

AERODIST MEASURING PROGRAM 1974

GENERAL NOTES FOR FIELD STAFF

1. REMOTE UNITS

1.1 Power Output

Recent bench tests carried out in Melbourne have determined that reduction in battery voltage from 12 to 10 volts reduces the power output of the remote unit by 40%.

1.2 Batteries

1.2.1 In view of this very large power drop it is essential that batteries be fully charged prior to commencement of line measurement. One fully charged Dyna Pack battery will provide a minimum of 2 $\frac{1}{2}$ hrs measuring at maximum voltage so that each remote team equipped with two batteries should be fully operational for a minimum of 5 hrs. It should be noted that minimum figures only are given.

1.2.2 As a general rule batteries must be charged at the same rate of output, for twice the period i.e.

Measuring time 2 hours at 10 amps
Charging time 4 hours at 10 amps
or Charging time 8 hours at 5 amps

The remote units draw approximately 10 amps so that it is recommended that batteries be charged at this rate.

1.2.3 Battery readings are to be recorded on the first and then each third run thereafter. The Master operator is to be advised of the battery reading at the beginning and end of each line measurement.

1.2.4 Unless specifically instructed to do so by the Master operator, charging motors are not to be connected to batteries during a line measurement. If it is desired to charge the spare battery during line measurement the charger is to be placed at least 20 metres from the remote unit.

1.2.5 It is now believed that flat batteries are one of the main contributors to poor traces and troublesome lines. It is the responsibility of each operator to ensure that his batteries are fully charged.

1.2.6 If in the opinion of the operator a battery is unserviceable, the battery is to be handed to the Technical Officer (Engineering) and if found defective will be replaced.

1.2.7 Proper care and maintenance of chargers and batteries is of prime importance to the smooth running of the operation and each remote team must insure that regular servicing of these items is carried out.

2. ATMOSPHERICS

2.1 Temperature

Wet and dry temperatures are to be recorded as near as possible to the time of the actual line crossing. The psychrometer is to be held at least 4 feet above the ground, away from the remote and body, with the thermometer bulbs pointed into the wind.

2.2 Pressure

Barometric readings to be taken to the nearest 1/100 millibar, care is to be taken to ensure that the barometer is level, protected from sun, wind and rain.

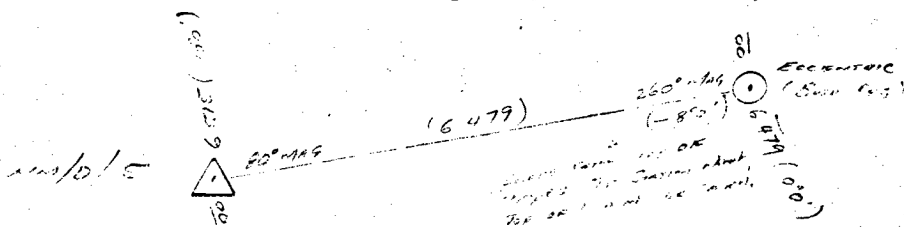
2.3 When observing from towers, all atmospheric must be done at instrument height i.e. from the top of the tower.

3. REMOTE SET UP AND ECCENTRIC MEASUREMENTS

3.1 Where possible the instrument is to be set up over the station mark.

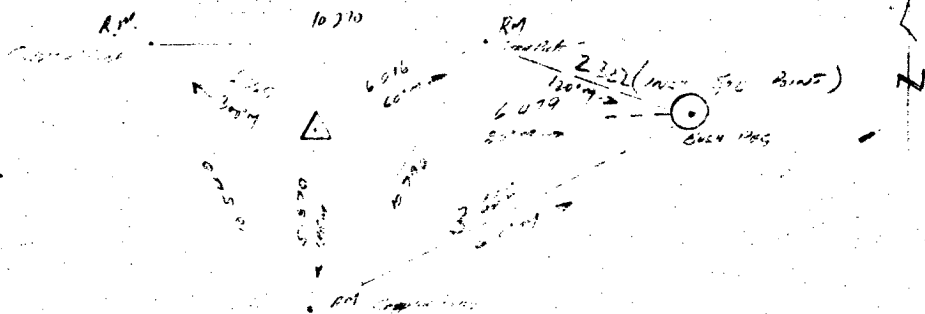
3.2 If an eccentric has to be used an established Reference Mark should be selected as the measuring point, if this is not possible a semi-permanent eccentric mark is to be established. This mark should comprise; a chisel mark in concrete, nail in bush peg, small painted cross etc., it should not be the same as the established reference marks.

3.3 The eccentric mark is to be connected to the station mark by distance measurement in both directions and forward and reverse magnetic bearings. If slope distances are used care must be taken to ensure the slope angle is correctly recorded i.e.

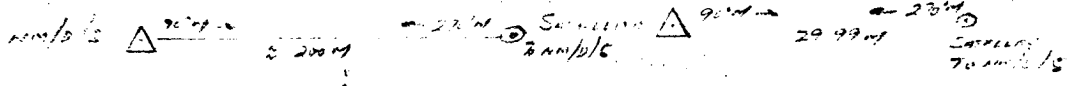


Measurements to nearest 0.005 metre.

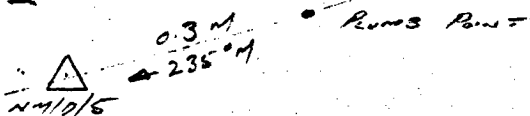
3.4 Regardless of which mark is used for the instrument set up, all reference mark connections will be measured, this includes ties between reference marks, and is applicable the measuring routine.



3.5 If a satellite station is used, the magnetic forward and reverse bearings to/from the station mark shall be recorded, if the distance between satellite and station is 30 metre or less a check chainage will be taken.



3.6 Where towers or "ladders" are used every effort is to be made to ensure that the instrument is over the station mark. As no theodolites will be available a plumb-bob suspended on a long wire/string will be used. (Any eccentricity should be recorded.)



3.7 Station diagrams (Eccentric Diagrams) are to be carefully drawn, orientated with North to the top of the page and showing the point occupied surrounded by a circle at least $\frac{1}{4}$ " in diameter. All other marks are to be shown in their correct orientation.

REFER TO DIAGRAM IN 3.4

3.8 The height from ground level (top of the mark) to the top of the tripod plate shall be measured and recorded within the square marked "Inst:" in B2W3 (1.3 M)

3.9 Condition of the station occupied shall be carefully recorded and any minor repairs carried out, unless otherwise instructed, beacons and/or cairns shall be replaced prior to leaving the station.

4. ACCESS

The remote party will note any errors in the original access notes, record any additional information and/or alternate better access routes.

5. CLEARING

The remote operator should ensure that lanes are clear and if any obstacles are on line efforts are to be made to remove them. The Remote team should check the cleared lanes against their scheme diagram on arrival at the station and if obstacles are on line the party leader advised.

6. USE OF COMMONWEALTH VEHICLES

- 6.1 Personnel are reminded that the same freedom of use of Commonwealth vehicles possible in remote areas cannot apply in the more densely populated regions.
- 6.2 Unless in emergency vehicles are not to be used by party members outside working hours without the expressed permission of the Surveyor-in-Charge.
- 6.3 Reported misuse of vehicles by the public can lead to poor public relations together with a possible "Illegal use of a Comm. vehicle" charge.

7. PURCHASE

7.1 Tyres

Except in an emergency, vehicle tyres purchased are to be contract, if more than one tyre is required and contract tyres are not available permission to purchase must be obtained from the Surveyor-in-Charge. The local PMG or Dept. of Works depot should be contacted to find out which brand of tyre is contract in the area.

7.2 General Purchases

7.2.1 If a party member wishes to replace unserviceable camping or vehicle equipment and there is doubt that the item to be replaced is not suitable for repair or BCS he should first contact the Surveyor-in Charge. Unauthorised purchase of items could lead to the party member concerned being held financially responsible.

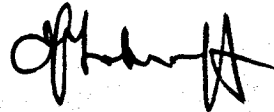
7.2.2 Prior to the repair of any item, including vehicles a quote must first be obtained and if deemed reasonable by the sub-party leader the desired repairs can then be carried out. Party members should be wary of firms that refuse to quote.

8. VEHICLE REPAIRS & MAINTENANCE

- 8.1 In general vehicles are not to be put into garages for minor repairs such as; replacement of blown globes and repairs to flat tyres.
- 8.2 Where possible, each sub-party will be responsible for the servicing - both daily and general - of their vehicle, this includes grease and oil changes.

9. ACCOMMODATION

- 9.1 After completion of work on Saturday remote parties may at the discretion of the Party Leader drive to the closest, by road, hotel accommodation, returning to the survey area at pre-arranged time on the following Monday morning.
- 9.2 Where practicable, personnel are to camp at aerodist station site. Hotel accommodation is only to be used when reasonable camping conditions do not exist in the area. When the party member/members consider that camping is impracticable, the Surveyor-in-Charge is to be advised and the nearest accommodation available used.



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