

MEMORIES OF
2 AUSTRALIAN FIELD SURVEY COMPANY

1940—1944

BY

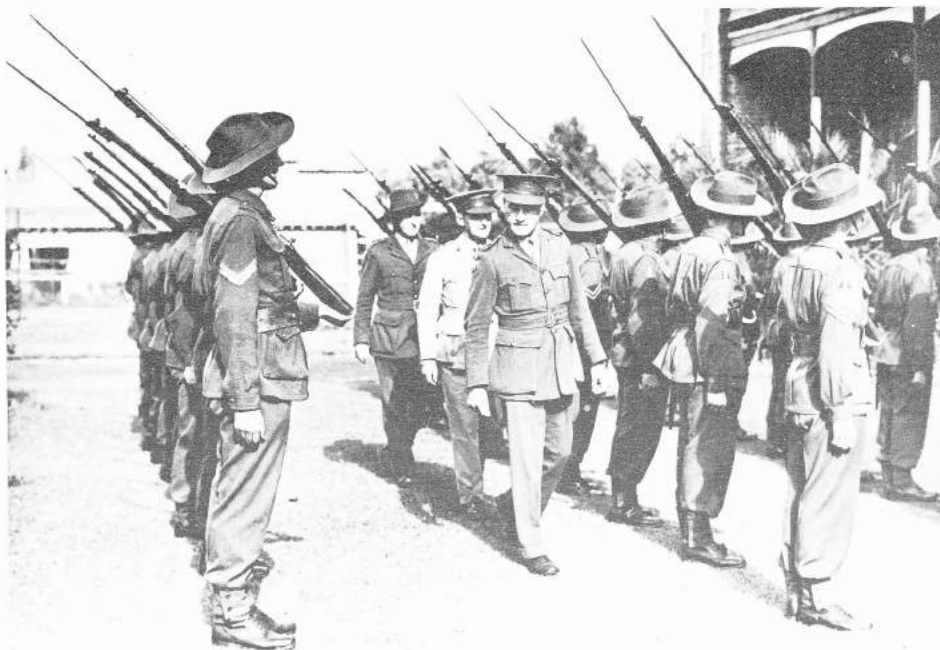
LIEUTENANT COLONEL H.P.G. CLEWS

MEMORIES OF 2 AUSTRALIAN FIELD SURVEY COMPANY

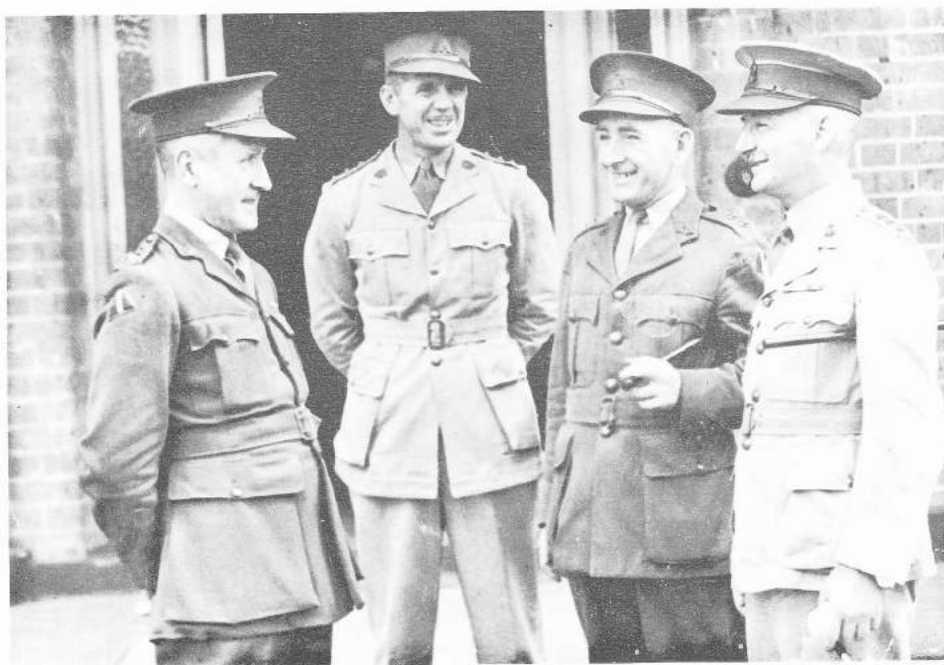
1940 - 1944

BY

LIEUTENANT-COLONEL H.P.G. CLEWS



Maj Vance, Capt Clews and Lt Ward inspect
guard of honour at Strathfield. See
Page 11.
(Photo kindly loaned by Tom Keig)



A group of Survey Corps officers in the
early days of World War 2. Left to right
T. A. Vance (Director), T. P. Keig,
O. G. F. Ward and H. P. G. Clews.
(Photo kindly loaned by Tom Keig)

FOREWORD

Essentially a man of action and not of words, a mathematician rather than a writer, it is a tribute to his great regard for the Survey Corps that Lt Col H.P.G. Clews has recorded in his own style and manner the Story of 2 Australian Field Survey Company (AIF) and the men who served with it.

The Story of 2 Australian Field Survey Company is not intended to be an official history or even a complete unofficial history but it is a very warm human document that will be read with interest by all members of the Royal Australian Survey Corps and particularly those members of 2 Australian Field Survey Company (AIF) who served under the "Major".

It will bring back many memories of mapping carried out under emergency conditions and of the trials and tribulations that inevitably follow field survey operations. It will bring back memories of the lighter side of mapping but most of all it will help us to revive our memories of that unique and very human officer - Lt Col H.P.G. Clews.

D. McDonald

Colonel,
Director of Military Survey.

23rd September 1966

SYNOPSIS

A The build up and operation of the Company

1. Australian Survey Corps (P) in N.S.W. prior to 1939.
2. Raising and Training No. 1 Field Survey Unit R.A.E. (M).
3. Raising the Company - early training, Strathfield "Party" system.
4. Further "Memories" of Strathfield.
5. Kyogle, - operations, entry of Japan into War, Coy on Section footing.
6. Childers - operations there, Gulf Surveys, Iron Range Surveys.
7. Ingham - Change of OC's.

B The "break up" of the Company

8. Personal Notes
9. First New Guinea Section (Ward) written by Hann.
10. Merauke Section (Wood) written by Cavill.
11. Second New Guinea Section (Herridge) . written by Carter.
12. The remaining Coy in Queensland (1) . written by Freeguard.
13. The remaining Coy in Queensland (2) . written by Herbert.
14. Conclusion written by Clews.

APPENDICES

- A Nominal roll of personnel of No. 3 Section, Australian Survey Corps (P) at outbreak of war and then subsequent dispersion.
- B First Routine Order of 2 Coy showing integration of No. 3 Section, Australian Survey Corps (P) and No. 1 Field Survey Unit R.A.E. (M) into 2 Australian Field Survey Company.
- C Nominal rolls of personnel moving overseas 1943/45.
- D Diagram of 2nd Order Trig. Chain established by 2 Australian Field Survey Company 1940-41.
- E List and diagram of mapping completed by 2 Australian Field Survey Company 1940-45.

MEMORIES OF 2 AUSTRALIAN FIELD SURVEY COMPANY

1940 - 1944

by

Lieut.-Col. H.P.G. Clews

A THE BUILD UP AND OPERATION OF THE COMPANY

1. Australian Survey Corps (P) in N.S.W. prior to 1939

In considering the formation and operation of 2 Australian Field Survey Company formed during the late War in 1940, due consideration has to be given to the operations of No. 3 Survey Section, Australian Survey Corps of the Permanent Military Forces. No. 2 Coy. sprang from this P.M.F. Section.

After the reorganisation and retrenchments of the Survey Corps in 1922, there were left in N.S.W. two people - Clews and Johnson who were joined almost at once by Roberts from Queensland. Throughout these notes ranks will be omitted if possible. Ranks are continually changing over the years. Those three people remained for a decade and perhaps a little longer, almost static, with no changes in personnel and little change in techniques. One, and at times two, chainmen (Survey Hands) were employed on a civilian basis.

During the next eight years prior to the outbreak of war a revolution-ary improvement occurred in the method of military mapping. Tavistock (optical) Theodolites replaced the cumbersome Troughton and Simms microptic instruments, and the use of air photos became general and systematic. The scale of plane tabling topography had been increased earlier to 1/31,680 (2 miles to 1 inch) from the old 1" scale, and individual plane tabling as known previously dropped out of use.

The Trans Mercator Grid system was brought into general use. This was only just in time - the plotting of runs of air photos over more than one graticule of the Polyconical map sheets presented much difficulty. It also gave an opportunity to place the State's varying triangulation systems on a common and systematic basis, and the formation of a Corps Geodetic Section under Fitzgerald took over that work.

The old system of plotting co-ordinates was to give the distance of the trigonometrical station from the nearest 5 minute square corner in inches to 2 places. Latitude and longitude co-ordinates were of course also given. Old computing methods were by simple sine adjustments. The adoption of the American Coast and Geodetic system of least square adjustments considerably smoothed out methods.

It has to be remembered that prior to the war the personal bonds between an outlying section and A.H.Q. in Melbourne were quite slight, although of course all returns were rendered to Melbourne. But the general impression was that the less to do with "certain gentlemen in a Southern State" the better. Vance did visit just before the outbreak of war and gave information about the Slotted Templet system. He had just returned from America where he saw this in operation. This system was immediately adopted by military mappers and proved the solution to many problems of rapid mass production of maps during war conditions.

The commencement of the eight year period prior to the outbreak of the war, saw the strength of No. 3 Section at three as it had been for the previous 10 years. At the outbreak of the war the strength was 16. Clews was commissioned in 1932, the first commission since the 1914-18 war. Rimington and Carter were transferred from No. 1 Section (Victoria) in 1935 and Eggeling was allotted to No. 3 Section out of an intake of 10. Rimington resigned shortly after to take a position in the Northern Territory and Relf arrived as replacement. The Army Surveys in South Australia were

suspended when Vance took over the Corps from Lynch, and Rossiter, Smith and Aldred, who were working in that state, joined the section in N.S.W. Finally in 1938 Prince, Herridge, Harrison, Buckland, Keeler, Williamson and McCormack joined. On the outbreak of war, 6 members were accepted for the A.I.F. When the four companies were formed in 1940, 6 members were allotted to 1, 3 and 4 Coys and shortly after the entry of Japan into the war two more were transferred to Depots, leaving only two members of No. 3 Section in the 2nd Field Svy Coy - Clews and Carter.

After the commencement of the war and before the formation of the companies, there was another intake into the Permanent Survey Corps. As the companies were formed immediately after this enlistment, personnel of this intake became members of the companies and apparently were not recognized as Survey Corps (P) members. On demobilisation they were discharged with the other members of the Companies. In appendix B several names of members of 3 Section not previously noted as Survey Corps (P) are given as transfers to the Company. Extra Survey Hands were employed as civilians about the same time as these enlistments.

2. Raising and Training No. 1 Field Survey Unit RAE (M)

This unit was a very important factor in the formation of the 2nd Field Svy Coy. Raised before the entry of Japan into the war, it was evidently formed with a view to the possibility of increasing the strength of the Australian Survey Corps. During its training period some of the members were accepted as members of the Australian Survey Corps. It is doubtful if the complete documentation for these members was ever finalised. They served in various units during the war, and were discharged at the cessation of hostilities. They did not carry on their service after the war as did other members of the Australian Survey Corps.

The unit was really an officers' training cadre, the majority of its members being later commissioned in various Survey Units. All early officers in charge of Field Sections in the 2nd Field Svy Coy came from this unit, and the majority of those members not commissioned served as warrant officers in 2 Coy. Rossiter was given the task of teaching these personnel the necessary techniques to undertake military surveys. Two of the senior members - qualified surveyors - were soon called back to their respective civil departments, but another two accepted commissions in the A.I.F. and 2 Coy.

Before the formation of the Company small groups of these personnel were brought back to the 3rd Section Survey Corps (P) at New Lambton in Newcastle, in order to have practical experience in the new techniques shown to them at Dungog. After the formation of the Company they all took their places in that Company's production work.

All in all, it is difficult to see how 2 Coy could have made a better start. The members of this Militia Unit were all members of the surveying profession and, when added to the remaining members of 3 Section Australian Survey Corps, the combination made a very strong framework on which to build the Coy.

Keig's story of the unit follows:

"About early March 1940 while a 2nd Lieut in 14 Fd Bde, R.A.A., the Surveyor General, Max Allen, who was then the State Survey Liaison Officer, advised me he had been directed to have a Survey Unit formed and had nominated me for the job. The Unit was to consist of 1 Off and 23 OR's, all personnel were required to be licensed surveyors or assistants of at least 2 years standing, and were to train and work in conjunction with the Permanent Survey Section. Formation was a matter of urgency as the Unit was to go into training at Dungog Showground early in May. With your co-operation, and sponsored by the Survey Section at New Lambton (who supplied the rum on long term re-payment) we made Dungog on time, only a few members under strength.

(One of the surveyors selected went to Field Engineers and we had further trouble getting volunteer personnel from the Army Survey Regt (M) Col. Hunter). We had Jack Remington as a Civilian Driver with his own truck (which later caught fire near Tamworth) and I think, a loan of your Vince Cummins or Harry Todd with an Army vehicle. We had to victual ourselves (with my survey camp gear) and had the bare essentials for camping. Ernie Prees was Civilian Cook, later enlisted as a member of the Unit.

I can't figure at what particular stage Hilberry, Wilson etc came in but I think it was after we were advised we were to remain on "Full time duty". Everyone (except John Armstrong who was too young or something) was re-enlisted in July and August and at this time some of the lads went over to your Permanent Force Section. Harry Rossiter instructed us in Topography generally, and some comps., while other members of the Unit joined your Trig parties on the North Coast or were studying Photogrammetry at New Lambton.

In August or September 1940 we were advised we would amalgamate with Permanent Force Survey to form 2 Fd Svy Coy (Aust Survey Corps) and immediately set about recruiting further personnel and finding quarters in Sydney while awaiting the final order which came through in October. Although we had headquarters in the Dill Mackie Home at Strathfield the camp at Dungog was kept on as a Survey Training Depot for quite a few months into 1941.

I haven't got a copy of the nominal roll of 1 Fd Svy Unit R.A.E. (M), don't know that there ever was one except on pay days, but the list of members attached is fairly correct."

It had been hoped to compile a nominal roll of the members of this interesting unit. However owing to the rapid changes in the personnel of this unit this is difficult. The unit went first into camp at Dungog at full strength with Remington as a hired civilian driver and Prees, whom Keig carried over from his civilian survey organisation, as cook.

The unit then lost three senior, and some junior members, and their places were taken by enlisting other personnel. Then, later, several transfers to the Survey Corps (P) took place, and these vacancies were again filled by recruitment. So that the final roll of 1 Officer and 22 OR's who were transferred to the 2nd Field Svy Coy on its inception was very different from the original roll.

3. Raising the Company

"In days of old, at King, his call,
We took the soldiers oath.
And bound ourselves as slaves enthral
To God on tripod tall,
And served with those, who bound as well
Were masters of the craft."

The decision to raise Survey Units on a generous scale was, it is believed, the result of pressure on the government from outside bodies. There had been considerable talk of increasing the tempo of mapping for some years before the outbreak of war. It would be interesting to get the story of the events leading up to this from Gillespie, whom, it is thought, had much to do with it. Although the writer attended several conferences in Melbourne on the matter, no clear picture is retained. It is to be noted that these Companies were raised BEFORE entry of Japan into the war, and were obviously intended more for mapping in Australia than as war-time units. But there was always the possibility of one of the Companies relieving Fitzgerald's 2/1 Company overseas.

It took a little time before the A.H.Q. decisions were transformed into orders emanating from N.S.W. Military H.Q., but eventually the Company

commenced to operate, as from 16/10/1940. The first personnel consisted of remnants of No. 3 Section (P) and Keig's Militia Section, plus a few persons who had been standing by. A copy of the first order is shown in Appendix B. Headquarters of No. 3 Section had been in a rented house at New Lambton, Newcastle, and that became the temporary H.Q. of the Company. The Militia Section had been training at Dungog from quarters in the Showground and the early recruits for the Company were sent there - Rossiter being the instructor.

It has to be remembered that at no time was the progress of survey work suspended, and in the early days personnel were fitted in when they became available. No. 3 Section had a large programme of normal mapping plus control triangulation, etc., in hand, and this was continued. Also, the tempo of work on the Fortress Installations, which had been intermittently performed since the Czechoslovakian crisis, became insistent. At one time engineering control surveys, for the design and layout of the Greta Camp, had been demanded and several days of hectic activity resulted. On this occasion assistance was asked for, and given, by the Militia Artillery Survey Company then in camp at Ruthersford.

Another item that came up fairly early was the compiling of the Strat Maps at 4M to 1 inch. The International 1:1,000,000 maps were enlarged by photography to the 4M scale, and the requisite contours in feet were interpolated from the metric contours at Army H.Q. in Melbourne. They were then sent out to the Sections and District Survey Officers to supply latest road information, etc. This was mainly Carter's job and he spent some weeks visiting Shire Offices for information from Shire Engineers etc. As could be expected these methods did not produce a first class map, but they are still found in use.

It was soon evident that, at least, H.Q. accommodation for the growing Company would have to be found. So Keig, who by this time was operating as 2 IC., got into action and found the Dill MacKie Home at Strathfield. This was a two story building set in about 1 acre of rough grass land, in which tents could be erected. Also later on, after Japan came into the war, slit trenches, etc., were excavated. It was reasonably central, enabling many of the Company members to live at home and come to work during the day. Military training was commenced and in due time the Dungog and New Lambton establishments were closed down and all activities were centred in Sydney.

The Company was lucky enough to get Arthur Clements as its Sgt. Major. He had already rejoined the forces as an instructor in Victoria, so only a transfer was necessary. Clements was a Boer War and 1914-18 War man with 12 years English Army Service in the Duke of Cornwall's Light Infantry and had some years service in the Australian Survey Corps prior to, and during, the 1914-18 War. Amongst the enlistments were several men with considerable military experience including at least one ex-Guardsman. At no time was it necessary to bring in outside help for military training and as members began attending Army courses of purely military training they usually attained results as good as those obtained by members from other units.

A personal anecdote here may illustrate the future feeling in the Company. When Arthur Clements arrived at Strathfield, he first came to see me and the conversation was as follows :

"Well Hugh, how do you want to run the Company?"

"Well Arthur, they've got to become soldiers, but NO PETTY CRIME."

"Very good Sir", a salute and that was that.
I did not ask how he got results but I was satisfied.

Apart from this aspect, but coincident with the military training, there were certain technical and miscellaneous training requirements. In general this was not from scratch as far as survey personnel were concerned. Personnel were taught, or learnt for themselves, to use the skills they

already had in different ways. They were not given new technical training but shown new techniques. Computers were generally in this category, and accountants, as well as mathematically minded individuals were not hard to train in survey computing methods. But the training of draughting personnel and topographers was a horse of an entirely different colour. As will be seen from the dispersal of permanent personnel of No. 3 Section only two members remained with the Company after a few months. I was always occupied with administration, so the whole of the training in drafting and stereoscopic work fell on the shoulders of Carter. Rossiter did some instructing work at Dungog and joined the Company at Strathfield but he was very soon transferred to 11th Field Survey Depot. Roberts was acting as transport officer while at Strathfield and moved to Kyogle with the Company but was then transferred to 12th Field Survey Depot. So the whole of the drafting and compiling is seen as the work of Carter. The following paragraphs give his reactions in his own words.

"Most members assigned to drafting were, in civilian life, commercial artists, lithographic, architectural and engineering draftsmen and tradesmen who had completed a course at a technical school in which some type of drawing, such as engineering drawing, was part of the course.

Whilst the majority of these personnel eventually performed efficiently it was, in the early stages, difficult to make the artistic types realize, that accuracy was of prime importance in plotting a topographic feature on a map. These people were used to painting the broad picture and would sketch the relative positions of detail by eye. Generally, difficulty was encountered in training them and at the same time produce maps. Considering modern methods of instruction it is all the more noteworthy that some members had the natural ability and were an asset to any drawing section working under war or peacetime conditions.

Contouring of air photos, with stereoscopes, was the main stumbling block in the production of maps. Planimetry did not eventually present any problems but contouring was a different matter. Apart from their inexperience in not having drawn a contour on the ground, draftsmen were given, in a lot of instances, either inaccurate heights or the heights as indicated on the air photo may have been incorrectly identified.

After many months compiling maps under these conditions some few members developed the art of photo contouring and were given promotion mainly on this ability alone.

In retrospect, this training, plus their natural talent, paid dividends for it was some of these personnel, during the Lae and Bougainville Campaigns, who were responsible for producing such excellent contouring on the 1 mile maps of these areas and which, even today, are still commented upon favourably. Furthermore, it was these same members, who, in Childers, when air photography was not available for map compilation, quickly grasped the principles of plane tabling (under Clement's instruction) and produced maps by this method."

Mainly owing to the insistence on keeping continuity of progress in mapping, the early organization of the company was chiefly on party lines. That is to say, small groups were occupied on separate survey operations, as a party, with a Surveyor or Senior Survey Pupil in charge. They had vehicles, drivers, survey hands and chainmen as required, and usually spent two or three weeks in the field and then returned to Strathfield H.Q. for a week. Transport in the early days mainly consisted of hired vehicles, but army vehicles were available in 1941.

The computing section became operative fairly quickly. Enlistments were chiefly accountants who, after some experience with the surveyors in

the various survey methods, became very useful. By courtesy of the Lands Department, many of their trigonometrical records were copied. Personnel from the Company completed these records, and in addition to observations by Company members, the combined observations were formed into figures and adjusted. Then the figures were made into chains which were also adjusted. A copy of the North Coast chain is given in Appendix "D".

While not naming all parties a few personalities may be mentioned. Freeguard was engaged in triangulation, etc., on the Dubbo Sheet, afterwards starting on the Putty Sheets. Ward, early, then Alderton and Faulkes were on the controlling triangulation up the Coast. Snow was also on this and the minor control for the map sheets. Also there was a small party of civilian axemen employed for some time with these North Coast Parties. They were the Scaysbrooks, well known Sydney Show axemen. Clarke was at Canberra, and a separate party of survey hands, Todd in charge, was generally clearing South Coast Lands Department Triangulation Stations. Another group can be noted. Bradley, an early member of the Company, joined the A.I.F. and was commissioned as a reinforcement to the Artillery Survey Regiment overseas. He, and 4 or 5 other officers, similarly situated, were sent to the Company for employment. They made a separate party for the Moruya map, and were later at Tamworth.

In only one instance was all progress work stopped while military training took place. The Company moved to the Liverpool Rifle Range for rifle firing for a fortnight. It was the first time all the members of the Company had been together, and, all in all, it was a pleasant fortnight. It finished with a Survey Field Exercise which, while not being a complete success, did show what wasn't known. Of course traversing at night with theodolite and chain with a minimum of light showing really requires practice. The exercise of 24 hours finished in a blinding rain storm which also damaged the camp near the range. After that, it was back to survey.

During this "build up and train" period from late 1940 to early 1942 close liaison was maintained with the Lands Department, Max Allen then being the Surveyor-General. A Mr. Baker, Senior Draughtsman and later State Survey Liaison Officer was also very helpful. During this period most of the Lands Department Trigonometrical records were copied - at any rate all those which had not been copied before the formation of the Company. It had been realized earlier that much useful information, in the form of cadastral surveys, was, not being utilized by the Survey Corps. This was brought to the attention of the Surveyor-General, and several civilian parties were organized by him to undertake Civilian Mapping using this cadastral survey data after it had been co-ordinated into the Transverse Mercator System. The expression: "Parish Stabilization", was coined.

At first, I was nominally D.A.D. Survey and later on was asked whether I would remain Regimental with the Company or go Staff. Choosing the first alternative, Max Allen then took over as D.A.D. Survey on a part time basis and had an office in Victoria Barracks taking Keig as his understudy. That made Ward 2.I.C. Company. Several trips up the North Coast and Northern Tablelands were made with Max Allen, the last being interesting in as much as whilst returning via the Putty Road, and the Colo River being in flood, a detour via Newcastle was entailed. Our petrol of course would not see this out, but a telephone call to the Armoured Corps at Singleton ensured a supply reaching the stranded car shortly after mid-night. Strathfield was reached in the early morning.

In the summer of 1941/42 mapping over-ran existing air photo coverage and plane tabling had to be fallen back on. Clements, being an old plane tabling man of the Survey Corps, was useful in training and demonstrating. This work was hindered by dengue fever and most topographers working in the Tweed River area had spells in Murwillumbah hospital standing on its low hill to the north-east of the town.

An important factor limiting the early progress of the Companies was the availability of technical equipment. While it was easy to allow for 4 Companies of about 200 men each and not difficult to find the personnel to

staff them, it was a totally different matter to find the technical equipment to enable them to work. Several conferences on this provision of equipment were held, and at one, No. 2 Company was asked to surrender some of its equipment. It was in a slightly better position than the other Companies because it had fallen heir to the equipment of No. 3 Section Australian Survey Corps (P). It complied with rather bad grace - although it was already improvising in many ways.

An anecdote. At one of these Conferences, working on the equipment tables, the question of levelling staves came up. "Oh", said one officer, "201 men in the Company put down 201 staves." The second officer in amazement - "Major - have you ever seen 201 staves in use at once?" "No, but I can imagine what they'd look like!" Needless to say 201 staves were NOT on the equipment tables.

At one conference the question of obtaining theodolites from America came up. This was turned down, as Australia was accustomed to using theodolites mainly from England and these American ones were considerably different. Later on No. 2 Company had one American Instrument (a Gurley) but no surveyor would use it for more than a day or two and then partly out of curiosity.

Theodolites were, of course, scarce although the Company had one, perhaps two, Tavistocks and the old Troughton and Simms micrometers. But the normal surveyor's vernier instruments had to perform tasks for which they were not designed. In the drafting section stereoscopes, although available, were not in the quantity required. To enable the use of slotted template methods, a slotting stamp was made, and the photo slots hammered out by hand. Studs were manufactured out of brass stair rods. Civilians helped with gifts and loans. One gift was a calculating machine which must surely have been the oldest in Australia. Operating it gave the impression of driving an electric train!

During its stay at Strathfield the Company received a visit from the Director of the Corps - the only visit of this nature it received during its existence. A Guard of Honour, under Ward, was turned out - although, being war time, such activities were forbidden.

The Company also sent away its first draft of Survey personnel for service from the Company. This was a draft to help form No. 7 Field Survey Section for service in N.T. Dalton and Boyers are the only names recollected.

Other members had transferred from the Company to serve in Fitzgerald's overseas Company. Some of these also finished up in Darwin. Later on personnel were sent from Kyogle to join No. 8 Field Survey Section for service in New Guinea. The only names that come to memory of this party are Beadell and Hann junior. Among early enlisted members who transferred to other units must be mentioned Wilson, a Dungog man, who transferred to the Navy and went down with the Sydney off the W.A. coast.

One of the curious legends which seem to develop may be worth while mentioning. One party was somewhat tardy in reporting progress. Feeling rather annoyed, a telegram was sent to the leader of the party concerned, which simply asked "Are you dead?" The telegram produced results but also started a 'legend'.

4. Further "Memories" of Strathfield

In the course of writing these notes I have been encouraged to mention the following stories as a result of 'nudging' by various people.

Many people visited us at Strathfield to see what we were doing or how we did it. One day two University gentlemen were shown around, and then introduced to a stereoscope. It was obvious that one of them was seeing the relief normally, and equally obvious that the other was not. After much

juggling of the photos he turned and said, "Does it make any difference if you only have one eye"?!!

At one time the Company assisted with a Mapping Exhibition put on in Sydney, memory fails to say where, but memory says Stafford was one of the demonstrators. The R.A.N. (Commander Master of the Hydrographic Branch) and Professor Macdonald Holmes from the Geography Faculty at the University were also connected with this. Or perhaps it ought to be said that we assisted these gentlemen. Anyhow it demonstrated mapping services to the Public.

Another interest in which I, personally, was concerned, but not the Company, was the map models made by the Museum Authorities. They wanted to help in some way, and suggested cutting out the contours and making relief models in the vicinity of Sydney. They had a number of volunteers doing the cutting and I made a few suggestions which may, or may not, have been helpful. And we found them the maps to cut out. Later in the War when I was at the Victoria Barracks, I saw the relief model of a considerable area around Sydney displayed in the Museum. It is probably still there, and they may have added the Warragamba Dam to it. It was interesting, as displaying, among other features, the two-stage geological cutting of the Cox's River Basin.

While at Strathfield the Company tried it's first attempt at shift work draughting. It was not altogether successful at first, because of lack of efficient draughtsmen. The Company used it later with success, and it is understood that Keig also employed this method later on in his command.

Here is a Carter 'Memory'. My only recollection of the incident is of being asked for co-ordinates for N.S.W. coastal lighthouses.

"I remember some Americans calling at Strathfield seeking advice on how to plot the N.S.W. Coastline. It was just after the fall of Corriegdor and they were preparing a battle room in the old railway tunnel near the Mitchell Library from which they proposed to co-ordinate the defence of Sydney. Owing to the lack of a complete map coverage on one projection they were having difficulty in plotting this coastline. Harry Kilby and I were sent to help and, after getting past a heavy security guard, saw a large table, beautifully painted white, about 60 ft. long, upon which a plot of the coast line had been attempted. After some discussion I suggested we couldn't plot on top of what they already had on the table, whereupon the officer in charge soon had a spray unit on the job and before long their work was obliterated, enabling Harry and I to plot a somewhat better coast line by using the position of light houses which had recently been fixed on the Transverse Mercator System. On those sections of the coast line where no lighthouses were available we used our "experience" and did a bit of juggling."

Keig has a 'memory' of which I have not the faintest recollection. But here it is. By way of explanation Keig brought into his Dungog Camp his Survey Cook, Ernie Prees, as a civilian who was later enlisted and transferred to the Company. He was the best cook we ever had.

"Ernie Prees attended Catering School against your wishes. On receipt of marks, Ernie Prees was called in to be told that his pass was 96%. 'Not good enough', says Ernie Prees. 'Why?' 'Well after the first two days I was instructing the instructors!'"

5. Kyogle

The Company was moved from Strathfield to Kyogle early in 1942. By this time the Company, although still working on the Party System, had

become reasonably efficient. The progress work on which it was engaged was mainly up in the Northern Rivers, where the mapping had out-run the existing Air Photo coverage and some Plane Tabling was in progress. Also, the entry of Japan into the War had changed the prospect of the Company being employed on active service from a somewhat remote possibility to a decided probability. After a reconnaissance with the DAD Svy (Max Allen), Kyogle was selected as a site for the H.Q. as it was fairly central to the work and was situated on the main railway line. Whilst the Showground was not as comfortable as the Strathfield premises, the Company had to get accustomed to working under field conditions. A cottage about a mile away was offered by the owner and taken as accommodation for officers and for Headquarters office personnel. With assistance from the Company a telephone was installed there. The move from Strathfield was effected by road and rail and of course Field Parties merely reported into their new H.Q.

The Company was immediately put on a section basis, with Section Officers responsible for their progress work and their personnel. Roberts was O.C. No. 1 Section but almost immediately was transferred to O.C. 12 Field Survey Depot in Brisbane. The A.I.F. was returning to Australia and were establishing First Army H.Q. in Toowoomba. Alderton, therefore, immediately took over No. 1 Section, Clarke took over No. 2 Section, Freeguard No. 3, whilst Carter became O.C. HQ Drawing Section. The Sections then moved out as sub-units, No. 1 to the Tweed River, No. 2 to the Grafton area and No. 3 to Mullumbimby.

At this stage the Company received its first reinforcements from the Survey Training Depot in Victoria. Amongst these was Jackson - a fully qualified surveyor. He served the Company as Transport Officer for some time. Also the individual members of the Company were given the opportunity to transfer from CMF to AIF and the majority elected to do so. An anecdote: One of the transferees had poor eyesight, so some of his mates going for medical examination before him memorised separate lines of the testing chart which he in turn memorised. At his own examination he rattled off the eye test chart. The medical officer looked astonished but realised what had happened. "Not bad, but we've just changed the chart!"

Some incidents of the Company's stay in Kyogle may be noted. Fairly early a visit was received from an Engineer Staff Officer, First Army - visits from Army Staff were few and far between. The Sergeant-Major - in accordance with A.I.F. instructions - had paraded the Company in column of route formation. While this may have been suitable for a unit constantly on the move, it was not suitable for this occasion and thereafter was discontinued by the Company. Also the Americans conducted an exercise in the vicinity and used the showground for briefing lectures and assessment of results. American insignia was not, at that stage, well known to Australians so the one-star general giving the lectures may have been perplexed at the lack of deference he received from Company members! Soon after arrival at Kyogle, Adastra, who were air-photographing from a base at Tweed Heads, delivered photos by flying low over the showground and dropped a padded bundle in the ring. The photos were collected, none the worse for the impact, and were being operated on within an hour or two.

The Company also held a Sports Day at which inter-section rivalry was high. Mr. McIntosh - a Sydney Show axeman who lived in the district - gave considerable assistance in obtaining suitable blocks for the wood-chopping competitions. As the trade test for axeman's extra pay called for the ability to set in two boards for tree felling and chop from the higher, the contest created much interest. In this connection a fact came to light which was not previously known. There are two methods of shoeing boards, either claw or horse-shoe, and an axeman favours one but not both methods. Also, an Instructional Warrant Officer was obtained to judge the individual Sections in squad drill.

There was a desire by the triangulation parties to climb and clear Mt. Lindesay - on the New South Wales - Queensland border. This mountain had seldom been climbed as it was surmounted by an escarpment of high cliffs. Rumour stated that the last attempt by hikers to climb it had resulted in a

fatality. As other hills in the vicinity were already beacons the idea of using Mt. Lindesay was abandoned. Another party on Mt. Barney, just in Queensland, became enveloped in cloud from a thunderstorm and could not get down as access was through a rock fissure which, as a result of the storm, had become a waterfall so they had a night on the mountain.

Some of Max Allen's parties were working in the general area, with Mr. Mulley - later Surveyor General himself - in charge at Lismore. Very little contact was made however.

A story of the Survey Hands may be told although it has probably been duplicated elsewhere. A training scheme, maintaining communications between Kyogle and the mountains between Lismore and Murwillumbah, was in progress; helicopters were used by day and lamps by night. About 4 a.m. when things were quiet, the man at Kyogle suddenly saw the eastern lamp come full on. He hastily answered it but received no acknowledgement and it took some time before it was realised that the planet Venus was rising directly behind the distant station.

When one of the Sections was at Glen Innes, it became necessary to send up urgently some wanted information. A despatch rider with motor cycle was called and left immediately clothed only in shorts and shirt as it was a warm day. However on arrival near Glen Innes it was snowing. When that rider returned after a cold and miserable night, he was firmly determined to be wearing at least two greatcoats the next time he was sent to the tablelands.

As a matter of fact at Kyogle, and perhaps during the early days at Childers, were the only times when the Company was working on a reasonably concentrated basis. In the Strathfield Survey Party days, they were spread from the Victorian to the Queensland borders, and on one occasion I was surprised at a party giving an address in Victoria. A beacon clearing party was getting access to a station on the other side of the border. In the later Childers days portions of the Company were at Tenterfield in N.S.W. and at Iron Range and Cooktown on the Cape York Peninsula as well as at Childers in Queensland, while overseas portions were in Merauke and Lae.

6. Childers

"We passed by Dungog's rolling hills,
Through Strathfield's busy streets,
Past Northern River's mounts and streams
To Childers' reds and greens.
And as we passed we learnt our trade
With toil and pain AND expert aid."

After a few months in Kyogle the Company was given work between Maryborough and Bundaberg in Queensland. By this time preparations to meet the anticipated Japanese onslaught were in full swing. First Australian Army was forming with H.Q. in Toowoomba. This of course included much of the A.I.F. which had been returned to Australia. At this time Army Survey dispositions in Queensland were generally as follows:-

- (1) 2/1 Coy AIF, recently returned from the Middle East, had its H.Q. and reproduction organisation in Toowoomba although they were also engaged in field work near Townsville.
- (2) Eggeling's 1st Field Coy (later renumbered 5 Coy) was at Ingham with sections up Cape York.
- (3) 3rd Field Coy had been moved from Victoria and was located at Gympie.
- (4) An American Survey Coy was operating at Maryborough - mainly on training.

After a reconnaissance of the area - somewhat hindered by lack of sign posts and name plates which had been taken away to confuse the expected Japanese invasion - it was decided that Childers showground was the best available accommodation for the Company. Bundaberg had better accommodation for draughtsmen but there was less room and the showground was closed in by housing. As it had been noted that draughtsmen used artificial light even when good natural light was available, it was thought that a bigger dependence on artificial light was not an undue hardship. Even so the wooden shutters at Childers were later replaced with windows to let in more natural light.

One section moved up to start work before the Company as a whole moved from Kyogle and this section was located at Biggenden. The Company moved up in convoy under Ward as 2 IC. Arrangements had been made for Military Police to guide the convoy through Brisbane but no contact was made. The convoy got through the city OK and camped in the wallum country north of Brisbane, arriving at Childers in the afternoon of the next day. The flat timbered wallum country through which the convoy passed is somewhat depressing and a great relief was experienced when it emerged into the open basalt country of Childers with the vivid green of the sugar cane contrasting with the red soil. The convoy vehicles were generally overloaded but no mechanical difficulties were met. I moved up direct, camping over-night with the section at Biggenden, and moved to Childers next morning to open up the showground for the arrival of the Company. Whilst waiting, a wireless connected to the local current, went up in a cloud of smoke from burning insulation, and it was realised, too late, that this current was DC and not AC - one of the small things not always foreseen.

Memory does not bring to light many things connected with the early days in Childers. The Company evidently settled in and started mapping in a new type of country. Curiously, in spite of the sugar cane around Childers, the country is not predominately devoted to sugar growing. The wallum country of the coast was uninteresting and difficult to map - as witness a dumpy level party, chasing a contour, became involved in a depression and couldn't level a way out. Evidently field work was behind, as many draughtsmen put in short periods in the field in the vicinity of Childers.

The American Survey Coy mapped the Maryborough sheet, the western edge of which, joined the eastern edge of Biggenden which the Company was mapping. Not being certain of American mapping accuracy, but having great respect for it, the Company checked their edge with a theodolite and chain traverse before handing over the compilation material to the Americans who accepted it without question.

The whole of the compiling and fair drawing of maps was now being undertaken by the Company. Previously most of the fair drawing had been sent back to Melbourne but now the printing was being done by the 2/1 Coy at Toowoomba. This involved a certain amount of coming and going. Also survey information was now to be obtained from the 1st District Base DAD Svy at Brisbane which involved more local communications.

The Company had some 10 motor cycles and the Transport Officer often had a few individuals training as prospective despatch riders. Queensland roads did not help in this case. The course of events was often thus:-

Despatch rider to Toowoomba - new man - considerable enthusiasm, for a trip lasting probably two or more days. Next despatch rider would have strenuous two or three days trip over poor roads. Third time despatch rider to Toowoomba.

No good. "Excuse me, sir, but don't you think a vehicle would be better."

So another despatch rider was convinced that much better jobs existed in the Company. All the same, motor cycles, for short distances, were useful and

the Sections found good use for them.

Apropos of jobs, the following conversation was overheard.

1st Speaker:- "Who do you reckon has got the best job in the showground."

2nd Speaker:- "So and So (the sanitary man). All he does is attend to a few jobs in the morning and then he has nothing to do for the rest of the day."

3rd Speaker:- "Oh I dunno. I reckon So and So (the carpenter). He's got nothing to do all day and has a man to help him do it!"

The Company tried out a "Drum Head" church service but this was not a success. The local padre was an elderly, somewhat prissy individual, and anyhow the Salvation Army are the only people capable of making a success of open-air worship. On Anzac and Armistice days the Company always put on a parade at the local Returned Soldiers Memorial Hall, and these were quite successful. One Anzac Day fell on an Easter Sunday, and a Volunteer church parade was arranged, at which everyone was surprised at the number of members who attended. It is doubtful if that padre ever had such a large congregation. Of course some members may have thought that the Church Parade was the Anzac Parade (with a few beers after) which was held later in the day. A padre from Toowoomba also visited us and as the Company was busy mapping Fraser Island, he went there and just disappeared for some time. He eventually found his way back with the Air Force via Bundaberg.

The Company had occasional breaks from surveying with visits to the local rifle range. These excursions for training had also taken place at Kyogle. One return trip from the range at Childers on a very hot afternoon is remembered. Coming back through the town the thought of a long cold beer before returning to camp was tempting. Enquiries were made, and the party of about 30 filed in single file through the bar of a pub, picked up a beer and drank it and moved out through the other door into the ranks. There ought to be more of this kind of thing!

Some rather interesting mapping projects were undertaken from Childers. One of these was the mapping of Fraser Island, sometimes known as Great Sandy Island. The latter name describes it rather well. It is some 70 or more miles long but only about 10 miles wide and reaches from a little south of Urangan (about 120 miles north of Brisbane) and ends on the latitude of Bundaberg. It is then some 50 miles from the main coast line. There were few dwellings on it, but timber logging had been in progress for many years so some jetties had been built on the sheltered western side adjacent to the mainland. This inner shore-line was generally swampy and infested by mosquitoes at night and sand flies by day. The seaward side however had good straight sandy beaches and few pests. The main fresh water supplies were found on these ocean beaches, at low tide, in the form of springs between high and low water marks. Very little of the island was waterworn thus making contouring difficult. Longitudinal communication was difficult or non-existent, but the ocean beaches provided ready method of moving rapidly north or south. Vehicles were apt to sink into the sand and naturally tide conditions governed movement.

Parties started work on the Island sometime after a naval engagement in the Coral Sea and the first members on the ocean beaches found it littered with debris from that battle. Drums of petrol, various explosives and emergency rations were among items noted. Towards the end of work there, Army HQ must have heard of these items being souvenired and issued instructions to have them surrendered. By this time, however, it was impossible to say who had what, and it is doubtful if anything was ever returned to AHQ.

When work started, arrangements were made with the logging people to

take two or three trucks over to the Island in one of their log carrying vessels. A motor launch was hired for inter island transport and a transit camp was established at Pialba. The cook at this camp who hitherto had not displayed any outstanding qualities proved very helpful. No matter at what time the launch returned from the island, early morning or late at night, he always had a hot meal ready for the weary topographers. A motor cycle, of which more later, was also sent across. But conditions on the island were primitive. Rationing was difficult and perishable items were apt to have "perished" by the time they arrived. As a result of the incessant sand flies and mosquitoes, beards became very popular and many varieties were evident ranging from the Old Colonial to the French Cavalier. It was somewhat surprising the difference a bushy beard made to the appearance of a normally clean-shaven, inoffensive looking individual.

The launch occasionally broke down and one such incident caused some alarm at the transit camp. When the launch was some 24 hours overdue Coy HQ at Childers was informed. Arrangements were promptly made for another launch to get rations, etc. over, and the RAAF stationed at Maryborough, were requested to search for the missing launch. The RAAF promptly "found" the substitute launch going about its affairs. The missing launch was subsequently located by the substitute launch in a bay on the island. It was effecting repairs and was moving again shortly after being located. Towards the north of the island a boat, with a party aboard, was tipped over, but the occupants were rescued by a RAAF boat. It is understood that one of the rescued persons was afterwards in a similar incident in New Guinea and was again rescued by the RAAF. After being pulled out of the water in New Guinea the rescuer exclaimed "Haven't I seen you before?" Rescuer and Rescued were the same pair as in the Fraser Island incident. Anyhow the Fraser Island incident provided an opportunity to "lose" a few items which might otherwise have required difficult official explanations as to loss.

Some miles along the beach on the ocean side was the wreck of the ship "Maheno". It had broken the tow-line whilst being towed to Japan some years previously and had drifted ashore. Ernie Prees - sgt cook - had served on this boat whilst it was engaged in Australian coastal trading. Some souveniring took place but it had been thoroughly gone over previously. Even so, some very nice pieces of teak decking found their way back to Childers. At the extreme northern end of the Island there was a lighthouse and the Bundaberg RAAF station maintained a small party there.

Before leaving the Island story one more matter may be mentioned. The motor cycle mentioned as having been sent over eventually returned when the other transport was withdrawn. No records were in existence of how it had been used, although it had been seen during my visits over there. Ward and somebody else were appointed as a board to determine how it had been employed during the period. From memory they reported that the motor cycle had travelled some 8000 miles on two gallons of petrol but no one could be found who would admit to having used it.

Another very interesting work was the mapping of some 27,000 square miles of the Gulf country from tri-metrogon air photos. The area extended south and east of the Gulf of Carpentaria and westwards as far as the Northern Territory border. The horizontal control was completely by astronomical fixation. Being the first time oblique photos had been handled by the Company, considerable interest was aroused. The flying was done by the Americans using Mitchell bombers and the photography was not perfect, although generally usable. Ward, in April or May 1943, took the contingent up via Cloncurry. There were three observing parties under Sonter, Snow and Monteath using three-ton four wheel drive vehicles.

The start was somewhat earlier after the monsoonal rain than caution required, but they got through OK and established HQ in the old railway workshop at Normanton. In addition, the contingent had a four wheeled drive 15 cwt vehicle. This was very rough to ride in and having a very short wheel base, all four wheels could be bogged in the same hole, so it's

employment was limited.

Snow's account of the journey to Normanton follows:

"We drove to Bundaberg and entrained there. The vehicles were loaded on to flat-top trucks and lashed down. The canopies had to be lowered to clear the tunnels and overhead bridges. Most of the stores and equipment were off-loaded from the vehicles and stowed underneath on the floors of the flat-tops. This resulted in a cleared space in the tray of each vehicle under the lowered canopy in which bunks were erected and it provided a comfortable means of travelling. Our flat-tops became part of a goods train and we had a leisurely journey up the Queensland coast stopping for hours at a time at sidings and marshalling areas. At Townsville we turned west over the Dividing Range onto the broad open plains and eventually arrived at Cloncurry after a train journey of eight or ten days.

The vehicles were off-loaded there and we commenced the overland trip to Normanton. The "road" was rough and boggy after the recent rains and we had frequent stops to extricate trucks from soft patches. At times it became necessary to couple two or even three vehicles together to negotiate bad stretches and we must have been cursed by later travellers for the deep ruts we tore in the track with the heavy powerful vehicles. The 15 cwt truck mentioned above, even though it was only lightly loaded with canteen supplies, proved a complete embarrassment and had to be towed most of the way. We camped wherever we were at nightfall, usually at a bog or a soft patch of sand, and from memory I think the journey took about four days. Only five years ago I again led a much larger convoy over exactly the same route and we travelled the 300 odd miles from Cloncurry to Normanton in a day and a half. The road is now well formed and graded and trafficable by any conventional vehicle.

In connection with the war-time journey a story of a dog called "Rocky" can be told. He caught our attention at Rockhampton railway station - hence "Rocky" - and he was then a little kelpie pup about 6 to 8 weeks old. Some hour's travel farther along the line he suddenly made his presence felt aboard our truck - Jim Fuller, the culprit, I feel sure. Naturally he received a lot of attention from all of us and he thoroughly enjoyed the train journey to Cloncurry. However the overland trip on from there was not at all to his liking as the pitching, jolting truck made him extremely ill and at every stop we had great trouble to recover him before we could continue. Later on in our movements from astro fix to astro fix he became completely travel conscious and even when we were "scrub-bashing" our way through the trackless savannah he insisted on riding on top of the cab of the truck always in danger of being swept off by overhanging boughs.

Jim Fuller decided to train him as a duck dog and being a Kelpie he was not naturally fond of water. One afternoon we shot five ducks in a lagoon and Rocky was made to retrieve them, time after time, until he was exhausted and half drowned. That night the ducks were plucked and cleaned and put in a dixie to cook before we went to bed. Next morning it was going to be duck for breakfast and the tea was brewed and the contents of dixie re-heated. The first fellow went to serve himself with a helping of duck and after a number of fruitless prods in the dixie a look of complete astonishment came across his face. Rocky had been there whilst we slept and removed every last portion of duck. So he had his revenge for his ducking the previous afternoon. He finally met an untimely end from a poisonous scrub tick after we had moved over to Cocktown many months later. By that stage he must have travelled at least 10,000 miles on his precarious perch on the cab-top over some of the roughest going possible."

These parties were supposed to partly "live off the land" and there was considerable official astonishment when requisitions for shot guns and cartridges were presented at the 1st Army Ordnance Depot in Toowoomba. The shot guns were ones surrendered by civilians. The Gulf country abounds in duck from the lagoons and streams, plain turkey was plentiful, and wild pug was everywhere although this meat was somewhat rank. Otherwise the parties lived on tinned rations but individual members became quite adept at damper making and even bread baking in the cast-iron camp ovens. Any visit to a station property resulted in a few days supply of fresh meat and a bag of dry-salted meat which was non perishable. Even so a good deal of use of the issue .303 rifles was noted. A story of the shooting may be told here. A certain member of a party in three successive shots in two days shot two ducks and a turkey by creasing the backs of the birds' necks with a bullet and thereby stunning them.

"Struth", said one of his mates, "You're lucky Bill", but was knocked back by the reply.

"Why, isn't that the place to shoot 'em?"

The parties were issued with watch chronometers of various makes supplemented by stop watches and receiving radios to get time signals. They found the Japanese vernier signal JJY (61 beats to the minute) the most useful station although WWV, an American station with a rhythmic signal, was also used. Towards the end of the Field work a receiving set was constructed to receive WWV only and which fitted into the normal rectangular mess tin which enabled it to be carried in a haversack. The issue BGE sets, although excellent receivers, were heavy and bulky and together with a 6 volt wet battery presented a considerable problem when they had to be man-packed for any distance.

The Gulf Country is interesting topographically. Very flat for some miles inland, it then rises in very slight ridges. All habitations are built on these rises, for in the wet season the country is generally inundated. Tides in the Gulf waters are uncertain and appear to depend more on the wind than the moon. A tide may be high for a day or two and then be normal for a further lengthy period, then perhaps keeping low for some time. There are two main rivers, the western one the Nicholson, with its mouth near Burketown heads south and later turns west into the outliers of the Barkly Tablelands. These outliers are of sandstone with upturned vertical strata, making walking difficult. The Mitchell River, in the east, has its mouth on the Cape York Peninsula about 160 miles north of Normanton and it extends east to have its headwaters in the Atherton Tablelands. Shallow draft shipping entered the mouth of the Norman River at Karumba and then proceeded up-stream to Normanton. There was a Catalina flying boat base at Karumba while parties were working there.

In the middle stages the rivers are very wide, sometimes a mile or more, with the bed some 30 to 50 feet below the surrounding country. Although full of water during the wet season these river beds were normally a series of long water holes with stretches of sand and rubble between and were difficult to cross. A party in a 3 ton 4 x 4 truck, on its way to a point to be fixed, often moved for a required distance, measured by speedometer and on a bearing determined by a sun compass. On striking one of these rivers they may spend a day or more, sliding down one bank, wandering round the waterholes in the depression, then clawing a way up the opposite bank before finally regaining the original line of progress. The vehicles carried sand tracks consisting of four rolls of wire mesh each about 30 feet in length. At bad crossings these had to be laid out and staked in position. The tyres were deflated to only about 15 lbs pressure to give a broad bearing surface and of course the vehicle could move forward just short of 60 feet in the first move on the tracks. Then the two rear sections of mesh had to be unstaked, hauled out of the wheel ruts and moved to the forward position and restaked. All subsequent moves of the vehicle could only be by 30 foot bounds and the whole business entailed much back-breaking heavy work with very high petrol consumption as it was all low-ratio four wheel drive work demanding every ounce of power.

from the motor.

After observations had determined the position (latitude and longitude) of the station, it was marked by felling the timber in the form of a cross with each wing about 200 feet long and about 50 feet wide. These crosses were readily identified on the air photos which were taken later.

An interlude follows; It was reported from the outward mails via the Flying Doctor Service, that a member was sending messages in code. Enquiries revealed a very simple explanation - the "culprit" was a very keen ornithologist who was sending down to his cobber in Sydney a list of the birds he had seen, using the scientific Latin names.

There were two fair sized islands in the Gulf of Carpentaria in the area under survey, and to obtain fixed positions on these, a boat (lugger) was hired to take a party over. This was Snow's party but Fletcher joined it when I couldn't go. I was visiting at the time and had intended to accompany this party, but was called back to Coy HQ at Childers to arrange for a section to proceed to New Guinea. The two islands are Bentinck Is., very low and heavily timbered, and Mornington Is., which is much larger with a mission station at the southern end. Both these islands were shown as shapeless blobs on previous maps and the map being produced gave for the first time their true shapes and positions. The natives on Bentinck Is. who were a somewhat degraded type, were moved to the mission station on Mornington Is. some years after the war ended because a high tide had salted their fresh waterholes.

Snow's party left Karumba in the lugger bound for Bentinck Island but, owing to adverse winds, found themselves a considerable distance up the East Coast of the Gulf. The lugger was purely sail with no auxiliary motor and it took a considerable amount of time before they could return to Karumba and work their way westwards to Bentinck Island. There is a very interesting story in connection with this island which is worth recounting. The survey party landed on the island and fixed position but did not move away inland from the beach and only saw natives at a considerable distance. Much later - after all survey personnel had been withdrawn - a RAAF boat travelling from Mornington Mission, where there was a radar post, to Burketown for rations decided that it would pull into Bentinck Is. and the occupants would spend the night on the beach instead of on the boat. They landed and were starting to make camp when they encountered a shower of spears from the natives. In the resultant confusion, shots were fired, and one native was killed. When the boat arrived in Burketown it still had spears embedded in the woodwork.

An official inquiry was commenced and all members of the survey party gave the story of their landing on the island. The resultant file reached Company HQ many months later and by that time it was over an inch thick, although quite interesting reading. The RAAF were inclined to blame the survey party for interfering with the native women, but no evidence of such could be substantiated and knowing the members of the party I personally considered that view ridiculous. Apparently at some time earlier in the war a RAAF plane or planes, thinking the island completely uninhabited, had shot it up. It was now considered that the natives connected the shooting-up with the landing and were proceeding to take revenge. It was a somewhat unfortunate occurrence.

On my return from the Gulf to Childers I had to organize the move of a Section to New Guinea. We would have been more pleased if the entire Company was going, but had to be content with small mercies. This Section had a different establishment, with more draftsmen than the Company sections. It was thought to be a good establishment capable of working up to the fair drawing stage of the map.

Ward wanted to go, and as the senior officer he naturally had preference, but being somewhat doubtful as to his ability to stand the climatic conditions in New Guinea I gave him Fletcher, a young enthusiastic officer, as second in command. I did not know at the time that Ward had

previously spent some years in the Malay Peninsula and was well used to the tropics. The question was not who to send but who not to send. Eventually the establishment was filled, and some toughening-up training undertaken. A vehicle accident upset the mustering for a day or two. This will be mentioned elsewhere. Various route marches, bivouacs and night marches were arranged during the short preparatory period. Always meeting the returning party, were the stand-by reinforcements to see if anyone had fallen out. Only once did anyone fall out and the clamour of "Can I have this place Sir?" was stilled when the Medical Officer diagnosed the trouble as a pair of ill fitting boots. In one night march we found ourselves in a patch of pineapples, and I know a lot of more comfortable things to walk through than pineapples. The start of the motto "Nothing is impossible" started on one of these marches. At an hourly halt I remember walking up and down talking to the men sitting on the side of the road. Contrary to my usual habits I gave a "pep" talk. I wanted them to realize that they would be meeting much different conditions from anything that they had previously encountered, and would perhaps be asked to do things which they thought impossible, so I gave some examples from my own experience where determination and persistence had resulted in situations, thought impossible, being mastered. No one was more surprised than myself when the returnees at the end of the war used this "nothing is impossible" expression. While the party was being equipped for overseas it was necessary to take away their heavy service dress. Whilst this was being done I was approached by a very tall individual who said "Do you think I might keep my service dress, Sir, it took me a long time to get it". Casting my eyes skywards to his imposing 6 feet 7 inches I replied "You'd better keep it, lad, you'll probably never get another".

Eventually on one evening we sent them down to the Isis Railway Station to start their big adventure. Myself and several other members of the Company went down to see them off. Just as the train was pulling out a lad swung off the train. "Get back on that train" I ordered. "Do you mean that Sir" was the answer. "Of course I do". "But I don't belong to them, I was only seeing so and so off". So I had made a mistake. The subsequent story of this Section will be left to someone more capable than myself.

When the overseas Section was being assembled several prospective members coming to Childers were involved in a rather bad road accident to the west of Biggenden. All the injured were taken to Biggenden Hospital, but the ones capable of travelling were sent to Brisbane next day, while one injured lad was kept at Biggenden until out of danger. The interest of the accident lies in the quick thinking of one of the uninjured persons. Picking himself up from the bushes into which he had been thrown he ran down the road to a house with a telephone line going into it. Finding no one at home he got inside to the 'phone and rang up. When answered he reported the accident and asked for assistance. "Where are you" asked the operator. Having been asleep for some time in the back of the truck, until violently awakened, the lad had no idea where he was, but after looking around the room he said "There's a certificate for a first prize Hereford bull here in the name of so and so." "Good", said the girl at the other end "we know where you are".

About the time the first Section was getting away more work was given to the Company on the Cape York Peninsula. Earlier, Eggeling's First Company had mapped the tip of the Peninsula, but this work had not extended very far south. At Iron Range, some distance down, there was an aerodrome and a defence battalion of the "Old and Bold". Also there were a few Americans left from a more extensive earlier American camp. Clarke's Section was sent up to Iron Range to continue the mapping and the remnants of the Gulf teams, on completion of their work there, overland to Cooktown and, together with some of Clarke's men from Iron Range, carried on work there under Herbert's command.

Memories of this period are not extensive nor continuous, but perhaps glimpses of happenings may be of interest. Two trips were made to this area, and the first is mainly remembered by the fact that personnel were found working without boots, having worn out those they had, and this was occurring

in hookworm country!! Boots were up on the next plane. Another recollection of a pleasant interlude was a visit from the transport officer of the V.D.C. camped a little way off. Unfortunately when he returned to his camp slightly inebriated he had trouble with his O.C. which resulted in Survey being placed out of bounds to V.D.C. officers.

The second trip north was marked by a somewhat strenuous walk, which, in retrospect, is interesting. I accompanied Clarke and some of his men on horses on a reconnaissance for trig purposes to the south of the air strip. After a day or two when he was returning I decided to return via the Coen-Iron Range Road which I knew would be somewhere to the west of where we were. Accordingly, I set out on foot and soon picked up the road. But either the distance to Iron Range was a good deal farther than I thought, or else my capacity for walking had diminished considerably. At nightfall I seemed to be a long way from anywhere so I made a fire and after using the emergency rations which I had been carrying for a long time now, went to sleep. It was not the first or the last time to sleep in my clothes by a fire. Emergency rations were better than nothing, but are not very filling. I set off quite brightly in the morning but by late afternoon was getting very tired when happily an American vehicle picked me up and dropped me in Iron Range, a short distance from Clarke's camp. He had returned there earlier and while not worried by my absence was considering going looking for me. Anyway all was well that ended well.

From memory the formation and departure of the small Section for service at Merauke in Dutch New Guinea occurred just after these Cape York trips. Alan Wood was given this Section which was assembled and sent off, similarly, to the previous New Guinea Section. If possible the story of this Section will be included later.

Memories of the later days at Childers are somewhat hazy but a couple of incidents may be mentioned. At this time some bushmen were being released from the Army. One of my bushmen wanted to get back to the timber industry, but for some time had no luck. He asked one morning what he should do. Being busy I told him that I would see him later. In the meantime a telegram was received saying this man has to be discharged, forthwith, for service with a timber mill. Later in the day I found the man sitting somewhat disconsolately on his bed roll. "Well, So and So, would you like to be discharged at once?" "Of course" he said. "Can you be ready to leave tonight?" After the first astonishment he was not only ready, but had found time to visit the local pub.

The local council asked for compensation for damage to the road leading to the showground. They were unfortunate in that I had the Engineer to one of the North Sydney Councils in the Company, and his report placed the stated damage completely out of court.

In one of the later small groups of reinforcements was a large, well-built man - naturally nicknamed "Tiny" - who was reported as not being a good soldier. As he was a first class bushman, who was needed much more than a normal parade ground soldier, I was happy to get him, although the first encounter with him was embarrassing. We had been paying on the day the draft arrived, and had only some cash left over. "Tiny" was the last to be paid and his pay consisted of a bulky collection of odd small coins. Probably wishing to impress, "Tiny" gave a first class salute, but forgot his pay envelope, and his energetic action scattered small coins everywhere. Everybody then spent some time collecting small coins.

Every human episode must have an ending, and eventually orders came to move the remains of the Company up to Ingham which had previously been used as a base by Eggeling's Company. But before telling of the move one or two more memories of Childers days may be of interest.

During the period when surveyors were training for the projected astronomical work in the Gulf Country they became very time conscious. The following conversation was overheard one morning. Surveyor to Orderly Sergeant:- "Bill, you were half a second slow with that whistle". Reply

"Oh yes but you were so far away it took that long for the sound to reach you." The honours were even.

During these later days the Company received it's first jeeps - the small American general-purpose four wheel drive vehicle. There was a small bridge for crossing over a very muddy creek with a cattle crossing by the side of the bridge. The transport people considered this an excellent place to test the capabilities of the new vehicle, so into the mud went the new clean jeep. There it stuck fast until pulled out by a heavy truck, so while the transport people were occupied for a day or two cleaning it up, they had time to realise what a jeep could NOT do.

Many trips were made to Brisbane during the stay in Childers, but memory does not bring back any of them, except an episode on a night trip. Everything was going well and, having full confidence in the driver, I went to sleep. On waking I leaned forward to look at the stars, desirous of seeing in which direction we were going. The driver, knowing my propensity for checking our direction with the stars said "Are we going right, Sir?" "Well," I said, "We're heading north towards Childers, but drive on a bit, we may be on a circular bend in the road". At the end of a mile or so and still going north I said "What happened while I was asleep?" "I just drove straight on" said the driver. "Did you cross the railway?" "Yes". "And what did you do then?" "Drove straight on". "You should have turned left alongside the railway line. Turn around and let's go back". So a knowledge of the night sky saved considerable poking about on strange roads at night.

Outside the kitchen in Childers Showground there was an open-air log fire. It is stated that this was never out while the Company was in Childers. It was certainly alight when we left, but, by this fire, hangs a story. Just after breakfast one morning I was approached by a very annoyed individual. He showed me a small pat of butter in his mess tin and asked what he was supposed to do with it. Not knowing the background reason I hedged, but ascertained that the cook had informed him that that was all the butter he'd get for the day. The cook had said he had to look after it himself, this being somewhat difficult in the hot Queensland climate. I wandered over to the cookhouse. The cook explained "They're using too much butter for the toast they make at the fire. I wanted to show 'em how much butter they had, each, a day. I hope it makes 'em easy with the butter". Realising that a practical demonstration was worth a dozen lectures, I concurred.

Towards the end of our stay in Childers the Company began to lose its territorial identity. Various people from other units began to appear on the rolls, and the "NX" prefixes became mixed with prefixes of the other states. Two new officers appeared, Herridge and Herbert, but I have very little memory of their arrivals. Then came the order to move to Ingham to take over the quarters used previously by Egge's 5th Company.

We had had a very pleasant stay in Childers being there for nearly two years - two Christmas Days - and had done a lot of work there. We could have had a much worse place to stay and we got on well with the local population who were very hospitable to us. On leaving, we presented the local Planter's Club with a landscape painting by one of our young artists. One comment I did hear was "But that's the worst farm in the district!"

7. Ingham

Eventually we left Childers. Early one morning, in convoy formation, we moved out to entrain at Bundaberg. My last glimpse of the Childers Showground was of the fire outside the kitchen burning our final debris. At Bundaberg we drove on to our train, fastened down, and had a holiday trip up to Ingham. The Queensland Railways, and the Army Railway Transport Staff had had much experience and knew exactly what had to be done. But I think one mistake was made. We had a meal at a stopping place not far south of Townsville, and assumed that it was our final meal for the day. At Townsville I was asleep when the orderly NCO woke me. "The RTO has a meal

ready, which he would like to see eaten". "Oh OK, wake everyone up and get them at it". It is not often that the Army provides four meals in a day.

Ingham proved to be in a flat somewhat swampy area, but we moved into the Showground and went about our work. Many Italians lived in Ingham, and we became accustomed to not hearing the Australian language spoken in the town. The move up there was of course secret, being War-time, and I thought our destination was a well kept secret. But on arrival, one of our members, who had married a schoolteacher in Childers, found his wife had transferred to Ingham. Now, wasn't she lucky to pick the town to which her husband was going!

I have no particular memories of Ingham, except some trips to the Atherton Tableland where the 1st Army Headquarters was located and now I cannot even think of why I had to go there. However I do remember, a rather enjoyable afternoon on the local rifle range with the local rifle club. It was the first time I'd shot with a 'Nested' rifle, and it suited my age.

Herbert had moved to Cooktown, and had a section or party there. On one occasion he provided me with a few hours earnest thought by sending a message saying one of his men had refused to take his punishment and demanded a Court Martial. I had always been opposed to Courts Martial if avoidable, and had leaned over backwards one or twice to avoid them. In this case I eventually found the solution in AMR & O's. I telegraphed back. "Has he been given 24 hours to reconsider?" He hadn't, and had left for the bush and wouldn't be available for some time, so that blew over.

I was not in Ingham very long before orders came through to hand over my command to Relf and proceed to Sydney to take over as DAD Svy there. So, on 8th June 1944, I formally handed over the Coy to Relf. It appeared that the bete noir of the field man - a chair borne job - had at last caught up with me. However I was lucky enough, a few years later, to obtain a further seven years of interesting field work with the Snowy Mountains Authority. My future staff in Sydney in the DAD Svy office later told me that they were somewhat surprised, when an elderly man walked in and said "My name is Clews, if that means anything to you." It did.

Two months after my departure from Ingham my C.S.M., Clements who had been with the Coy almost from its inception was returned to Victoria for discharge on 9th August, 1944.

B. THE 'BREAK UP' OF THE COMPANY

8. Personal Notes

Everything mentioned or contained in the following notes are my own personal opinions, and are not the result of information gained by privilege.

The Company - as mentioned earlier in these memoirs - was raised, with the three others, apparently for the sole purpose of increasing the tempo of military mapping in Australia. The four companies did not fit into the Military Organization, and were raised on a territorial basis in the separate Military Districts. Then the 2/1 Coy under Fitzgerald was returned to Australia after the entry of Japan into the War. Fitzgerald took over command of the Australian Survey Corps (P), from Vance, who was retiring, and by virtue of that appointment, became Director of Surveys (Military).

Australia was then raising two armies. Perhaps some optimism was displayed, but the Military Organization had vacancies for only two Army Topo Coys so in addition to the 2/1 Army Topo Coy the 6 Army Topo Coy was formed. The four Survey Coys were left intact for the moment; but they were obviously surplus to the Army Organization.

The surprise is not that our Coy commenced to break up, but that the

'break up' was so slow being finalised. It commenced with the loss of Ward's Section, continued with Wood's Section, and after the change of O.C.'s, with Herridge's Section; also some personnel were sent back to the Cartographic Coy at Bendigo. However, Wood's Section was returned to Australia after a few months, having been away during the period 1-5-44 to 1-9-44 and then made up portion of Herridge's Section. In all about 100 personnel broke away from the Coy, and although 60 personnel from 4 Coy, WA, were transferred to our Coy, by then it had lost its identity. At the conclusion of hostilities all the detached sub-units were demobilized independently as they returned to the mainland. The 3rd Coy were in Port Moresby - probably as a Corps Coy early in 1943 returning later, while 5 Coy were at Morotai when hostilities ended. 4th Coy was disbanded, while 2 Coy just faded away.

Approximately the Coy was 1½ years forming, 1½ years operating, and 2 years breaking up. But the lists of work completed (see Appendix E) show that the Coy performed the work for which it was formed.

9. First New Guinea Section under Capt WARD

"And when at last they moved us up
To join the fighting men,
We found ourselves with skill and art
Full fit to bear our part.
But some moved up and some were left
Though all men bore the yoke."

This Section embarked on the "Thomas Corwin" on 15-12-43. It disembarked at Lae on 26th December 1943. It consisted of 3 officers and 48 ORs. It remained at Lae until joined by Herridge's section in October 1945 when it moved to Torokina generally in small detachments. It was demobilized in detachments at Brisbane at the conclusion of the war in November 1945. See Appendix C for a nominal roll of personnel. Hann's story follows.

"This Section was formed from members of 2 Company whilst at Childers, Queensland. I was about to proceed on leave when orders were received to form the Section to go overseas. Ward started the necessary arrangements as, at that time, "The Major" was away up in the Gulf country pushing field work along by personal contact. He returned to Childers as soon as he got news of the impending events.

I returned from leave to find things well in hand and the Section was undergoing intensive training under Arthur Clements - gear was being packed, administrative matters were being attended to, vehicles and equipment were being made ready, etc. One item not shown on our loading lists was wood shavings! To have something better than an earth floor in the drafting room it was decided to utilise the wood shavings used inside the boxes to prevent damage to equipment during shipping. The idea ran away with us to such an extent that about 10 large extra boxes were constructed by our unit carpenter and all filled with good quality pine shavings with only a token amount of equipment. The idea paid off very well and the "floor" did good service for about 8 months.

Another item of equipment which we took was a semi-rotary water pump which was Regimental Funds property for some mysterious reason. We had planned to dig a well for a water supply to the camp.

We dug the well at Lae as the first project, struck water at about 12 feet just prior to giving the digging best. This digging was carried out with great military discipline, complete with whistle signals for raising the buckets containing the spoil on a complex but highly efficient system of cables and pulleys which carried the buckets to the dumping area and back to the well bottom - now I forget exactly how! The semi-rotary pump worked every day for the entire period that we were in this camp, all

personnel taking it in turn to fill our elevated water tanks.

In connection with our drinking water I must include a tribute to Capt. Ward's determination to always safeguard the health of his Section whilst in this tropical area. We had the well-water tested and it was found to be pure, but were advised by the Medical Rep. to chlorinate it regularly. When it was brought to the surface the risk of contamination was possible, even though it was stored in 44 gallon drums securely covered by layers of cheese cloth. Capt. Ward personally chlorinated the water every evening without fail and many complained about the tastes as they knew it was pure at its source. We all realized the importance of his actions sometime later! After boarding up the well we sealed it over at the top with logs, iron sheeting and about 2 feet of earth. In about 6 months the logs showed signs of collapse and it was decided to re-seal it. When the old top was removed we found the top of the water, some 6' square, completely covered with drowned rats most of them almost completely decomposed.

We arrived at Lae on Christmas Day 1943 having been transported on a "Liberty Boat". Within a short time the camp was set up and field parties under Noel Fletcher were poised for action. I did not see much of Noel as he was away from H.Q. most of the time on field work whilst I looked after the compilation and fair-drawing side of the operations. I do know, however, that he took on far too much work for one man and in spite of sickness and fatigue achieved the result he had aimed for. The same is to be said for all members of his party. I forget the precise details of all the work he did, but I do remember a gigantic effort on the traverse from Saidor to Madang - he could supply an account of this work.

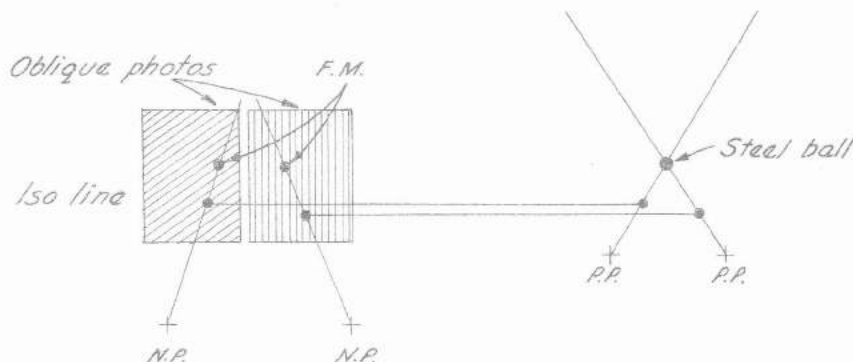
The first problem of a technical nature was the aerial photography, most of which was "trimetrogon" taken from Lightning aircraft by the U.S. Air Force. There was no pattern in the flying, runs were taken in all directions, criss-crossing and at varying altitudes. There was no ground control to speak of in the area to be mapped which covered an area, Lae - Madang - Finschhafen and this was why Noel was off like a shot almost as soon as we landed.

As hopeless as the task seemed, it did not worry us unduly as, having been trained for so long and so well by "The Major" to overcome problems such as these, we simply said that, "We'll compile the maps first and correct them and add the grid when ground control comes to hand." - a back-to-front method if ever there was one, but everything seemed to be this way for most of the time in those hectic days. We did just this and found the subsequent adjustments and replotting in bad areas were surprisingly small considering the method employed. The main success was, ironically enough, due to the very nature in which the trimetrogon photography had been flown. The long runs which criss-crossed each other over the whole area to be mapped provided us with the ideal data with which we could carry out a graphical triangulation of the area to provide initial scale for plotting detail. Great strength in azimuth and scale was achieved in these "trimet" traverses as the minor control points were visible in the oblique views for up to 15 and 16 successive exposures along the flight lines.

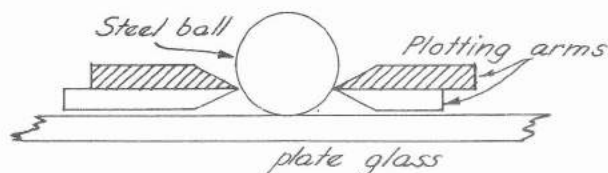
This solved horizontal control accurately enough to make a start on compilation, but vertical control was practically non-existent. Such methods of stream-grading and of course straight out stereoscopic judgement were resorted to. In this regard we were most fortunate in having with us the famous Gray - Lynch - Bosanquet trio who were, in my opinion, the best trained stereoscopic personnel in the Survey Corps at the time. They had developed a system whilst on the mainland, of contouring without height control over an entire 1 mile map. Each member started on the edge with a known height and worked to the centre with ultimate adjustments. I don't remember how it was done and in fact think it was a "trade secret", but I do recall their method being checked with field values on several occasions with surprisingly good results.

One other problem that was overcome was in respect to the making of blue-line impressions in the field, without lithographic aids. We set our minds upon this problem immediately after the blue-line impressions made for our first map by the U.S. Topo Coy - 5th Air Force at Nadzab had proved a failure. After sending our fair-drawings to the mainland for reproduction it was found that the background photographed and it all had to be "duffed out" by the lithographers. We did not go back to Nadzab after that, but devised a method of making our own which continued to be used for the whole period that we were in N.G. It was simple but effective. A rigid steel frame was made by Engineers and into which was clamped a sheet of "Kodatracer" large enough for the whole 1 mile map at 31,680 scale. It stayed in this frame until the compilation was completed and the subsequent blue-line impressions made, thus overcoming expansion and contraction which was a big problem with this material. I remember making tests in Queensland and found that it moved some $\frac{1}{2}$ " in 6'0" with variations in temperature and also humidity. After the compilation was completed the frame was reversed and a copy in reverse made in light blue wax ink which was applied in a molten state with heated pen nibs. The frame was again reversed, Whatman's paper placed under and then impressions were obtained by burnishing over a protective sheet. We could turn out 5 impressions in one night shift after completion of the compilation sheet with "all hands on deck". We also found that up to 10 impressions could be made by this method and it saved something like 4 days if sent by plane to the mainland for standard impressions. The safety of the compilation sheet was another factor in its favour. Les Topham did an outstanding job in this part of our task.

A method, and instrument, was also developed for stereo-plotting from oblique photography, including contouring. The big problem here was to make a continuous and accurate trace in plan of the floating mark seen in the oblique plane. Owing to the rapidity of the changing directions from the principal points of the plotting arms in plan, and the corresponding small movement of the directions to the floating mark in the oblique plane from the Nadir points of the verticals, a mechanical disadvantage was involved. The operator moved the arms in the oblique plane to position the floating mark.



The problem was overcome by accurately slotting both plotting arms to form a knife-edge intersection and into which was inserted a $\frac{1}{8}$ " diameter steel ball coated in duplicating ink and bearing on a level sheet of plate glass. The knife-edge intersection was below the centre of the ball and the slightest force transmitted from the operator caused the ball to roll leaving a fine trace behind.



The first ball point pen was patented about 6 months later! It was found that, with training, these oblique photos could be worked on, stereoscopically, with almost the same speed and ease as verticals. Any large dead-ground areas could usually be filled in from adjoining runs. Fifteen square miles per working day was regularly turned out with this instrument, including contouring, and in fact a very large percentage of the mapping done in N.G. by this Section, was done from obliques.

Great speed was achieved under the system of the compilation agency also carrying out the fair-drawing, as, in most cases, the draughtsmen engaged on a particular compilation sheet also carried out the fair-drawing of it. This obviously led to many short cuts in preparation of the field sheet. In most cases it was not completely drawn as it was not necessary to present it in a completed form which is necessary, of course, when another draughtsman has to interpret it. The method also resulted in far less errors in the final map through continuity of effort and more important, interest.

The Section was well off in respect to any serious sickness considering the conditions at Lae. However we had our share of the various skin diseases, which in fact persisted until the Mobile Laundry moved into the area, when they almost disappeared. It seems that the poor washing of clothes and not being able to completely dry them out before re-wearing them plus soap residue was the cause. Most of us well-remember such cures as "American paint" - miccosol, frias balsam, Condies' Crystals, etc., I am sure. In my particular case none of the above remedies worked and in desperation after suffering for 8 weeks decided to give the boracic acid a trial. It was the only thing in the R.A.P. that I hadn't tried. I thought I had ruined myself for life immediately after throwing a handful onto the affected parts as the burning and shrinking of skin was almost instantaneous! I awoke next morning expecting to be carted off to the hospital but to my amazement after peeling off about a square foot of badly crinkled skin tissue the infection had gone for good! Others tried "the cure" without effect and it appears that with these skin diseases each has his own cure and must find it through trial and error!

Work went on at a good pace for the whole time that we were there despite periods of semi-exhaustion, tropical fatigue, etc. One other point of interest should be mentioned however at the time it was "smartly hushed-up". With the lapse of some 23 years I am sure that those responsible for the blunder will not mind my "exposure" as I am doing so in case the same may happen again. It was to do with Anti-aircraft and Searchlight Units and may also have involved Artillery Units and influenced all of their operations in N.G. up until June 1943. Capt. Ward was asked if he could have his draughtsmen draw the coastline around Lae onto their standard plotting sheets and plot some co-ordinates. When this was done it was found that a coastal point, when plotted, fell in the water by a considerable distance. After much investigation and checking of the draughting it was found to everybody's horror that we had been plotting co-ordinates expressed in metres from origin on standard artillery plotting sheets printed with 1,000 yard squares! These sheets were brought up from the mainland for use in N.G.! It became immediately obvious that in these cases whenever metric co-ordinates were supplied by Royal Australian Survey

Corps for Artillery use and plotted as yard co-ordinates a geometrical distortion takes place and directions for any map-predicted fire were useless! Here again tribute is to be paid to Capt. O. Ward for solving this problem, which simple as it was, had these Units completely baffled for quite some time.

The above are the main points of interest that I can recall and I am sorry if I have overlooked any others equally as important. I am also sorry that other humorous happenings escape my memory".

10. Merauke Section under Lieut. A. Wood

This was a small section or party of 1 Officer and 20 ORs asked for to do work in Dutch New Guinea. It is shown as embarking at Cairns on "Charon" on 1st May, 1944, disembarking at Thursday Island on 4th May, and re-embarking on "Gorgon" on 5th May for Merauke where it disembarked on 7th May, 1944. The date of its return is not certain, but Lieut. Wood is shown as at Merauke from 1st May to 1st Sept. 1944. Practically all this party were incorporated in Herridge's expanded section shortly after being returned. A nominal roll appears in Appendix C. It is understood that this party was temporarily attached to Herbert's section at Cooktown for some time while waiting to proceed overseas. The following account of the activities of the Merauke Detachment was written by John Cavill from his own recollections. He was assisted however by notes supplied by Alan Wood and a daily diary kindly lent by Geoff Foxall.

"The Merauke Detachment under Alan Wood landed in the early hours of 7th May 1944. The whole Merauke episode was one of frustration, and the landing was an omen of what was to come.

From Cairns to Thursday Island the passage was idyllic. We made the voyage in the "Charon", a 3,500 ton Burns Philp island steamer, travelling in first class passenger accommodation, in perfect weather and for the greater part inside the reef. At Thursday Island we changed to the "Gorgon" a sister ship of the "Charon".

The "Gorgon" was very much the ugly sister, a converted cattle ship, overcrowded with troops. We had an uncomfortable, unpleasant trip in a ship run more on the lines of a detention camp than a troop ship.

Our departure from Thursday Island had all the elements of slapstick vaudeville. The helmsman, misjudging the tide, sideswiped the end of the jetty with our stern and left some 20 feet of decking and piling hanging in ruins. This bump caused little damage to the ship but apparently unnerved the helmsman who swung the boat violently around in a tight arc and bore down on two luggers moored a few hundred yards offshore.

He missed the boats by the barest of margins and as their panic-stricken crews dived overboard our bow picked up their mooring chains and swung the two boats alongside, as neatly as though the whole thing had been intentional. We then carried the boats, moorings and all, about a quarter of a mile out into the roadstead, backed off and left them there. Fortunately the mooring chains were longer than the water was deep and they remained afloat.

During the whole episode a great deal of ribald advice had been shouted by the troops to the bridge. Roars of laughter and shouts of applause greeted every comment. It was some time before order could be restored and the R.A.A.F. Squadron Leader who was O/C troops never quite recovered his sense of humour.

The trip lasted 36 hours but seemed much longer. Around 0400, 7th May we were awakened and told to be ready to disembark in one hour. We assembled on deck in full marching order, in the pitch black pre-dawn that only occurs in the tropics. Hot, sticky and smarting

from mosquito repellent we were in no mood to laugh at the pantomime that followed.

Merauke is about 8 miles up river from the sea. Where the river flows past the town it is wide and, between tides, very fast. On this morning it was running out at about eight to ten knots, our helmsman had learned nothing on the way over and his attempts to come alongside and tie up to the wharf were just about as comical as his attempt to leave Thursday Island. Only this time we were in no mood to laugh. Fortunately he did not damage the wharf, in fact he never came close enough to shake it. After some four or five futile efforts to moor we pulled out into midstream, dropped anchor and waited for slack tide. At 0500 we were told to remain on deck, sleep if we wished but not to move around and we finally disembarked at 0830.

The town had been pattern bombed some months before our arrival. We drove along a fairly well made dirt road, between lines of evenly spaced craters marking the position of what had been shops and houses, then out past 11th Brigade H.Q., past the airstrip, and finally arrived at the camp set up by 5th Company. A detachment of 5th Company under Lt. Ferguson had been there for about 18 months, attached for rations to a company of Field Engineers. We were to be their relief.

The most noticeable thing about Merauke, apart from the mosquitoes, was a penetrating acrid smell that we learned later was associated with an ingenious method of sewage disposal. The whole of Southern Dutch New Guinea (or as it is now called, West Irian) is one great swamp with occasional dry areas. Merauke is one such area, just above swamp level. The water table is everywhere within six feet of the natural surface. One result of this is that normal pit latrines are out, and 44 gallon drums fitted out as incinerators serve instead of pits. Each morning a native working party would come around and stoke up these "flaming furies". It was very efficient, very clean and very hygienic, but the harsh smell of the smoke that resulted from the process permeated everywhere. It is hard to remember Merauke without remembering that smell.

Fifth Company had been pretty busy during their stay, and as a result of this we had practically nothing to do. We made ourselves very comfortable, built first class mosquito-proof gauze wire huts with tent-fly roofs.

We did odd jobs for the engineers, the Air Force and anyone else who cared to ask for our services. We levelled a football field, ran about six miles of pipe line, fixed geographical co-ordinates for a radio range, calibrated anti-aircraft guns.

We played nightly games of Bingo with the Engineers, we became expert at playing deck tennis, we heard Philip Hargreaves play the piano and watched Eddie Scarf wrestle. On the nights we did not play Bingo we went to the pictures.

Jim Swan painted portraits in oils, and produced a magazine (it was never published). Fred Edwards became expert in Malay. Harold Turrell set up a tinkers shop. He converted a tilley lamp into a blow torch and manufactured, among other things, a trophy for deck tennis.

What we missed most was beer and work. 2nd Company had a reputation for being hard drinkers and hard workers.

Merauke was a dry town and the work we had come to do, the mapping of the south coast, could not even be started because we had no water transport. Morale was reasonably high, but it was a boring existence.

Finally after three months we got a boat, a beautiful 40 foot work boat pushed along by a Chrysler marine engine. Geoff Foxall with one astro party and Joe Molina with another undertook the mapping of the Merauke River for about 60 miles upstream to a village called Eramboe. The method was to traverse by compass and chronometer with astro control at

around 15 mile intervals. The two parties used the same boat and leap-frogged from astro to astro.

The trip lasted about nine days. Clouds and rain made it almost impossible to identify stars in the field. Programming was impossible, it was a matter of shooting stars in the right quadrants as they peeped through the cloud cover, and identifying them later.

Hundreds of crocodiles were seen and some shot at. Their bellowing at night made sleeping on the river banks a somewhat unpleasant experience.

The social highlight of the trip was the sing-sing and ballet staged for us at Eranboe. This village was managed by an Indonesian "goeroe" (teacher) who put on a slap-up dinner and then treated us to coffee and cigars on the verandah whilst we watched the performance.

They danced a symbolic corroboree-cum-ballet depicting agriculture. The accompaniment was soeling (bamboo flute) and clapper. It was most interesting but the night was hot and the dance was vigorously performed by four rows of sweating dancers, each row in turn coming forward to repeat each sequence.

Towards the end of the performance we were being assaulted by waves of body odour as the "corps-de-ballet" surged towards us. Fortunately we were able to set up a defensive screen of cigar smoke, and consoled ourselves with the thought that our staple diet of bully beef gave us an odour that the natives could recognise at 209 yards. If they could stand us it was up to us to stand them.

This trip was probably the best part of our stay in Merauke.

Four days after our return Foxall and a party of six embarked on what turned out to be nothing short of a horror trip to Tanah Merah.

There was a regular supply run from Merauke to Tanah Merah consisting of a flat, square timber barge, towed behind a tug. Someone had the bright idea that personnel could be carried this way as well as supplies.

This party left Merauke at 1200 hours on 19 July 1944. Nightfall found the barge in the centre of a storm at sea. The hold was filled with drums of petrol so that it was impossible to remain below without being sick, and most of the party remained on deck and risked being washed away by the waves breaking over them.

On the following day, when almost in the shelter of the Princess Mariana Straits, the tow-line showed signs of breaking and after repairs had been effected the tide had been missed. The barge was towed back out to sea and anchored for the night. A gale blew for most of that night and waves broke continually over the barge.

After another abortive attempt to reach the straits early in the morning of 21st, tug and tow put back to sea and dropped anchor again. However, by then the sea had calmed down a lot and at 1400 hours on 21st, after 50 hours at sea, the haven of the straits was reached.

The remainder of the journey took 10 days, interesting enough if at times uncomfortable. One highlight was the night the trigger-happy tug captain shot a burst from the vickers across the bows of a Dutch vessel that failed to answer his signal. Another was a stand-to when the same tug captain anticipated a night attack from the 'Mapis', a notorious tribe of headhunters who were equally keen on European or Japanese trophies.

The quarters at Tanah Merah were first-class and despite the rain and floods, Foxall and his small band, in the next four weeks turned out most of the work accomplished by the Merauke detachment.

On the 29th August, the party returned to Merauke by Douglas in 65

minutes. The forward trip by barge had taken thirteen days.

There must have been some gremlins especially detailed to foul up transport for the Merauke mob. The Douglas attempting to take off at Tannah Merah became bogged and had to be pushed out of the mud by the passengers.

At 1215 on Friday, 1st September, the whole detachment left by Douglas for Iron Range. The take-off was sweet, though we were overloaded, and the trip was uneventful till almost as we were about to touch down.

Perhaps because we were overloaded or because of pilot error, or a down draft, whatever the cause the result was that we dropped the last 30 feet on to the runway, hit with a mighty crash and bounced into the air again as the pilot roared his engines to regain flying speed. We were still airborne as we passed the Control Tower in the centre of the strip and finally pulled up in the trees at the end of the runway.

So ended, almost in disaster, an expedition that perhaps should never have been started."

11. Second New Guinea Section under Capt. J. Herridge

This section was formed and departed after I had left the Coy. Its establishment was much the same as the previous section under Ward. It left the Company and embarked at Townsville on the "Tarooma" on 19 October 1944 arriving at Lae on 23rd October. It very quickly commenced to move to Torokina. Herridge became medically unfit and Carter was O/C until Lightfoot arrived at Torokina. It was demobilised in Brisbane at the conclusion of the war. For a Nominal Roll see Appendix C. Carter's story follows:

"When First Army Headquarters moved forward to Lae it was decided to send an additional section of the Coy there also. No. 1 Section had been stationed at Lae for the past twelve months or more and were then in the process of moving to Torokina. No. 3 Section was chosen for this task, being similar in composition to No. 1 Section, and was assembled at Coy H.Q. which was stationed at Ingham.

After spending an uncomfortable trip on the "Tarooma" from Townsville, when most of the Section were seasick, we eventually landed at Lae, and were stationed in the old camp which had been occupied by No. 1 Section. The drawing hut and other structures, which had been erected by No. 1 Section, were showing the signs of white ant activity and it was decided that the camp should be rebuilt. Fortunately, we were on very friendly terms with the Engineers and received some priority in obtaining local milled timber for the erection of a new drawing hut, Q store, mess hut and orderly room. All the lads hopped in with a will to make themselves as comfortable as possible. The existing buildings were quickly pushed over by using a 3 ton truck as a bulldozer and many gallons of range fuel soon got rid of the resultant heap of debris. Our new buildings were soon under way and personally I consider that, as a camp, this was the most comfortable I had lived in during the war. The only disadvantage, which soon became apparent, being that it was too close to Army H.Q.

Our first introduction to mapping under our new conditions commenced, when we were half way through the completion of the camp, with the arrival of a truck load full of photographs. It literally was a truck load too. There were photographs at all scales and sizes which had been taken primarily for recce and intelligence purposes of various areas of Bougainville from which we were required to produce maps. An Australian military operation had already commenced on Bougainville and the mapping requirements for the operation were to be shared by Nos 1 and 3 Sections each being given certain areas of responsibility. One inch to one mile maps were made of this area. During our early days at Lae a great deal of building work was carried out to establish First Army H.Q. and, being the only survey unit in the area, we received our fair share of miscellaneous engineering surveys. I can recall a survey for a native hospital and

another for the site for the WRAAC Barracks which was eventually built before we left the area.

Conditions on the whole were good, the troops being much better off at Lae than most of the survey camps had been in on the mainland. Amenities were excellent, picture shows were numerous close by, and there were frequent live shows to be enjoyed. Beer could have been more plentiful perhaps but every smoker enjoyed the American cigarettes which were plentiful. Barter was the order of the day and it was surprising what common place articles had such a high market value. My first introduction to the local trading habits happened one evening, just on dusk, when an American 3 ton truck pulled up outside my sleeping quarters. An American jumped out of the truck and came over saying "Want to buy some cigarettes Bud?" "Yes", I said, "How much". "Seventy quid" was the reply. Being new to this game and seeing the size of the crates on the truck I thought he wanted £70 per crate of cigarettes but it appears he wanted that much for the truck load. I was a heavy smoker in those days but not as heavy as that!

It was not long after we became established at Lae that our O/C, Capt. Herridge took ill and was invalided to the mainland. Military operations were extended to New Britain and our troops were holding a line in the vicinity of the Wide Bay area. To carry out surveys and establish artillery control, Wood with a small detachment, was sent over there to carry out this task. At about this time a small survey party was also required to assist in the Wewak operations. Geoff Foxall, and another small party, carried out this work for a short time but they were eventually recalled when members from 6 Coy took over this commitment. Working from Lae the section completed an area of 1/20,000 mapping in support of the New Britain operation.

Whilst the Section (and this applies to No. 1 Section also) was capable of finalising a map to the fair drawing stage it did not have the facilities of a reproduction unit and could not print maps. Dyelines of maps were reproduced for certain areas but this method was obviously not good enough. Fair drawings were sent to the mainland for reproduction and generally, stocks of the multi-coloured maps were returned in a surprisingly short space of time for immediate use by the fighting troops. However, it tended to be a morale breaker for the survey troops, who, after working long hours on compilation and drawing, would know the map could be held up before being available for distribution. This state of affairs continued until a reproduction unit, 6 Aust. Army Topo. Survey Coy arrived at Lae to take over this reproduction requirement. This unit was situated in the Section area and eventually took over from our Section. This made us redundant at Lae.

As No. 1 Section had been in an operational area in excess of the allotted span they were to be sent on leave in batches and to be replaced by members of No. 3 Section. This arrangement took many months but gradually most members left Lae and went to Torokina. Eventually, by this means most members of No. 1 Section were relieved and 3 Section operated from Torokina.

I think most members were glad to leave Lae as by comparison to Torokina it had many disadvantages. The camp at Lae was much hemmed in with undergrowth and this prevented any cooling breeze. Dermatitis was prevalent, the most common area of infection being between the legs. It's amusing now to recall laying on one's back, minus trousers, trying to catch any small cool breeze which brought relief to the nagging itch. Can anyone else who was there forget the first week at Lae when all the camp went down with diarrhoea? The "three holer" during this period was not large enough to cater for the needs of the troops and many had to take to the bush, shovel in hand, and take their chances with the scrub mites.

I was on leave during the Armistice. After spending 6 weeks in a Brisbane staging camp, where my sole work for the day was to sign a blank

book of leave passes, I arrived at Torokina to find all the troops enjoying sports and rehabilitation courses. Rumours were rife, particularly about discharge procedures, and the main topic of conversation was "When are we going home"!! One amusing incident is recalled - the boys were building a tennis court. There was many an argument as to how the surface of the court should be treated. One would have thought it was going to be the venue for the next Davis Cup!

I saw lots of old faces there, some of whom I had not seen since 1943. Many new faces were also evident including Lightfoot (O/C 3 Section) and Tait (O/C 1 Section). There were also some reinforcements from the recently disbanded 4 Coy.

I didn't spend many days in Torokina but soon departed with a small section of about eight - I can only recall such names as Power, Purcell and Shepherd who were included in the party. We had the task of extending control to the Eastern side of the island which could be of use for future mapping of that area. This we were to do with the aid of a 16 ft launch manned by the Engineers. It was a most enjoyable trip until the launch broke down and we had to anchor in a bay for a week or so whilst another boat came to our rescue from Torokina. After about six weeks we returned to Torokina to find the Section preparing to pack up to go home. During this stage it is difficult to say what section was at Torokina. There were some of the original members of No. 1 Section and others from No. 3 Section. Also, there were reinforcements from Coy HQ. Some, who were there when I originally arrived at Torokina, had left for discharge. Lightfoot was included amongst these, leaving Tait in command of the composite section.

I've often thought Survey did it's best staff work on this occasion as we were given a high priority for return to the mainland. My last impression of Torokina was on a fine, hot sunny morning with piles of accommodation stores burning in the camp area. As we marched along the jetty to board the "Westralia", Mt Bagana with smoke belching from her top, could be seen sleeking her head above the clouds - a really splendid sight.

We landed at Brisbane and camped at Chermiside to prepare for the disbandment of the unit. Many of the troops were discharged and others, who had a low priority, were transferred to 3 Coy which was stationed in a nearby suburb. Others were sent to 5 Coy which was then in Sydney. A small group of us had the task of disbanding the unit. This was not as bad as anticipated as demobilisation procedures were by now well established and everything ran smoothly in this regard. Even after all the intervening years, I would still like to pay tribute to our Section quartermaster, Corporal Stan Remington. Stan looked after all our stores during our time away and on the day of reckoning we were only deficient a few cooking utensils, which to me, was a mighty effort. Eventually, the Section, having been duly wound up, Tait and I, who were then the sole survivors, went our separate ways, he to his civilian activities and I to 5 Coy in Sydney."

12. The Remaining Company in Queensland (1)

Memories of Capt F. Freeguard follow and these are interesting. Relf had command of the Coy for 9 months after my transfer South. There does not appear to have been any regular OC after that. Freeguard was O/C for 5 months until Ward reported back to the Coy instead of returning to New Guinea after leave. About two months later the Coy was demobilised at Brisbane. It is rather curious to see the 2nd Coy, predominantly NSW, being demobilised in Queensland, while the 5th Coy, predominantly Queensland, was sent to NSW to demobilise.

Two or three interesting facts emerged from Freeguard's memories. The receipt of 60 members from the 4th Coy, then breaking up in WA, is noted, also the story of the washed-up mine is new, as is the story of the concert party containing Morris. His memory of the conclusion of the Gulf Detachment conflicts with Herbert's story. Snow will be asked for some notes to verify this. Freeguard's story follows:

"After Major Clews left on 8th June 1944 Major W.B. Relf became OC of the Coy. He went on leave at Townsville on 9th March 1945. To the best of my knowledge he was aware of his appointment to the Indian Army at that time. I then held the fort until the return of the Coy 2 I/C, Capt O.G.F. Ward, on 10th August 1945. I left the Coy on 2nd November at Brisbane and was demobilised in Sydney on 23rd November. Captain Ward was OC Coy HQ when I left Brisbane.

Major Relf visited the Gulf Detachment at Cloncurry and arranged for it's return to Coy HQ at Ingham. The detachment with three well worn vehicles returned on 24th August 1944. The detachment was to be equipped with new vehicles and proceed to Coen for 4 mile mapping, but this was later cancelled. Major Relf and I made official visits to the Atherton Tablelands to Survey Units stationed there. The Company at this stage was employed mapping at Ayr and Kangaroo Hills with the drawing office at Ingham. Two Airforce planes were stationed at an airfield near Ingham for photo work. Trigonometrical work was carried out at Kangaroo Hills, Herbert River, Thornton's Peak and Cooktown.

On 8th January 1945 about 60 men joined 2 Coy from the 4th Coy of Western Australia. The West Australians proved technically most efficient at the survey school started at Ingham in January 1945. Showers started the wet season on 3rd January 1945. The Ingham showground camp was surrounded by water on three sides during the height of the flood. Major Keig was prevented from returning to the Atherton Tablelands due to floods. Tents were blown down by a cyclone; Boots and leather developed a tropical odour; Whisky supplies became low; crocodiles were washed down the Herbert River and everything was fine!

Sporting activities kept 2 Coy fit. Tennis was played on the show-ground court and snakes were killed on the sides. Cricket associated with the names of Arthur Taylor, Charlie O'Brien and George Connelly was played against local teams. Basket ball and deck tennis had their devotees. In soccer an army boot broke the shin bone of a player from a local team. This gave rise to the organisation of a benefit dance which was a huge success. Rod-Bowen Jones divided his time between drawing maps and organising sports on the parade ground.

Lieutenant Morris arrived with 11th. Australian Division concert party on 24th April. The concert was held on 26th. A large crowd of civilians among whom were Father Garvey and members of the Airforce (survey detachment) enjoyed the concert. The civil police were present and used some obscure regulation to close the concert at midnight. Members of 2 Company were introduced to the game of bowls by the Ingham Club. It was a useful reintroduction to civilian life. Lieut. Arnold RANR requested the use of a truck and camera to photograph mines washed up by the sea near Lucinda. The close up photos were quite clear. Enthusiasm for exploding the mines was not so great.

Two truck loads of troops, one with Bill Clarke, the other with me, met on the road near Mossman Qld. The 2 Coy type greetings caused eyebrows to be raised. I went to Cooktown Railway Station on 15 September 1945, and thence to the Cooktown trigonometrical base line by trike to carry out star and sun observations. I bid farewell to Ingham 23rd October 1945 and so at last went home."

13. The Remaining Coy in Queensland (2)

Herbert has stated that he is not sure of the sequence of events. I personally do not recall sending him to Normanton to collect the Gulf party remnants, but Snow's story will verify the course of events here. Clarke was still at Iron Range when I left the Coy and Herbert's collecting of odds and ends must have been after I left when Herridge's section was formed. The fact that the Merauke Section was working at Cooktown came as a surprise, but explains several matters. Herbert's "memories" follow:-

"My association with 2Fd Svy Coy commenced late in 1943 after my return from the Middle East and a period of about six months at the LHQ School of Military Intelligence. On my arrival the Company was situated with its headquarters at Childers, the centre of a large sugar cane industry in Queensland.

After settling down, the next few months were spent with the section operating in Southern Queensland. Here the basic procedures for mapping control were carried out by stabilising parish maps, contouring was done on photos from field heighting and detail plotted from photos.

After nicely settling down to this work orders were received for me to report to Capt. Bill Kissane of the United States Air Force at Townsville. Then began a most interesting period of some three months as liaison officer between the United States Photographic Unit, the RAAF and ourselves. During this time most of the North Coast of Australia was photographed with the Trimetrogon camera. This photography was used by a detachment of the Company stationed at Normanton on the Gulf of Carpentaria and resulted in the first four mile maps of these areas being published.

A further period followed with 2 Company - the section now operating in Southern Queensland and Northern NSW. Clifton, Kingaroy, Tenterfield, Drake and Boonoo Boonoo are names I can recall in which mapping was being carried out.

At this time the Company had detachments widely dispersed. Noel Fletcher, with his headquarters at Normanton, was doing astro control and four mile compilations of areas around the Gulf of Carpentaria. Bill Clarke, with headquarters at Iron Range, was doing a similar job in the Northern portion of Cape York.

As the war against the Japanese became more confined to the islands North and East of Australia considerable reorganization of Survey Corps units became necessary, this resulted in Noel Fletcher and Bill Clarke being posted elsewhere. "The Major" sent for me and gave me the job of picking up the remnants of the detachments in the North and concentrating them at Cooktown, there to continue the major triangulation between Cairns and Cooktown and proceed with inch to the mile mapping along the coast.

That first trip to Normanton overland was quite an experience. The train trip from Townsville to Cloncurry with its inevitable stops for tea, when nearly everybody alighted and made tea from water supplied by the engine; the further stops while we waited for cattle to get off the line, nobody seemed to care if they remained there all day. Then the ride in a 'blitz buggy' from Cloncurry to Normanton, our way must have generally followed the route of the ill-fated Burke and Wills party nearly a hundred years ago.

The lads at Normanton were in good spirits and after a couple of weeks current work was finalised and plans made to collect all parties and for them to proceed with vehicles and stores to Cooktown.

Members of this detachment had become quite expert crocodile and pig shooters. During my stay with them I was introduced to these exhilarating pastimes. I shall never forget the first crocodile I bagged. Ron Hughes was my mentor. On a large expanse of water Ron pointed out to me the eyes watching us about fifty yards away. I must have got him in a vital spot, there was a swirl of water as the crocodile did a 'one and a half' and his white belly appeared and then rolled out of sight. In no time at all and much to my surprise and concern Ron had his boots off and was wading out to collect the kill. After feeling for it with his feet in about 3 feet of water he eventually found it, picked it up by the tail and triumphantly waded back with a five foot crocodile.

Returning to Townsville and on to Cairns where our activities came under the administrative command of Cairns Fortress. My first trip to Iron Range was in a civil airlines plane, a Dragon Rapide, piloted by quite

an expert. At Cooktown we touched down left wing tip first and to even things up we tried the right wing tip at Iron Range. No serious damage was done.

Iron Range was only an airstrip carved out of the jungle. It had served its purpose during the Coral Sea Battle. Bill Clarke and his boys were camped some few miles from the strip. Bill left within a couple of days and arrangements were made to move the rest of the detachment and stores to Cooktown.

An old abandoned hotel was selected as the detachment's headquarters at Cooktown. It was quite a palatial layout but in a very dilapidated condition. Cooktown has quite a history; during our stay it boasted a main street, three hotels in operation, a magnificent bank, a post office, an air port, a RAAF station and aerodrome, RAN rescue launch, a railway station from whence you could only go as far as Laura about fifty miles inland, a pier with a weekly steamer service to Cairns, a convent, school, various stores, cafe and Captain Cook's Monument.

After settling down, trig and topo work commenced. Bob Dyson took charge of a clearing party. Spencer Snow had a party on triangulation observations from the Cooktown end of the chain. Ted Hunter had another party doing the trig from the Cairns end. The remainder of the detachment commenced the topo of the Cooktown one mile map area.

We had not been at Cooktown very long when the Merauke Detachment was formed. This detachment under the command of Alan Wood moved up from Cairns to Cooktown where they were to remain awaiting a favorable opportunity to move to Merauke in Dutch New Guinea. Whilst with us the services of this detachment were used to assist in measuring the Cooktown Base Line.

The Merauke Detachment eventually embarked. They were only gone a few weeks when they were recalled and we had the pleasure of staging them again for a short time.

Most of the personnel at Cooktown will recall many interesting and at times amusing events. The train ride between Laura and Cooktown with blitz buggies lashed to the flat tops was a real thriller; that train driver knew just how fast he could go around some of the curves; the sickly trip from Cooktown to Cairns - I cannot bear to think of it; those interesting cricket matches against the RAAF and the locals - just as well we had Charlie O'Brien along with us; the concert in support of the beauty queen representing the RAAF, I think, in a fund raising, state wide charity contest - remember 'Pistol Packin' Mamma?'; Who, of those concerned, can forget the hours, days and weeks we spent waiting for the cloud to lift off Mt. Finnegan? Mosman where we had our brush with the authorities; The Lions Den?

Many versions have been told of the safari to the Annan River. At the request of the 'Major' I would like to add mine :-

Early one pleasant morning a request that a party have a vehicle and a day's leave to go fishing in the Annan River some 15 miles South of Cooktown was granted. Spencer Snow invited me to accompany him to see if we could get a bit of pork on the menu.

The trip to the Annan River was quite pleasant and very soon most of the chaps were dangling lines in the river and doing things that all fishermen do. "What about it" says Spinner. After filling our pockets with ammo and carefully checking our 303 rifles, off we set into the tangled mass of undergrowth which bordered either side of the road. After battling our way through the jungle for some 100 yards it cleared somewhat and we were able to walk more freely. Suddenly we froze and in the silence that followed we could hear grunts and squeals and running feet. "You have first shot" said the most generous Spencer as quite a large sow got in the line of my sights. As the pig dropped her family of about half a dozen

were running in and out all over the place, we caught one with the intention of fattening it up for a future occasion.

For the next hour or so the phrases "Your shot Spencer" and "Your shot Barney" became quite commonplace - we were really in pig country. Then it happened. There appeared on a small rise about 40 yards away the biggest pig I have ever seen outside the Sydney Royal Easter Show. It gets bigger with the years, of course, but dividing my present imagination by two I would estimate it to have been 6 feet long, 3 feet high and all of three quarters of a ton. Spencer was faithfully keeping the shot roster and gave all clear with his "Your shot Barney".

We soon called it a day, selected a nice porker for the pot and with the help of the fisherman got it aboard the truck where the small piglet was already making himself at home. The party returned to Cooktown after a pleasant day - no fish of course but ample pork.

The next day was Sunday. On Monday morning the local constable paid me a visit. He had the unpleasant task of inquiring into a complaint by the local butcher regarding the number of dead pigs he had found in his piggery down near the Annan River. Having heard that we had had a fishing trip in the area he was trying to ascertain if we could throw any light on the butcher's complaint. I assured him that the matter would be investigated at once and on his suggestion agreed to personally contact the butcher, who only lived next door to our hotel, and come to some arrangement with him if necessary. The constable preferred not to be further involved.

The butcher was a most reasonable chap. After telling me in a quiet, sincere voice of the carnage he had discovered at his piggery the day before, I could quite understand his concern and assured him that a thorough investigation was being conducted and if necessary reparation would be made. He did not want this, his main worry, he said, was the loss of a boar which he had only recently purchased and had had sent up from Cairns. If compensated for the loss of the boar, about £5 I think it was, he would be happy to forget the whole affair. My investigation was carried out with little delay. The butcher received his compensation and everybody was happy. The porker was well prepared for our table by Peter Watson and some weeks later the piglet followed a similar course.

Everything comes to an end of course and about the middle of 1944 the Cooktown Detachment was recalled to Company Headquarters, now at Ingham under the command of Major Wally Relf. Here most of the chaps were posted to units operating in the South West Pacific Area. My association with the Company ended on my being posted to First Australian Army Headquarters at Lae."

Snow's recollections of the Gulf Detachment movements are as follows:-

"As mentioned earlier the Gulf Detachment departed from Childers in April or May 1943 and established HQ at Normanton. Ward was OC Detachment and Fletcher was 2 IC. There were three astro observing parties of five men each, under Sonter, Snow and Monteath. There were also a few compiling draftsmen, and some miscellaneous survey hands and I think the Detachment strength was 2 Officers and about 22 ORs. From memory Ward didn't stay long at Normanton, so Fletcher was left in charge. Herbert arrived about September 1943 and Fletcher returned to Childers. I left soon afterwards with an advance party (Snow, Monteath, Roberts, Richards and Fuller) and we travelled overland via Atherton to Cooktown where we commenced the recce for the trig chain between Cairns and Cooktown. I think Herbert brought the remainder of the Detachment overland from Normanton to Cooktown several months later. At about this time another Detachment under Freeguard, I think, began astro observing operations based on Cloncurry. However, as far as I can recall neither Freeguard nor Relf ever came to Normanton.

The Cooktown Detachment was under Herbert and was joined by Wood's Detachment early in 1944 for about three months before the latter Detachment departed for Merauke.

I hope the foregoing clarifies some of the doubts but perhaps it only adds to the confusion."

14. Conclusion

"Now, freed at last we meet and talk
As craftsmen knowing worth,
And as we talk recall the jape
That eased the toil of yore
And Honour give to friends of old
Whose hands we'll clasp no more."

I have called this story of the 2nd Field Survey Company "Memories" instead of "History". The reasons for doing this were chiefly, to avoid interference with anybody writing a real history either of the unit or the Corps. History calls for impersonal and unbiassed accuracy, which I personally could not guarantee. So if there are mistakes, or biassed opinion or incidents worthy of inclusion which I have overlooked, put it down to bad memory. Possibly in the years that have passed my opinions may have altered. I cannot guarantee that the thoughts I now offer were the same as at the time of the events.

I wish to thank those who have helped in this compilation, by setting down some of their own memories. The events during the later disintegration of the Company are difficult to follow, but I have learned much from some of these stories, and if the picture is still somewhat blurred, it is better than a blackout. Many thanks also to the Director of Military Survey (Col D. Macdonald) for allowing Lieut. Long to obtain the nominal rolls of the overseas sections. Finally thanks to Col. Carter and Major Snow for their continual help during the process of gathering the information. Without their help I doubt whether the story would have been written.

It is hoped that this story may be of interest to all past members of 2 Coy, and possibly to Survey Personnel of the other Companies, who, I hope, will see their own stories told in the future.

HPG Clend

Indi 7-7-66

Appendix A

NOMINAL ROLLNO 3 SECTION, AUSTRALIAN SURVEY CORPSAS AT OUTBREAK OF WAR

* Capt	CLEWS (OC)	No 2 Coy
* WO I	ROSSITER	No 2 Coy, then to 11 Survey Depot
* WO I	ROBERTS	No 2 Coy, then to 12 Survey Depot
* WO I	JOHNSON	No 4 Coy
WO I	ALDRED	No 1 Coy, then to 5 Coy
WO I	SMITH	AIF (Intelligence)
WO II	EGGELING	No 1 Coy, then to 5 Coy
WO II	RELF	AIF (2/1st Coy)
WO II	HERRIDGE	No 4 Coy
WO II	CARTER	No 2 Coy
WO II	HARRISON	No 4 Coy
WO II	PRINCE	AIF (Artillery Survey)
SGT	KEELER	AIF (2/1st Coy, Accidentally Killed 1941)
SGT	BUCKLAND	AIF (2/1st Coy)
CPL	WILLIAMSON	AIF (2/1st Coy)
CPL	McCORMACK	No 3 Coy

CHAINMEN -

* GLANVILLE	2 Coy
* TODD	2 Coy
* CUMMING	2 Coy
* DYSON	2 Coy
* LENEHAN	2 Coy

* Served in First World War 1914-18

2 AUSTRALIAN FIELD SURVEY COMPANY
COPY OF FIRST ROUTINE ORDER ISSUED.

Appendix B

AUSTRALIAN MILITARY FORCES

For Official Use Only. AMR & O 1587.

ROUTINE ORDERS
No. 2 Field Survey Company, R.A.E. E.C.

by
Capt. H.P.G. Clews

1A

217 Lambton Road,
New Lambton.
19.10.40

1. Formation of No. 2 Field Survey Company

No. 2 Field Survey Coy, RAE is formed as from 20.9.40, vide E.C. Memo 68487 of 17.10.40., commenced to operate as from 16.10.40., and will be administered by Eastern Command through D.A.D. Svy, E.C. This unit will absorb No. 2 Section, Australian Survey Corps (P) and Field Survey Unit, R.A.E. (M). All military personnel of No. 3 Sec., Aust Svy Corps (P) are seconded to No. 2 Fd Svy Coy, RAE. Civilian personnel will be enlisted at earliest possible date. Personnel of Field Svy Unit, R.A.E. (M) are transferred to No. 2 Fd Svy Coy, R.A.E.

2. Locality

HQ. No. 2 Fd Svy Coy R.A.E. are temporarily located at 217 Lambton Road, NEW LAMBTON. Camp at Dungog Showground is retained, and will be known as Command Survey Depot, and used to train and equip personnel recruited to fill establishment of new unit.

3. Equipment and Transport

Equipment and transport on charge to Fd Svy Unit, R.A.E. (M) will be transferred to No. 2 Fd Survey Coy R.A.E. forthwith. The equipment on charge to No. 3 Section Aust Svy Corps will remain on Ordnance Act 112, under the present accounting officer.

B.

1. The following personnel of No. 3 Section, Aust. Svy Corps are seconded to No. 2 Fd Svy Coy R.A.E. with their respective ranks and appointments.

	Capt. H.P.G. Clews	5985	-	WO.11 W.J. Harrison
	Lt. H.F. Eggeling	5345	-	WO.11 C.W. Prince
	Lt. J.K.C. Herridge	9465	-	WO.11 C.C. Bradley
1171	- WO.1 H. Rossiter	9466	-	WO.11 M.F. Morris
1174	- WO.1 A.B. Roberts	4324	-	Sgt. J.D. McCormick
1175	- WO.1 E.T. Johnson	9467	-	Sgt. L.N. Fletcher
1178	- WO.1 V.W. Aldred	9468	-	Sgt. T.A. Dalton
3577	- WO.11 C.T.P. Carter	9469	-	Sgt. W.H. Tanner
		9478	-	Cpl. D.G. Roberts

2. The following civilian personnel attached to No. 3 Sect. Aust Svy Corps are taken over by No. 2 Fd Svy Coy R.A.E. and will be enlisted at earliest possible date.

C.H. Glanville
V.H. Cumming
R.W. Dyson

H. Todd
J. Lenehan

3. The following personnel of Fd Svy Unit, R.A.E. (M) are transferred to No. 2 Fd Svy Coy, R.A.E. with their respective ranks and appointments.

N77979 - Lt. T.P. Keig	N13635 - Cpl. Boyers W.
N13632 - Sgt. Freeguard, F.H.	N13636 - Cpl. Travers J.K.
N74869 - Sgt. Carpenter, I.C.G.	N13637 - Cpl. Sheppard R.
N74871 - Cpl. Kilby, H.A.	N13634 - Cpl. Remington J.
N74874 - Cpl. Alderton R.B.	N13633 - Spr. (Svy Hand) Prees R.E.
N74868 - Cpl. Faulkes, G.E.	N74880 - Spr. (Svy Hand) Harley G.F.
N74865 - Cpl. Clements V.R.	N8518 - Spr. (Svy Hand) Asher J.R.
N74876 - Cpl. Sonter R.	N13639 - Spr. (Svy Hand) Hilbery J.A.
N74870 - Cpl. Foxall, G.C.S.	
N74866 - Cpl. Power J.W.	N73995 - Spr. Maltby, J.C.
N8520 - Cpl. Busby H.E.	N74872 - WO 1 Ward O.G.F.
N74864 - Sgt. Clarke I.R.M.	N74873 - Cpl. Foxall I.S.

4. Mechanical Transport

(a) The following Army vehicles on charge to No. 3 Sec. Aust Svy Corps are transferred to No. 2 Fd Svy Coy R.A.E.

L28	30 cwt
L486	30 cwt
V484	20 cwt
V112	15 cwt
V6238	12 cwt

(b) The following vehicles hired under MFR & 1362 are taken over by No. 2 Fd Svy Coy R.A.E.

M.V4822	30 cwt
M.V G T313	12 cwt

5. Enlistments

N13641 Spr. Robbins B.D.E.	Enlisted 17 Oct (Draughtsman Gp.1 Spec)
N13642 Spr. Muxlow O.S.	" " (Driver Mt Gp.111 ")
N13643 Spr. Lenehan J.	" 18 Oct (Svy Hand Gp.11 Spec)
N13644 Spr. Dyson R.W.	" " " (" " " " ")
N13645 Cpl. Todd H.	" " " (Carp. & Joiner)

6. Civilian Personnel

The undermentioned personnel, taken over by No. 2 Fd Svy Coy R.A.E., having enlisted in that Unit on 18 October 1940 are struck off the list of Civilian Personnel as from 17 October 1940.

Svy Hand Todd, H.
Svy Hand Lenehan, J.
Svy Hand Dyson, R.W. M.M.

H.P.G. Clews Capt.
O.C. No.2 Fd Svy Coy RAE

DISTRIBUTION

Eastern Command
Area Commandant Rutherford
D.A.D. Svy E.C.
D.F.O.
Notice Board
File
A.A.P.C.
D.R.O.
D.A.A.G. (P.S)
D.A.A.G. (O)

Appendix C

Expanded No. 1 Section sent to NG in late 1943 (3 Offrs 48 ORS)

Capt O.G.F. Ward	Cpl N.W. Pattinson	
Lieut L.N. Fletcher	Cpl R.G. Owens	
Lieut G.R. Hann	Cpl E.W.J. Neihit	
WO I R. Sonter	Cpl L.J. Bartley	
WO II J.W. Power	Cpl R.V. Boatswain	
WO II J.V. Gray	Cpl H.C. Law	
WO II A.A. Frier	Spr H.M. Jackson	
Sgt N.J. Fitzgerald	Spr C.J. Hammond	
Sgt J.G. Armstrong	Spr W. Gardiner	
Sgt W.N. Quirk	Spr R.K. Purdman	
Sgt R.M. Virtue	Spr A.J. Harrison	
Sgt R.F. Bosanquet	Spr J.K. Whelan	
Sgt F.H. Purcell	Spr E.J. Laker	
Sgt J.C. Maltby	Spr G.G. Hodge	
Cpl H.W.R. Hamblen	Spr N.L. Brazier	
Cpl B.J. Ryan	Spr G.I. Gair	
Cpl D.L.H. Matthias	Spr W.J. Blakley	
Cpl L.A.F. Topham	Spr I.W. Pryor	
Cpl V. Akehurst	Spr V.E. Coleman	
Cpl J.G. Long	Spr J.P. Flynn	
Cpl M.F.C. Helmrich	Spr J.R. Bishop	
Cpl G.H. Flicker	Spr W.T. Densley	
Cpl J.D. Lynch	Spr D.A. Freeman	
Cpl D. Martin	Spr J.B. Brice	
Cpl J.L. Wood	Pte Tregallas)	Cooks
	Pte Primmer)	

Expanded No. 3 Section sent to NG October 1944 (3 Offrs, 46 ORs)

Capt Herridge	Cpl J.R. Hutchinson
Lieut Carter	Cpl H.L. Greening
Lieut Wood	Cpl P.W. Lymberry
WO I F.R.G. Jackson	Cpl H.A. Shepherd
WO II G.C.S. Foxall	Cpl J.E. Proudfoot
WO II L.L.C. Antwis	Cpl L.K. Hazelwood
WO II J.M. Monteath	Cpl C.H. Howarth
WO II W.S. Pye	Cpl W.A. Martin
WO II M.D.W. Herps	Spr D.A. Russell
Sgt D.G. Roberts	Spr R. Carscadden
Sgt M.D. Joseph	Spr M.R. Bett
Sgt H.A. Turrell	Spr F.H. Edwards
Sgt H. Helmrich	Spr S.W. Wilson
Sgt R.C. Watson	Spr E.B. Stoddart
Sgt J.A. Cavill	Spr W. McCabe
Sgt L.F. Beaumont	Spr W.N. Watson
Sgt J.B. Swan	Spr D.E. Sulman
Cpl C.P. Wetherill	Spr P.J. Fagan
Cpl J.S. Pheloung	Spr F.W. Ford
Cpl J. Miller	Spr E.J. Fuller
Cpl G.J. Richardson	Spr E.C. Beaumont
Cpl J. Godding	Spr J.C. Daymond
Cpl J.B. Brook	Spr J.F.C. Watson
Cpl S.R. Remington	Spr K.L. Turley
Cpl J.D.H. Jolly	

Appendix C

Small Section (or party) sent to Merauke in late 1943 (1 Offr 20 ORs)

Lieut A. Wood	Cpl G.J. Richardson
WO I J. Molina	Cpl J. Miller
WO II G.C.S. Foxall	Cpl J.M. Banks
Sgt J. A. Cavill	Cpl W.A. Martin
Sgt H. A. Turrell	Spr J.C. Daymond
Sgt M. D. Joseph	Spr R. Carscadden
Sgt J. B. Swan	Spr M.R. Bett
Sgt R. C. Watson	Spr E.B. Stoddart
Cpl J. E. Proudfoot	Spr C.P. Weatherill
Cpl J. Godding	Spr F.H. Edwards
	Spr P.J. Fagan

Appendix E

MAPS PRODUCED BY
2 AUSTRALIAN FIELD SURVEY COMPANY

NEW SOUTH WALES

1:63,360

MORUYA	GRAFTON	* LAKE MACQUARIE (REVISION)
CANBERRA	BRUSHGROVE	* PORT STEPHENS
LAKE GEORGE	MACLEAN	* PATERSON
BROKEN BAY	COALDALE	* CAMBERWELL
GOSFORD & NORAHVILLE	WOODBURN	WOOLGOMA
LISMORE	NIMBIN	BYRON BAY
NORRIES HEAD	MURWILLUMBAH	* SCONE
WALLANGARRA	BROCKLEHURST	DRAKE
DUBBO	TENTERFIELD	COFF'S HARBOUR
CLIVE		

* These maps were commenced by No. 3 Section, Australian Survey Corps (P) and were completed by 2 Australian Field Survey Company.

QUEENSLAND

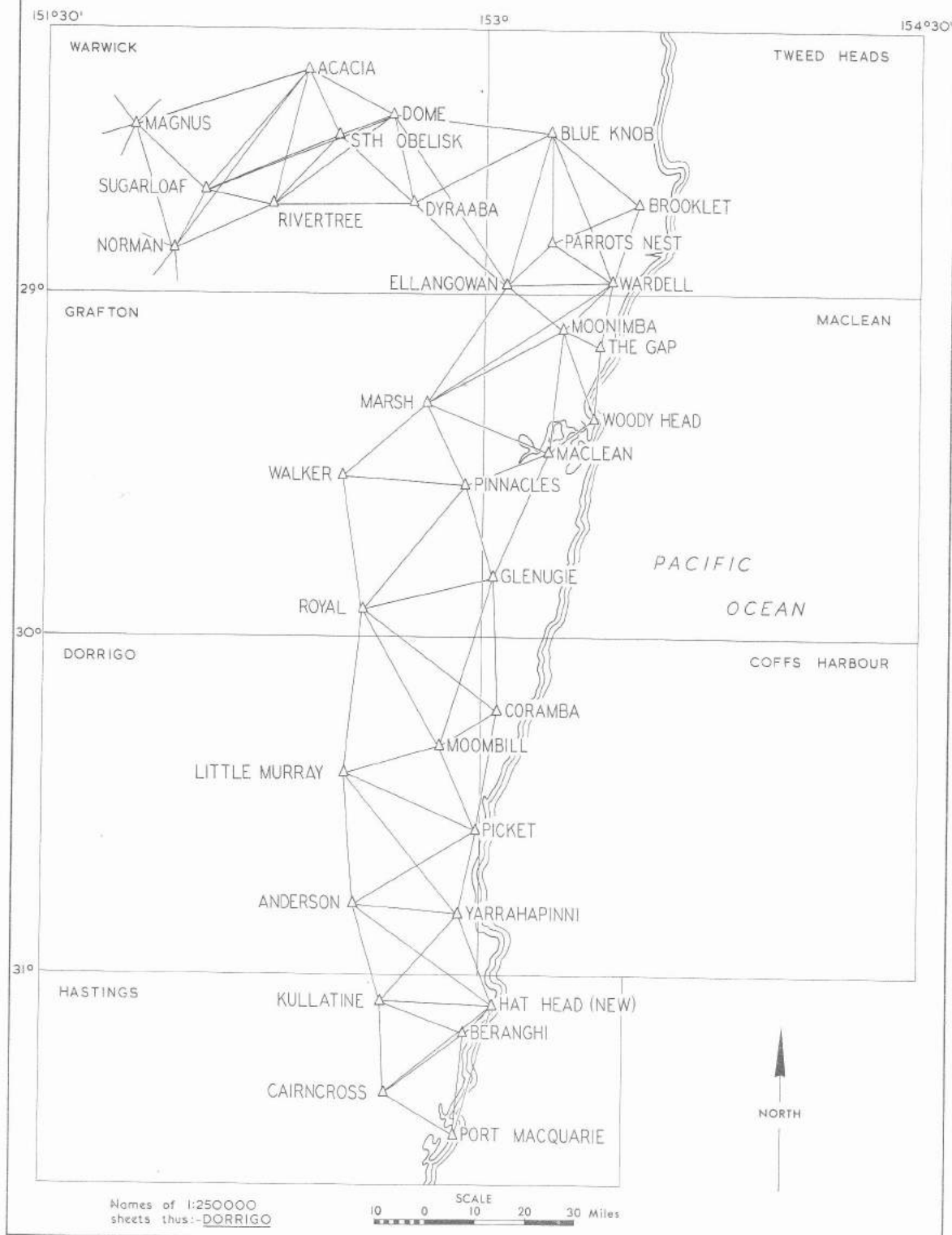
1:63,360

PRATTEN	BAFFLE	BUNDABERG
CLIFTON	MIRIAM VALE	GABTA
LIVERPOOL RANGE	DALLARNIL	KIRRAMA
TOOWOOMBA	PIALBA	COOKTOWN
JONDARYAN	BOEMINGEN	LLOYD BAY
WONDAI	SANDY	MITCHELL CK.
MANUMBAR	INDIAN HEAD	BUSTARD HEAD
KILKIVAN	WADDY PT.	RIDGELANDS
MONDURE	SANDY CAPE	ROCKHAMPTON
MUNNA	CORDALBA	YEPPON
BIGGENDEN	HERVEY BAY	CAPE DIRECTION
ROSEDALE		CAPE WEYMOUTH

1:253,440

RUTLAND PLAINS	NORMANTON	WESTMORELAND
GALBRAITH	BURKETOWN	MORNINGTON

NORTH COAST CHAIN OF TRIANGULATION BY 2 AUST FIELD SURVEY COMPANY A.I.F.



NEW GUINEA

1:25,000

CAMP DIDDY
HEATHSLAE
LANGEMAK BAY
MAPE RIVERMUNIM
NADZAB

1:63,360

WAGO
LAE
NADZAB
WAIME
BOANALERON
ONGA
AMARI
KALASASIO
MALASANGA
SINGORKAI
SAIDOR
POMMERN BAYNEW BRITAIN

1:25,000

MALMAL
KAMANDRAN
UMAMITKI RIVERWAITAVALD
MUMUS RIVER
SAI RIVER EAST
SAI RIVER WESTPOWELL HARBOUR
TORIU
NUGINIKLUBBOUGAINVILLE ISLAND

1:25,000

BUKA DROME
CHABAI
CHIND PATS
TEOP BAY
TIANAN
TEIHUP
PIPIPAIA
NUMA NUMA
RURAVO
IBU
ARIGUA
KOWARO
ARAWAKIETA BAY
KUPEI
KIETA/AIRDROME
MOSINA
MOSIGETTA
NAIRONA
BARARA
RUMIKI
MONORAI
HIRU HIRU
MONOITU
MUSARAKA
PIARINO
MT. BOEDERSAMIEI RIVER
LAHALA LAKE
MAMAGOTA
MIVO RIVER
KARA DROME
KAHILI DROME
MOISURU BAY
TONOLEI HARBOUR
TOKUAKA
KAUKAUAI
MOILA POINT
BOIRA
KORPE

1:63,360

BUKA ISLAND
BUKA PASSAGE
TARBUT
TAIDF ISLAND
BANIV
CAPE MOLTKE
TOROKINA
VITOKIETA
PURIATA RIVER
MT. TAROKA
TOIMONAPU
MOTUPENA POINT
TEOP
TENEKAUINUS
AITA
KONUA
AITARA
KARA
KAHILI
FAURO ISLAND
SHORTLAND ISLAND
(SPECIAL)

MAPS PRODUCED
BY
2 AUST FD SVY COY

- 1:253,440
1:63,360
1:63,360 Commenced by No. 3 Sec (P)
1:25,000



