special} leases - cannot be determined on the ground by any interested parties at later dates. Further, conflict between lessees holding adjoining parallel strips is inevitable.

In the marking of beach surveys it is therefore necessary that either of the following two procedures should be effected. Firstly procedure (1) should be investigated. If, (in view of the above), it is found to be inadequate, procedure (2) should be adopted.

Procedure (1)

If it is possible to give a connection to a previous survey situated reasonably close to the boundaries of the area to be surveyed, and the marks of such previous surveys are not of the nature referred to in paragraph 3 above, then this connection will suffice and no action as required by procedure (2) need be taken. If, however, this procedure is not satisfactory then the following action should be taken.

Procedure (2)

Where ordinary methods of marking are not considered satisfactory, satisfactory recovery marks, which can be readily found shall be located in pairs, approximately 5 chains apart and at right angles to the coast line, should be placed on firm ground away from the sand dunes, such pairs being not more than $1\frac{1}{2}$ miles apart, and placed so as to mark each (i.e. in most cases northern and southern) extremity of the survey. These recovery marks are to be accurately connected to the balance of the survey.

Recovery marks shall consist of posts at least 6 inches diameter and 6 feet long sunk at least 2 feet in the ground. A reference mark shall be placed to refer to each recovery mark.

APPENDIX 4

SURVEY OF BOUNDARIES ALONG HIGH OR LOW WATER MARK

In surveys of mining leases on coastal beaches where a boundary of the survey follows the irregular line of mean high water mark or mean low water mark, measurement by right lines along the actual mean high water mark or mean low water mark, is not required.

The surveyor should run a traverse along the full length of the beach and give offsets at such intervals as may be necessary to accurately determine each change of course or direction of the boundary along high or low water mark.

Where practicable, regard should be had for Regulation 32, Survey Practice Regulations, 1933, which provides, inter alia, that in a country survey, the traverse lines shall be within an offset of 150 links.

On the boundaries connected to the extremities of the water mark boundary, distances should be given to (1) traverse (2) monument (if any) and (3) mean high water mark or mean low water mark as the case may be.

18. FIELD NOTES

Field notes are to be recorded on Departmental field note sheets and in addition to actual field notes or measurements a diagram shall be drawn thereon adequate for the preparation of the plan of survey.

Completed field note sheets shall be submitted with the report.

It is of extreme importance that the position of all applicant's pegs, particularly authority to enter pegs, be shown and if not found suitable note should be made on surveyor's report.

Position of improvements should be clearly indicated.

In case of ocean, river and creek frontages, offset area should be stated.

If the mine has a local name, e.g. "Golden Nugget" such should be stated.

As the field note is the primary record of survey, it should be precise, clean and complete and it is desirable that it be recorded in ink.

19. Surveyor's report. Pro forma of the report will be supplied by the Department.

It is important that all items on pro forma are completed, especially regarding applicant's presence at survey and that the land was or was not pegged in accordance with the Regulations. However, such report will be generally restricted to what possession posts or mark out posts were found at the time of survey.

Calculation sheet (form supplied by Department) should accompany report in the case of irregular areas.

Notice to make survey together with survey information supplied (if not required by the surveyor in connection with another instruction) should be returned with the surveyor's report.

20. Plan. The plan of survey shall be drawn on a Mines Department linen plan form which shall be submitted with the report if practicable, but if it is desired that the plan be prepared by the Department, its cost will be deducted from the contract fee subject to a limit of 5% of the total fee ex travelling. Linen plan forms may be obtained from any District Surveyor or the Department of Mines (Chief Draftsman),

21. Fees. For contract surveyors, fee paid is at Lands Department rates.

Claim for travelling on pro forma supplied, requires endorsement by District Surveyor issuing the instruction to survey.

22. Full payment will be made on receipt of field notes, providing undertaking as set out in Appendix 5 is signed, otherwise only 80% will be paid until approval of plan.

Copy of undertaking is available, from Under Secretary, Department of Mines, on request.

APPENDIX 5

SURVEY FEES

I _____ Registered Surveyor
of _____ do hereby undertake
to refund, immediately I am called upon by the Under Secretary for Mines,
the amount by which the fees paid to me for any survey carried out on
instruction from the Department of Mines exceed the amount approved by
the Department on final examination and approval of the plan; or should it
become necessary for the Department to incur any expense in amending
any such survey, to meet the cost thereof.

Signature _____

(date). _____

The Under Secretary
Department of Mines