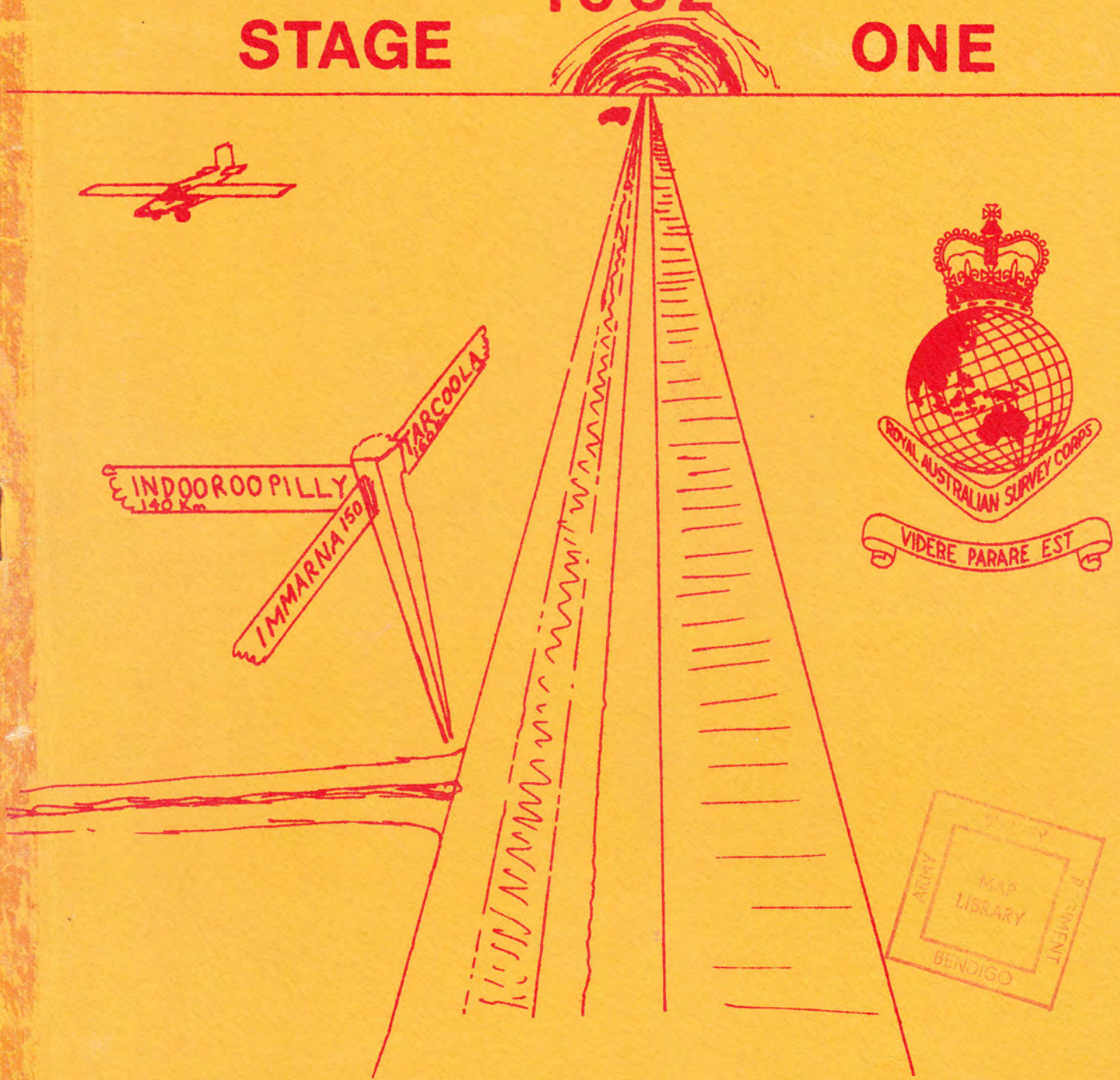


**OPERATION
STAGE**

1982

**NOTARIAL
ONE**



ROYAL AUSTRALIAN SURVEY CORPS

4 FIELD SURVEY SQUAD

51

AMENDMENT SHEET

OP NOTARIAL STAGE 1

JULY 1982

4 FD SVY SQN

Amdt No	Amdt Entered	Amdt No	Amdt Entered

ROYAL AUSTRALIAN SURVEY CORPS

4 FD SVY SQN

OPERATION NOTARIAL STAGE 1

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PROJECT REPORT

OPERATION NOTARIAL STAGE 1

- References: A. Dept of Defence (Army Office) A474-1-48 dated 15 Sep 81.
- B. HQ 4 MD Mounting Instruction dated 31 May 82.

General

1. Operation Notarial Stage 1 was mounted by 4 Fd Svy Sqn during the period 3 Jul 82 to 22 Jul 82. The aim of the operation was to field annotate 48 x 1:50000 enhanced orthophoto maps in the SH53-5 Tallaringa and SH53-9 Barton 1:250000 scale map areas.

2. Operational Results

All maps listed for field annotation were checked. A detailed report is contained in Annex A.

Operational Support

3. Aircraft Support. A fixed wing aircraft was allotted in support of the operation:

- a. Pilatus Porter - 173 Gen Spt Sqn. The aircraft was used solely for field annotation and of the 60 hrs allotted, 44 hrs were used.
- b. Serviceability. Excellent serviceability was maintained throughout the operation. At no time was the progress of the operation halted due to aircraft unserviceability.
- c. Personnel. The co-operation that existed between the surveyors, pilot and ground crewman was good throughout the operation. The interest shown by the aviation personnel and their involvement and willingness to participate in all tasks contributed significantly to the success of the operation.

Administration

4. Manning. The force was composed of the following personnel:

- WO2 P. Warwick - 4 Fd Svy Sqn - OIC Det;
- Spr P. Langeberg - 4 Fd Svy Sqn
- LT S. Chaney - 173 Gen Spt Sqn; and
- Cfn W. Power - 173 Gen Spt Sqn.

5. Main Base. The main base was situated at the shearer's quarters, Commonwealth Hill Station approximately 300 km NW of Woomera. The accommodation consisted of a solid stone building and provided ample sleeping and ablution facilities. The large dining room was used as a working area.

6. The staff of Commonwealth Hill Station were very helpful throughout the operation, particularly the Station Manager Mr Marc Moore.

7. Rations. The personnel involved in the operation were rationed with the staff of Commonwealth Hill Station. The meals consisted mainly of lamb (mutton) owing to the large number available and were of a good standard.

8. The cost for rations was \$12 per man per day. Total cost amounted to \$816 and was paid for by cheque out of 4 Fd Svy Sqn Rations Account.

9. This method of rationing proved to be ideal because of the small number of members involved in the operation.

10. Stores. Stores list for the operation is at Annex B.

11. Health. There were no major health problems during the operation.

12. Morale. The level of morale was high throughout the operation.

13. Discipline. No situation arose where disciplinary action was required.

14. Pay and Allowances.

a. Pay. Members received pay in advance for the full period of the operation.

b. Allowances. The following allowances were paid:

(1) Incidental Allowance - \$4.30 per day per man; and

(2) District Allowance - \$19.60 per fortnight.

15. Public Relations. The only contact with the public was with the manager and staff of Commonwealth Hill Station. An excellent working and social relationship developed and their co-operation was much appreciated.

Logistics

16. Supply. The only item re-supplied was a vehicle jack, which although taking longer than anticipated to arrive, caused no problems as a jack was borrowed from Commonwealth Hill Station.

17. Serviceability. Equipment serviceability throughout the operation was good.

18. Fuel. 41 Sup Bn supplied 10,000 litres AVTUR and 600 litres MT Standard in drums. 4 Tpt and Mov Gp arranged the fuel positioning at Commonwealth Hill Station by 8 Tpt Sqn. That unit travelled to the AO with 4 Fd Svy Sqn.

19. Fuel used during the operation was:

a. AVTUR 8400 litres; and

b. MT Standard 600 litres.

20. All full and empty drums were returned to 41 Sup Bn as arranged by 4 Tpt and Mov Gp.

/21. Vehicles.

21. Vehicles. Vehicles employed on the operation were:

- a. 1 x Truck carryall $\frac{1}{2}$ ton GS, Topographical Survey LR Series 2A; and
- b. 1 x Trailer Cargo $\frac{1}{2}$ ton.


22. Generally the vehicle performed well but over the period of the operation it consumed a large amount of oil.

23. Due to single vehicle operations in semi desert areas, it is recommended that substantial spares be carried as appropriate to operations of this kind.

Communications

24. Rear link. Rear link communications were provided by telephone at Commonwealth Hill Homestead and operated by Telecom Credit Card.

25. Op Net. A AN PRC F1 radio was supplied for air/ground HF comms, however this facility was not used as all force pers participated in each sortie.


(K.A. van den Tol)
MAJ
OC

Oct 82

Distribution:

		<u>Reg No</u>
Dept of Defence (Army Office) (Incl 3 for D Svy)	(5)	1-5
HQ Field Force Command	(3)	6-8
HQ 4 MD	(2)	9-10
2 Fd Svy Sqn	(1)	11
5 Fd Svy Sqn	(1)	12
173 Gen Spt Sqn	(1)	13
Army Svy Regt	(2)	14-15

Internal:

OC 4 Fd Svy Sqn	(1)	16
Library	(3)	17-19

FIELD COMPLETION REPORT

Task

1. To field annotate 48 x 1:50000 enhanced orthophoto maps in South Australia. The area is within the Series R502 1:250000 map sheets of:
 - a. SH53-5 TALLARINGA; and
 - b. SH53-9 BARTON.
2. Standards to be in accordance with RA Svy Symbolization All Series 1:50000 Mapping Specifications.

Execution

3. Organisation. The force consisted of a two man party who carried out the field checking by air and where necessary by road.
4. Deployment. At all times the party operated from the main base at Commonwealth Hill Station.

Field Annotation Material

5. Four units were involved in the preparation of field completion data. These units are:
 - a. 2 Fd Svy Sqn - plotted 8 x 1:50,000 areas;
 - b. 4 Fd Svy Sqn - plotted 24 x 1:50,000 areas;
 - c. 5 Fd Svy Sqn - plotted 16 x 1:50,000 areas; and
 - d. Army Svy Regt- prepared field completion materials.
6. Units supplied the Army Survey Regt with the following materials at 1:50000 scale:
 - a. 2 x Pos/Neg Grid;
 - b. 1 x Cultural Compilation sheet;
 - c. 2 x Contour Compilation sheets, (10m and 20m);
 - d. 1 x Base Control sheet;
 - e. 1 x Field check Correction overlay; and
 - f. PD Folder.
7. The Army Survey Regt returned the following repromat to 4 Fd Svy Sqn:

- a. 1 x $\frac{3}{4}$ Tone Neg;
- b. 1 x Grid Pos;
- c. 4 x Bromides (Composite of grid and imagery);
- d. 1 x Cultural Compilation sheet;
- e. 1 x Field Check queries sheet;
- f. 2 x Contour Compilation sheets, (10m and 20m);
- g. 1 x Base Control Sheet; and
- h. 1 x P.D. Folder.

8. From the material supplied by the Regt master dyelines and ozafilms of each overlay were produced to take into the field.

9. Photography. There was no photography available as the Army Survey Regiment held the only set and it was considered too expensive to produce another set.

10. Other Agency Data. As a result of technical liaison the following data was obtained from other agencies:

- a. Pastoral Plans;
- b. Commonwealth Hill Station map;
- c. 1:250000 Maps - Tallaringa, Barton, Coldea, Maurice;
- d. ONC Q 13;
- e. Mineral exploration leases - Dept of Mines and Energy SA;
- f. ANR siding diagrams - Wynbring to Coldea; and
- g. Additional on the spot information was obtained from Mr M. Moore, Manager, Commonwealth Hill Station.

11. Field Annotation Methods. Initially all checking was to be done by air and if necessary some ground verification carried out. However, it was found more practical to check areas of dense cultural detail first by vehicle and then solve any outstanding queries by air.

12. The air and ground responsibilities included the checking of cultural detail, road classifications and obtaining and verifying names. The Manager of Commonwealth Hill Station was extremely helpful in supplying additional information.

13. When operating in the field the OPM imagery and ozafilm of the cultural detail and field check queries were used together, with the ozafilm overlaid to the imagery. In cases of dense linear detail a more satisfactory method was to use a dyeline of the cultural detail by itself. The corrections were marked up on the ozafilm/dyeline or the imagery while in the field and transferred to master sheets (ozafilms/dyelines) each evening. Colour guides (dyelines/ozafilms) showing the road classifications were also produced.

14. Colour 35mm photography was taken as an aid to classification and interpretation of detail, however, a minor fault occurred in the camera and in some instances a shadow appears on the extremity of the slides.
15. An individual field completion report was prepared for each 1:50000 area detailing any problems or specific aspects encountered during the field check.
16. Achievements. All 48 x 1:50000 maps were field annotated during the operation. The following repromat for each map is held at 4 Pd Svy Sqn:
- a. Master correction sheets,
 - b. Road classification sheets, and
 - c. Field completion report.
17. Presentation. The method of overlaying the ozafilm with the bromide or using the dyelines and bromides was very time consuming and inconvenient while flying. It was felt that a composite of the cultural detail with the imagery would be more suitable. The composite of the grid and imagery proved to be beneficial when positioning detail by azimuth and distance.

Observations

18. When in the field it became evident that the quality of the bromide was such that at times it was not possible to see on the imagery features that were visible on the ground. They lacked quality due to tonal and clarity changes. For example, the Trans Australian Railway appears as a cleared lane on the bromide whereas the plotters have shown roads and tracks running parallel to the railway.
19. On numerous occasions the detail plotted was not able to be seen on the imagery.
20. The majority of the cultural detail plotted was verified in the field, however, some roads appeared which were not on the imagery photography. These roads, where possible, were added by detail, azimuth and distance with the note "Approximate Position" accompanying them. Although the surface of the road was good they had had little use in recent times and were more than likely mining roads.
21. According to the manager the tracks which appear in paddocks on Winwar 1:50,000 are firebreaks. Those that are still visible from the air have been shown.
22. Fences normally had roads or tracks adjacent to them and usually they were of a sufficiently high standard to warrant classification as one lane unsealed. They are the main access roads for the station employees.

Conclusion

23. Prior to embarking on the operation all maps were assessed and it became apparent that little time would be needed to check them in the field. This was because they were devoid of cultural features and consisted mainly of sand ridges and vegetation. This assessment was confirmed during the operation. From this it would appear impractical and uneconomical to field complete areas that from an office assessment consist of only sand ridges and vegetation.

24. If possible a system of tubes should be developed and placed at the rear of aircraft. Maps when not in use could be then stored in a neat and easily accessible position.

25. A board, usually plane table, is necessary so as to have a solid base on which to place the maps when working. This board is normally positioned on the knees of the field checker and as such is subject to much movement. A device which would enable the board to be fixed to the seats should be investigated.

26. A Jeppesen Navigation Plotter PJ-1, similar to one used by the pilot, should be obtained for use by the field checker. This would make the necessary addition of fences, roads, etc much easier.

27. All cultural detail should be plotted as it is difficult from the Porter to observe fences and gates both on the imagery and ground. By doing this, time would be reduced in the field trying to position them accurately enough.

28. The additional cultural detail at para 20 on 5539-IV, 5439 I to IV, 5339-II and 5338-IV should be positioned from supplementary photography to be flown on OP NOTARIAL Stage 2 in Nov 82.

ANNEX B TO
OPERATION REPORT
OF NOTARIAL STAGE 1
DATED 25 OCT 82

STORES LIST

<u>Technical</u>	<u>Qty</u>
Binoculars GS	1
Calc Mach HP25	1
Compass Mag U/M Mils	1
Radio Set PRCF1	1
Security Box Steel Fd Stationary	1
Table Plane	2
Theodolite Wild T2/56	1
Tape Measuring 30m cloth	1
Straight Edge 36"	1
Protractor circular 9"	1

OPERATION NOTARIAL STAGE 1
AREA OF OPERATION

Scale: 1:1,000,000

ANNEX C TO
OPERATION REPORT
OP NOTARIAL STAGE 1
DATED 25 OCT 82

