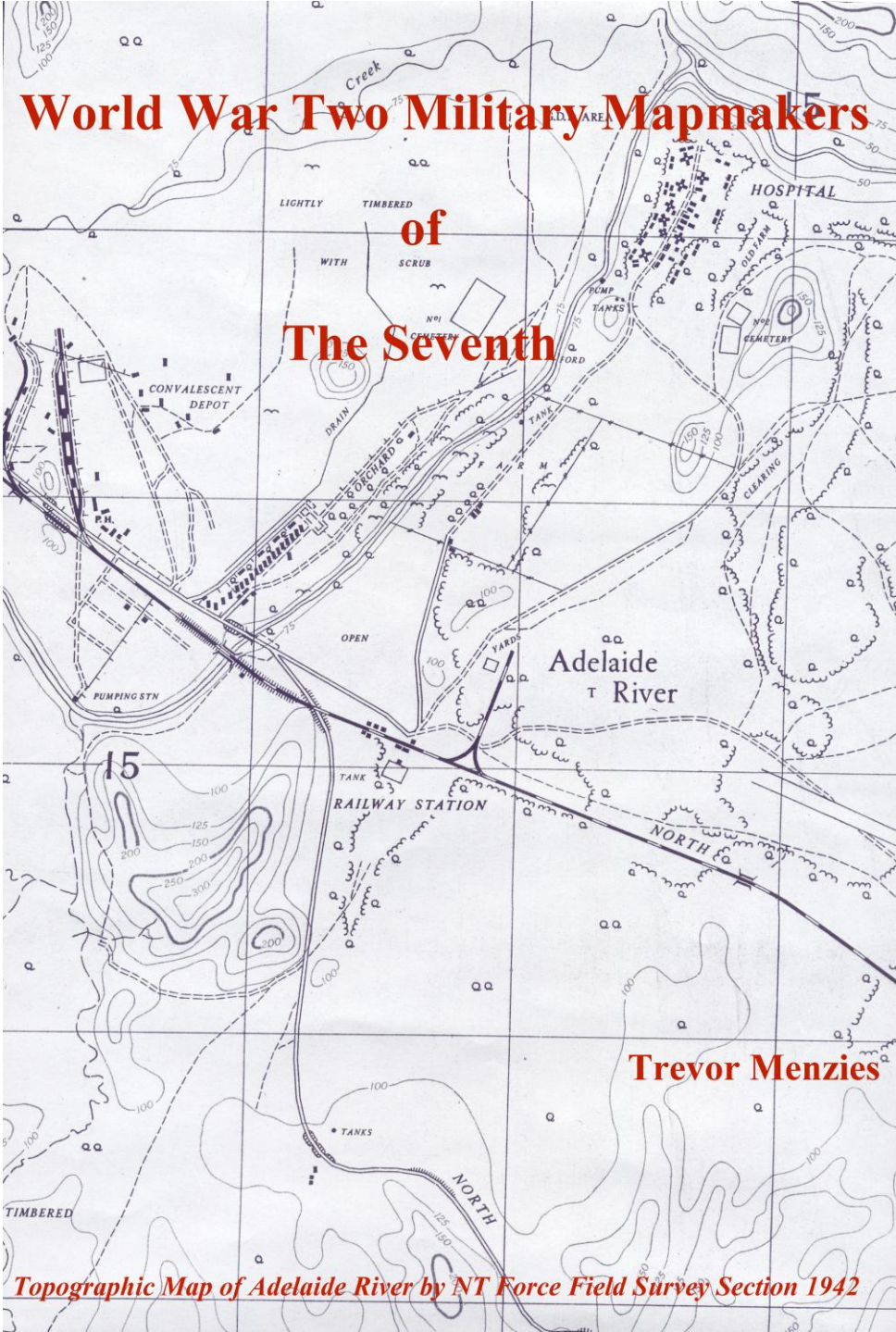


A topographic map of the Adelaide River area, showing various military and civilian features. The map includes contour lines indicating elevation, with labels such as 100, 125, 150, 200, 250, and 300. Key locations marked include 'Adelaide River', 'RAILWAY STATION', 'HOSPITAL', 'CONVALESCENT DEPOT', 'PUMP TANKS', 'PUMPING STN', 'TANK', 'YARDS', 'CREEK', 'LIGHTLY TIMBERED WITH SCRUB', 'ORCHARD', 'OPEN', 'CLEARING', 'OLD FARM', 'CEMETERY', 'P.H.', 'DRAIN', 'TANK', 'TANKS', and 'NORTH'. A road or railway line runs diagonally across the map, with a bridge crossing the river. The map is overlaid with a grid.

World War Two Military Mapmakers

of

The Seventh

Trevor Menzies

Topographic Map of Adelaide River by NT Force Field Survey Section 1942

Preface

This booklet recounts the experiences and achievements of a military mapping unit of the Australian Army during the Second War. The unit was initially called the 7th Military District Survey Section when raised in April 1941 and subsequently underwent several changes of name to become the 7th Australian Field Survey Section A.I.F. Because of these name changes the unit is generally referred to as the *Seventh* for brevity.

The *Seventh* was disbanded in September 1943 after serving in the Northern Territory and north Queensland. Most of its members then transferred to the larger 2/1st (*Second First*) Australian Army Topographical Survey Company and served in north Queensland, Dutch New Guinea and the Dutch East Indies until the end of the war.

The material in this paper is largely based upon the personal notes of Jim Aitken who served with *Seventh* and then the *Second First* from November 1940 to January 1946. Jim was in the process of writing the history of the *Seventh* when he passed away unexpectedly in April 1994. He left behind a detailed account that had been compiled in conjunction with several of his colleagues. I have taken on the task to complete the work that Jim commenced many years ago. He had a great memory for dates, places and events and was a meticulous person in all things that he did. His material has made the task of completing the story of the *Seventh* an easy and enjoyable one.

Trevor Menzies
February 2010



James Donald Aitken NX 114741
Australian Survey Corps 1940-46

In November 1940, at the age of 18, Jim Aitken joined the 2nd Field Survey Company of the Australian Army Survey Corps. After training as a topographical surveyor with the Company in Dungog, New South Wales, he answered the call for volunteers to undertake mapping work in the Northern Territory.

He transferred as a sapper to the 7th Military District Survey Section and arrived in Darwin with an advance party in July 1941. He was promoted to the rank of corporal in August 1942 and remained in the Territory until March 1943 when the unit was relieved and relocated to Tolga, north Queensland. The *Seventh* was disbanded in September 1943 and together with most members of the unit, Jim was transferred to the 2/1st (*Second First*) Australian Army Topographical Survey Company at Tolga.

In October 1944 he was part of a detachment that was sent to the large American base at Hollandia in the Dutch New Guinea to undertake mapping for American and Australian forces. In June 1945 the detachment rejoined the rest of the *Second First* at Morotai in the Dutch East Indies to prepare maps and terrain models for the final campaigns of the war in Borneo. He returned to Australia in October 1945 and was discharged from the Army in January 1946.

The Outbreak of War

On Sunday the 3rd September 1939 the Prime Minister of Australia, Robert Gordon Menzies, announced in a radio broadcast to the nation that Australia was at war with Germany. This was at a time when the nation was far from ready to go to war, and certainly in no position to defend its shores from an aggressor. One problem that would hinder the military's ability to defend the country was the lack of maps. Topographic maps showing the features and the lay of the land were needed to plan defences and to enable troops to operate in the field. A small survey element within the permanent army had been producing military maps before the war but only a minuscule part of country, mostly in the south-east, had been covered by 1939 when war was declared. There were no topographic maps in existence over vast areas of northern Australia where any enemy invasion was most likely to occur.

The government responded to this serious deficiency in its defence situation by increasing the strength of the Army Survey Corps and instigating an Emergency Mapping Program. Field Survey Companies were established within each of the four military commands - Northern Command (Queensland), Eastern Command (New South Wales), Southern Command (Victoria, South Australia & Tasmania) and Western Command (Western Australia). Each company comprised about 200 personnel and was organised

into 3 survey sections, 2 drafting sections and a transport section. Number 2 Company in New South Wales was the first to be formed in October 1940 followed soon after by Number 3 Company in Victoria. Another unit, the 2/1st Corps Survey Company, was raised for overseas service with the 2nd Australian Imperial Force (A.I.F).

Serving permanent army personnel formed the nucleus of the new companies and trained successive batches of recruits until the company strength was reached. Recruits were found through newspaper advertisements and word of mouth. When the Survey Corps advertised positions in newspapers in 1940, enthusiasm was such that several hundred applicants were received. Preference was given to persons with qualifications in surveying, or related skills that could be adapted to surveying or drafting. Accountants, clerks and mathematically minded recruits had a good aptitude for survey computing. Architectural and engineering draftsmen and artists had a good background for cartographic drafting. Training courses of about 3 months duration were conducted at Dungog in New South Wales, and Puckapunyal and Woodend in Victoria.

Raising the 7th Military District Survey Section

The 7th Military District with headquarters in Darwin had responsibility for military operations in the Northern Territory. But on the outbreak of war in 1939 there were almost no existing topographic maps suitable to support military operations in the Northern Territory. The only topographic map then available was a single map sheet of the Darwin town area and immediate surrounds titled the Darwin Sketch Map. This map had been produced as a matter of urgency following the Japanese invasion of China in 1937 when the need to build-up defences in the Darwin area was recognised. It was classed as a sketch map because the standard of accuracy was relaxed to meet the urgent time frame.

The national defence build-up also included the raising of a survey section for the 7th Military District (7 MD) to produce desperately needed maps of the Darwin area. Volunteers to serve in the Northern Territory were called from personnel then attached to Number 2 Company in New South Wales and Number 3 Company in Victoria. A total of 44 volunteers came forward - 25 from New South Wales and 19 from Victoria (Figure 1).

Ex 2 Company in NSW	
J.D. Aitken	G.D. May
A. Adams	D. McCartney
W.J. Boyers	“Fanny” O’Dea
T.A. Dalton	T.G. Proust
A.E. Durbin	J. Price
K.H. Gain	W.H. Robb
T. Gallagher	B.D. Robbins
G. Gilmour	T. Smith
G. Harley	M. Sonter
C. Howland	G. Weiss
C. Jorgenson	J. Webster
G.H. Kildey	H. Webster
L.J. Lockwood	

Ex 3 Company in Victoria	
“Ted” Bull	L. McDonald
R Butler	I.J. McDonald
“Bert” Davidson	J. Molina
J. Davidson	G. Ogle
D. Fenton	A.E. Reaby
G. George	H.Reynolds
J.B Greene	B.D. Robbins
I.S. Kibbey	C. Sutton
L. McGuiness	B.J. Talbot
L. McKenzie	

Figure 1: The Northern Territory Volunteers

The NSW contingent relocated to the Royal Park Depot in Melbourne in March 1941 to join the Victorians. The unit strength was set at 2 officers and 43 other ranks under the command of Lieutenant Lindsay Lockwood, a member of the Permanent Army who had joined the Survey Corps just before outbreak of the war. Over the next 3 months the unit underwent survey and military training in preparation for their first task to produce a series of topographic map sheets at a scale of one inch to one mile over the Darwin region.

The Move to Darwin

An advance party (Figure 2) under Lieutenant Lockwood left Melbourne in June 1941 with 8 vehicles and equipment to travel overland to Darwin. The remainder of the unit under Warrant Officer John Greene boarded the troopship TSS Zealandia at Port Melbourne for the sea voyage to Darwin.

J.D. Aitken	K.H. Gain	J. Molina
Ted Bull	C. Jorgenson	G.Ogle
A. Durbin	I.S. Kibbey	B.D. Robbins
D. Fenton	L.J. Lockwood	C. Sutton
T. Gallagher	D. McCartney	J. Webster

Figure 2: The Advance Party to Darwin

The advance party travelled by goods train to Alice Springs, via Adelaide, and then by vehicles along the dusty unsealed North-South Road to the southern railhead of the North Australia Railway at Larrimah. The final 300 mile leg to Darwin was on *Leaping Lena* (Figure 3) - a rickety old steam train that took several days to complete the trip. Eventually on 4th July after about 3 weeks of travel the advance party marched into Larrakeyah Barracks, Darwin, where an area of land was allocated to the unit. Tents were erected for accommodation and a *Sidney Williams Hut* was allocated for use as the unit's headquarters, drafting office and QM store.



Figure 3: *Leaping Lena*



Figure 4: Advance Party Survey Vehicles

An early request from 7 Military District Headquarters (7MD HQ) was for a tactical map and aerial photo mosaic of the Darwin area. A map sheet titled *Darwin Defence Area 1941 (Situation Map)* was duly completed by the end of July. It was an enlarged update of the 1938 Darwin Sketch Map showing the military installations and other structures that had been constructed since 1938. Production of the aerial photo mosaic had to be deferred until aerial photographs could be supplied by the R.A.A.F.

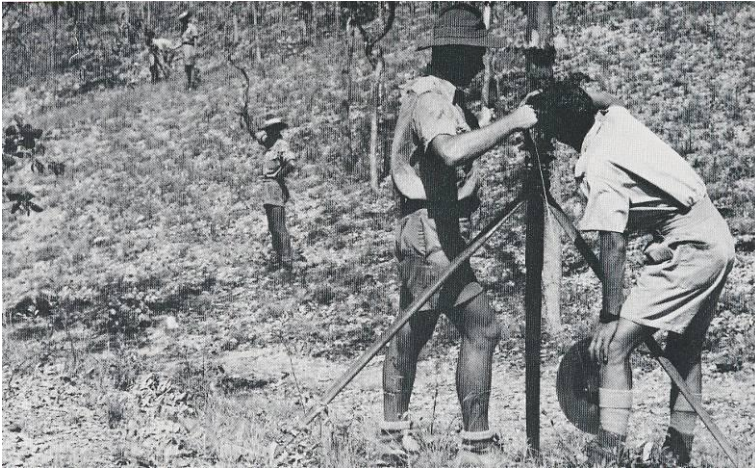
The rear party on the TSS Zealandia eventually arrived in Port Darwin on 7th August about a month after the advance party. They had endured a lengthy circuitous sea voyage calling in at 8 ports along the way - Sydney, Brisbane, Bowen, Thursday Island, Port Moresby, Samarai (Milne Bay, Papua), Rabaul (New Britain), and Kavieng (New Ireland).

Survey Work Commences

On 8th August 1941 with the entire unit now at Larrakeyah Barracks work commenced on the primary task to produce the one inch to one mile scale topographic map sheets. The R.A.A.F was requested to supply the aerial photography needed for the mapping.

In order that accurate maps can be drawn from aerial photographs it is necessary that the scale and ground position of each photograph is firstly ascertained. This is done by identifying features or ground control points on the photographs and determining their ground position by surveying from a known starting point or origin. It was decided that the best way to do this across the flat woodland in the Darwin area was by the method of surveying known as traversing.

Traversing involves measuring angles with a theodolite and distances with a long steel tape usually referred to as a chain – the process of measuring is thus called chaining (Figure 5). The orientation or bearing of the traverse lines is determined by taking a sun observation (Figure 6). From this information the coordinates giving the geographic position of the photo control points can be calculated.



Australian War Memorial Photo

Figure 5: Traverse party using chain and theodolite, Adelaide River 1942



Australian War Memorial Photo

Figure 6: Sun observation with theodolite and radio to receive time signals, Adelaide River 1942

Lockwood's strategy was to run a primary traverse circuit of about 105 miles around Darwin harbour which was central to the mapping area. Secondary traverses could then be run from the primary traverse stations to fix the location of the individual photo control points. The origin or starting point for the traverse was a survey mark known as the *Darwin Pillar* located near the Darwin Post Office.

The field work for the primary traverse was divided between by three survey parties as shown in Figure 7.

One party comprising Jim Aitken, Bill Boyers, George Kildey, Harry Reynolds, Jim Price, "Deanna" Durbin, John Davidson and "Boong" Sutton under Warrant Officer John Greene went across the harbour to West Point and traversed west to Charles Point and then south along the coast of Cox Peninsula to the Charlotte River. Much of the terrain was through mangroves and dense scrub with no roads or tracks to assist with access. It was all bush bashing and a lot of axe work to clear the traverse lines. Lockwood attempted to obtain a boat to provide access from the sea but no assistance was forthcoming from Army HQ. Fresh water proved to be a problem as there was no water in creeks and waterholes in the Dry Season.

A second party under Warrant Officer Joe Molina assisted by Hugh Robb, "Happy" Proust, Lionel MacKenzie, the McDonald brothers, Merv Sonter, Charlie Howland and Ted Bull traversed south from

the *Darwin Pillar* along the railway for about 40 miles and then west through the scrub to join Greene's traverse at the Charlotte River.

The third party under Warrant Officer Tom Dalton had the job to complete the circuit by traversing from the *Darwin Pillar* to East Point and triangulating across the harbour to West Point.

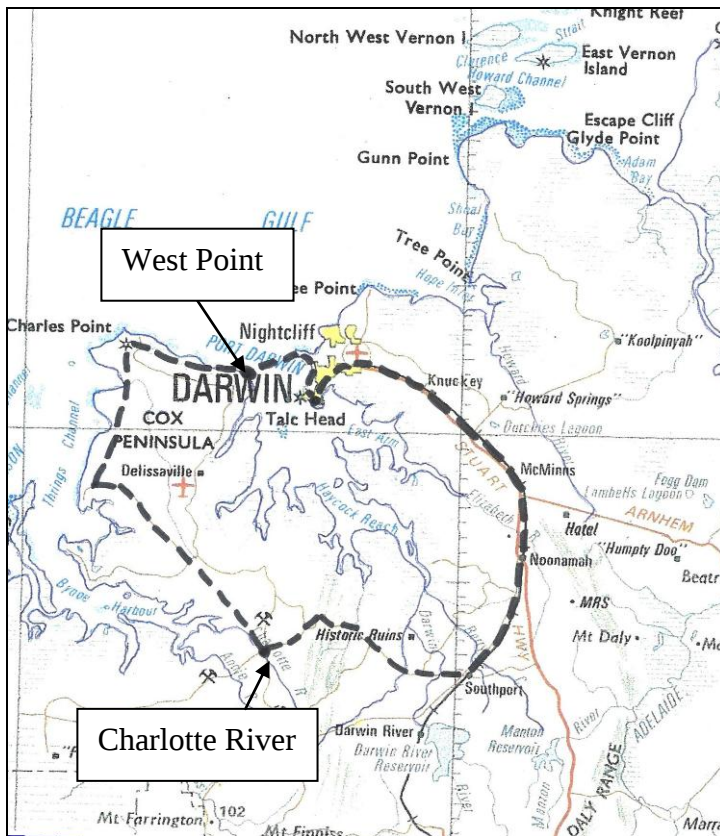


Figure 7: Darwin Harbour traverse shown as a dashed black line

Whilst the survey and transport sections were occupied with the fieldwork the Drafting Section was busy drawing a series of tactical maps for Operations and Intelligence Branches at 7MD HQ. As soon as the mapping aerial photo prints were received from the R.A.A.F Survey Flight they were assembled into mosaics to provide photomap coverage until the topographic map sheets could be produced.

Warrant Officer Ian Foxall arrived in October 1941 and was soon promoted to Lieutenant to become the second officer attached to the unit. Foxall and Tom Dalton were licensed surveyors in civilian life and their services were in demand to undertake numerous other survey tasks such as calibrating coastal and anti-aircraft guns for the Artillery and site surveying for the Engineers. The Drafting Section was also in demand to produce special maps for the various branches at 7 MD HQ. These multiple demands presented Lockwood with a predicament. He was responsible to the Survey Corps Directorate at Army Headquarters in Melbourne for the topographic mapping program which was the principle reason for the unit being sent to the Northern Territory. However as the unit was attached to the 7th Military District with headquarters in Darwin for administrative purposes he received requests for surveys and maps to support local operations. Given limited resources it became a challenge for Lockwood to balance these competing demands coming from two

separate commands – one in Darwin and the other in Melbourne.

The primary traverse was completed in early December 1941 which was timely because the approaching Wet Season conditions would have made bush work impossible. Overall, the survey was carried out in textbook style and the subsequent calculations verified a high standard of work. The survey framework was now in place for secondary traverses to be run to fix the position of the many photo control points to enable the draftsman to draw the map sheets from individual photographs (Figures 8 & 9).



Australian War Memorial Photo

Figure 8: Mapping from aerial photographs using a stereoscope for 3-D viewing, Adelaide River 1942



Australian War Memorial Photo

Figure 9: Drawing a map sheet using a pantograph to change scale, Adelaide River 1942

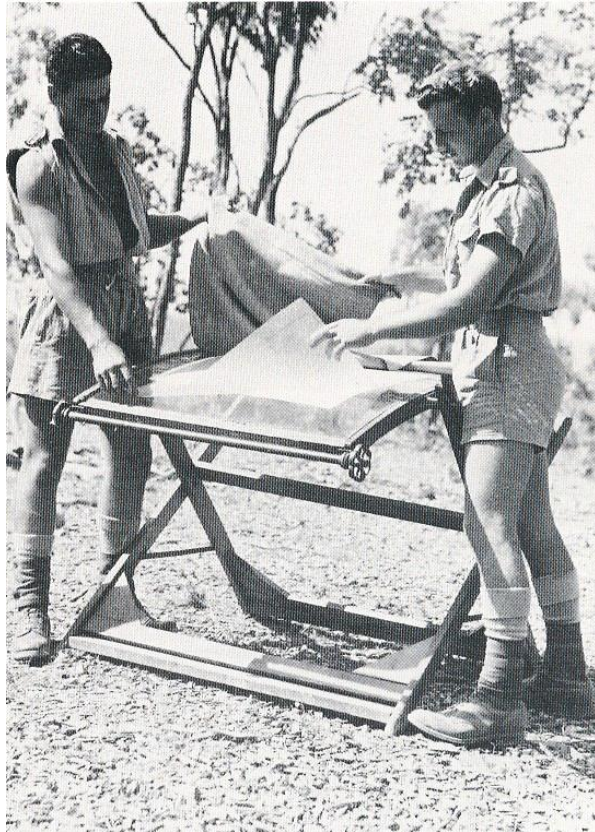
War Declared on Japan

Life in Darwin was soon to change after 7th December 1941 when Japanese aircraft attacked Pearl Harbour and war was declared. Non essential civilians were evacuated from Darwin, the government administration was moved to Alice Springs and the northern part of the Territory placed under military control.

Field parties returned to Larrakeyah Barracks by mid December and all available personnel were deployed on constructing air raid shelters, digging trenches, filling sand bags and establishing defences around the base HQ. When not building defences time was spent on weapons and gas warfare training. These defence preparations were often delayed by frequent wet season tropical storms that occasionally blew away tents and flooded the trenches and camp area.

The Drafting Branch was diverted from the topographic mapping program to produce special maps for 7 MD HQ and the R.A.A.F. After the civilian Lands & Survey Branch was evacuated to Alice Springs the Drafting Section took over their Sun Frame Plan Printer. This proved to be a most useful acquisition as it enabled the Drafting Section to produce copies of maps and plans on site. Sun printing involves placing the original transparent drawing in contact with light sensitive paper and exposing both to a controlled amount of sunlight to produce a blue print

copy (Figure 10). Skill was required to compensate for the changing sunlight and humidity during the Wet Season. Fortunately Sappers McKenzie and Hewitt became skilled in the art of sun printing and were able to minimize the wastage of scarce blue print paper.



Australian War Memorial Photo

Figure 10: Copying a map sheet with a Sun Frame Printer, Adelaide River 1942

In January 1942 the official establishment of the unit was raised to 3 officers and 65 other ranks although the actual strength on the ground at the time was only 34. At the end of January this was increased by a further 3 when Sappers Cotterill, Levido and Stahl arrived at Larrakeyah Barracks and reported for duty.

The Bombing of Darwin

After the declaration of war with Japan the military situation to Australia's north rapidly unfolded for the worst. By February 1942 the threat to Australia was serious (Figure 11).

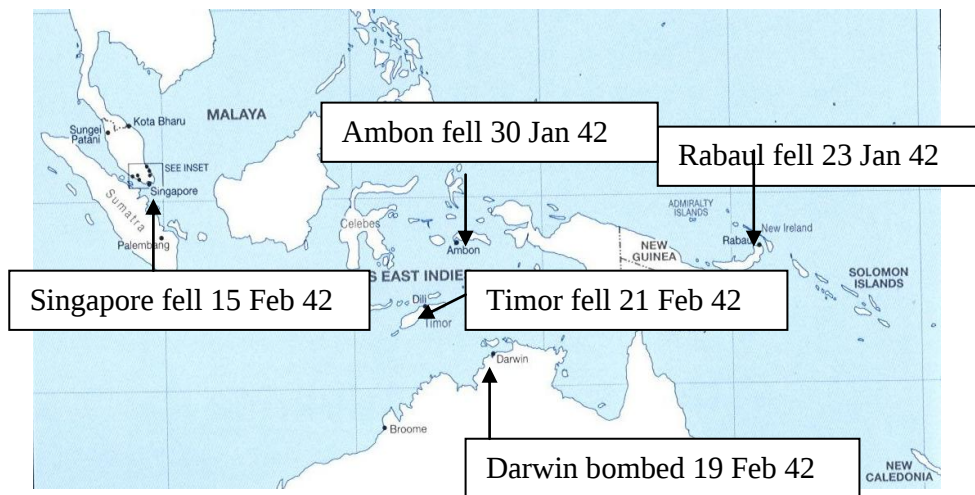


Figure 11: War Situation February 1942

Rabaul, in the Australian Mandated Territory of New Guinea fell on 23rd January. Ambon in the Dutch East Indies fell on 30th January, and Singapore fell on 15th February. The 20,000 Australian troops, mostly from the ill fated 8th Division A.I.F, who had been defending those places, had been either killed in action, executed or were taken prisoners-of-war. Other parts of the East Indies had been occupied or were being invaded. The Japanese carrier fleet that had

attacked Pearl Harbour and then Rabaul, moved in to the Timor Sea and launched an attack on Darwin.

This attack on 19th February 1942 was the first ever on Australian soil. Waves of carrier borne aircraft strafed and bombed the port, the town and the airfield. The attack was on the scale of Pearl Harbour.

But in Darwin's case more was to come.

Two hours after the first attack a formation of heavy bombers flew in from land bases in Ambon and the Celebes and bombed the airfield. In total the raids were devastating and demoralizing - 250 persons killed, 8 ships sank, 20 damaged, 26 aircraft destroyed and the port, airfield and town badly damaged. One of the ships sunk was the TSS Zealandia (Figure 12) – well known to many in the unit. One bomb exploded near the Drafting Office but there were no casualties. A vehicle being driven by Sapper Ted Bull was slightly damaged.



(c) Northern Territory Library

hdl:10070/83121

Figure 12: The TSS Zealandia bombed in Darwin Harbour 19 February 1942

Japanese paratroopers occupied Timor two days later and were now only 2 hours flying time from Darwin. Invasion appeared imminent. Army Headquarters evacuated Larrakeyah Barracks and relocated to a bush camp 22 miles down the main south road. The Survey Section moved to the same area and was initially given the task of defending the western flank of Headquarters from an expected enemy invasion. The Drafting Section and O/C remained at Larrakeyah because of the need for drafting facilities. Some survey personnel were called upon to calibrate

antiaircraft and coastal guns, and coordinate a R.A.A.F early warning radar station at Dripstone Caves about 10 kilometres north of town. Although this radar station had been installed at the time of the first raid it was unfortunately not operational. Other personnel were deployed with an Engineer unit who were engaged on pre-demolition work at strategic sites around the town in preparation for an invasion.

At this desperate time in Darwin an amusing incident occurred in the unit. It was to do with Tom Dalton receiving his commission whilst on a disciplinary charge. Dalton was delivering a message in person from Lockwood to the General's staff but was not wearing a shirt. This did not go down well with the hierarchy to the extent that he was put on a charge for being inappropriately dressed. His promotion to Lieutenant came through whilst awaiting the outcome of the charge. Happily, this embarrassing situation ended six weeks later when the charge was dropped.

Aftermath of the Bombing

After six weeks defending the HQ at the 22-Mile the unit moved to another bush camp at the 18-Mile. Fortunately the expected invasion did not immediately follow the attack of 19th February. But the Japanese were certainly not yet finished with Darwin and the Top End. Over the next 18 months, until November 1943, another 64 raids were recorded and the threat of invasion remained.

In early April 1942 a group of reinforcements arrived at the 18-Mile camp from the south. They were personnel who had earlier volunteered to serve overseas with the 2/ 1st (*Second First*) Corps Field Survey Company which was at the time operating with other A.I.F units in the Middle East. However following the Japanese entry into the war the Survey Company and other units were directed to return to Australia so the reinforcements were no longer required. Instead, they were sent to the Northern Territory to reinforce the 7 MD Survey Section. Despite their initial disappointment at missing out on the overseas service for which they had volunteered and been eagerly awaiting, they soon accepted their lot and became valuable members of the unit. This group jokingly called themselves the *Synthetic Second First*. (Figure 13).

J. Asher	I.D. Ingram
H.K. Cory	D.M. Husband
M. Dallimore	B.J. Lee
“Hank” Davidson	J.S. Parkinson
B.J. Gourley	M. Stannard
“Flash” Gordon	R.M. Stone
D.A. Green	G.A. Thompson
T.A. Hamilton	W. Watkins
	F.J. Withers

Figure 13: The *Synthetic Second First*

In April 1942, units from Australia’s most experienced fighting force, the 6th Division A.I.F, began to arrive in the Darwin area to boost northern defences. The 6th Division had been raised at the outbreak of the war in Europe in September 1939 when Prime Minister Menzies announced that a force of 20,000 troops would be recruited for service at home or abroad as “circumstances permit”. The diggers embarked Australia for the Middle East in January 1940 and had great success in combat against the Italians in Libya. However, during their next campaign in Greece, the Division was forced to retreat to Crete when confronted by a much larger German force which included specialist troops trained in mountain warfare. Following the set back in Greece and subsequent evacuation from Crete the remnants of the Division returned to Australia, regrouped and most moved north to the Top End.

The much larger army in the north was now reorganized to become Northern Territory Force. The 7 MD Survey Section was placed under the control of NT Force HQ and renamed the Northern Territory Force Survey Section. This arrangement finally resolved the uncertainty in the chain of command that had plagued Lockwood since the unit arrived in the NT.

With the coming of the Dry Season in May 1942 the Survey Section relocated to the Adelaide River area about 70 miles south of Darwin to resume survey fieldwork. A camp was established on the banks of the river across from a large military hospital on the other side. Before the war Adelaide River was a small service town comprising not much more than a railway station, general store and a few cottages mostly occupied by railway staff and their families. However during the war it became a large service centre for the many army and air force units based in the vicinity. A hospital, cemetery and ordnance depots were built on the outskirts of the town. Army farms, an abattoir and refrigerated stores were established to supply the troops in the sector with fresh rations.

The unit's priority now became mapping the *Line of Communication* from Adelaide River to the railway terminus at Birdum some 300 miles south of Darwin. Maps were needed to plan for the massive logistics build-up that was underway to supply and support the many Australian and American army and air force

units being stationed along the corridor. Aerial photography was obtained from the New South Wales Department of Main Roads who at the time were upgrading a section of the main north-south road - later to be officially named the Stuart Highway.

Survey parties under Tom Dalton undertook a 240 mile traverse along the road from Adelaide River to Birdum to provide photo control for the mapping. The 26 strip maps were compiled by the end of June. More detailed maps of Darwin and the three main towns along the corridor - Adelaide River, Katherine and Larrimah were produced to identify sites for communications, transport, and storage and hospital facilities.



Photo Basil Stahl Collection

Figure 14: Basil Stahl on the Stuart Highway traverse



Figure 15: Survey Party at Maranboy Railway
Siding

*Back standing from left: John Davidson, Gordon
Gilmour, Ray Levido, John Cotterill*

*Front sitting from left: Jim Price, Ron Butler, Jim
Aitken, Bill Boyers, Des Husband*

Another task allocated to the unit was the production of six map sheets in the Day River area as it was now thought that the Japanese may attempt a landing along the Timor Sea coast between Bynoe Harbour and Anson Bay at the mouth of the Daly River. Stuart Parkinson and Bruce Lee were given the job of running a 67 mile traverse from Adelaide River to the Daly River for the photo control surveys.

In July 1942 the name of the unit was changed to the 1st Australian Field Survey Section and a group of reinforcements arrived at unit headquarters at Adelaide River (Figure 16). They had completed training at the Field Survey Training Depot in East Burwood, Victoria which had been established in February 1942 as the Survey Corps' main training facility. These troops included:

J. Coyne	L. Hanson	F.H. Partridge
J. Davis	W. Hewitt	D. Piert
L.W. Dawe	R.J. Hilton	D.R. Richards
L.J. Duffy	D. Kelly	D. Salter
J. Gibbs	A. McClure	J. Wain
M. Grace	N. McHenry	

Figure 16: Reinforcements from East Burwood Training Depot

The new reinforcements soon took up survey, drafting and motor transport roles within the various sub sections that were now scattered across various localities in the Top End.

On completion of the strip maps along the *Line of Communication* the focus turned to the Daly River mapping. A temporary camp for the field parties operating in the Daly River area was established at a scenic spot on the river. It proved to be a great spot for swimming, fishing and the hunting of crocodiles, wild

pigs and geese. In fact the place impressed some in the unit to the extent that they considered returning at the end of the war to open up a tourist resort. The local Sergeant of Police had lived on the banks of the river some 30 miles from the nearest neighbour for 17 years and told of a huge crocodile some 20 feet in length that haunted the river a few miles upstream of his cottage.

Traversing was difficult and time consuming in the hills and wetlands around the Daly so some photo control points were fixed by astronomical observations. This involved observing the altitude of a star with a theodolite and recording the precise time with a chronometer and/or radio time signals. Although not as accurate as traversing the resulting latitude and longitude coordinates were acceptable for the job at hand. Other more rudimentary methods of surveying such as plane tabling and compass traversing were used to speed up the work in order to beat the looming Wet Season.

With the onset of the 1942 Wet Season field parties returned to Adelaide River to be told that a new all weather camp had to be built because the existing camp by the river was likely to be flooded. So a new site on higher ground about a mile west of the railway line was identified. Constructing the camp in the high heat and humidity of the wet season “build-up” proved to be an arduous task in the rocky terrain. Explosives

had to be used to break the ground for digging latrines and slit trenches for air raid protection.

Those not engaged on camp building were on construction surveys including the naval explosives magazine at Snake Creek, a few miles north of Adelaide River. A detachment of the Drafting Section which was working under canvass at the Adelaide River base camp returned to Larrakeyah Barracks for the better drafting conditions. Work also commenced on a new project to produce detailed contour maps of the Darwin town area and environs for military planning purposes.

In January 1943 the unit name was changed again – this time to the 7th Australian Field Survey Section A.I.F. Australian Imperial Force (A.I.F) status was granted as a result of the Government's decision that any unit in which three quarters of its members volunteered to serve anywhere outside Australian territory qualified to become an A.I.F unit. The unit had undergone four name changes over its period of existence so for simplicity it became commonly known as *the Seventh*.

Leaving the Territory

And so it was that on 11th April 1943 Number 1 Section of the 6th Australian Army Topographical Survey Company comprising 64 personnel under Captain James Tait arrived at the Adelaide River base camp to relieve the *Seventh*. After the hand-over of stores and equipment the 67 personnel of the *Seventh* entrained at Adelaide River for the journey south for a well earned period of leave and subsequent redeployment.

The 6th Company continued to operate in the Northern Territory until March 1945. Their contribution to the war effort is well documented in the book *Military Map Makers in Northern Australia 1943-1945* compiled and edited by J.F. Hunt, an ex 6 Company Sergeant.

Following a period of leave the unit re-assembled in June 1943 at Wallgrove, NSW for reorganisation and redeployment (Figure 17, page 36).

From Wallgrove most of the unit went by train to Tolga on the Atherton Tablelands in Queensland, and others were transferred to other units. Ian Foxall, now a Captain, took over as O/C and the unit was deployed on mapping work in north Queensland.

On 2 September 1943 the 7th Australian Field Survey Section A.I.F was disbanded and the personnel transferred to Number 2 Section 2/1st Australian Army Topographical Survey Company A.I.F.



Figure 18: Physical training class at Tolga, Atherton Tablelands, Qld.

Back from left - Harry Kaiser, Bern Goodrick, Stuart Parkinson, Jim Aitken

Front from left - Nifty Nye, Tony Tait, Alan Wilson



Figure 17: 7th Australian Field Survey Section, Wallgrove, NSW, June 1943

7 Aust Fd Svy Sec AIF
Wallgrave
20 June 1943

Absent

- Catal L. Leckwood (✓)
- Spt B. Robbins (✓)
- Apr T. Frost (✓)
- Spr B. Lee (✓)
- Spr L. McDonald (✓)
- Spr J. Aitken (✓)
- Spr I. Kibbey (✓)
- Spr R. McClenahan (✓)
- Apr L. McIntyre (✓) (CATT)
- Spr J. Webster (✓) (CATT)
- Spr M. Sauter (✓) (CATT)

Return to the Northern Territory

In mid September 1943 a detachment of personnel under Lieutenant Tom Dalton returned to the Northern Territory to undertake further mapping work. The priority in Northern Australia was now the production of strategic maps at a scale of four miles to one inch across the north coast from the East Kimberley to Cape York. Dalton's group was tasked to obtain the necessary photo control of a sector from Wyndham, W.A. to the Gulf of Carpentaria. Due to the extent and nature of the terrain and the short time frame it was decided to obtain the control by astronomical observations rather than the traditional methods of traversing and triangulation.

As far as can be ascertained the Detachment included the following personnel:

Tom Dalton (O/C)	Ray Levido
Jack Davis	Jim Price
John Davidson	Merv. Sonter
Tom Hamilton	Basil Stahl
Bill Hewitt	Mark Stannard
Des Husband	Ron Stone
"Ned" Kelly	Geoff Thompson
Bruce Lee	

Figure 19: 2/1st Company NT Detachment

An Advance Party travelled by goods train with their Ford Blitz trucks to the rail terminus at Mount Isa and arrived about a week later after many delays along the way. Here they met up with the rest of the group who had travelled by troop train. That night by chance there was an entertainment show for the troops in the area put on by artists from Sydney's Tivoli Theatre. The show included quite a bit of dancing by a troupe of very shapely girls. The O/C took fancy to one particular dancer - a girl by the name of Wilma, and mysteriously disappeared for several hours after the show. However he did reappear early next morning to lead the convoy out along the Barkly Highway and into the Territory. It turned out that Tom's meeting with Wilma in Mt Isa was not to be just a one night stand – because 12 months later they were married.

On arrival at Katherine, a base camp was established and the photo control astro work split between two groups - one working west through the Victoria River District to Wyndham and the other east through the Roper River District to the Gulf. This field work continued through to November 1943 when early wet season storms curtailed operations when all returned to base in Katherine.

Back at base camp Tom Dalton was requested to mark the 14.5 degree parallel of latitude which passes just south of the Katherine town site. This was a significant line for troops based in the north because the government had declared that the area of the

Northern Territory north of latitude 14.5 degrees was a war zone and thus the troops serving there were deemed to be on active service. When it was discovered that the line cut diagonally through the officers' lines at one camp site there was a sudden rush to relocate to a more northerly spot by those camped south of the line.

In November 1943 the detachment moved north to a camp in the vicinity of the Bagot Hospital near Darwin and arrived just in time for Jap air raid. Fortuitously the 9 enemy bombers were soon greeted by a squadron of R.A.A.F spitfires with the result that 2 of the raiders were shot down with the rest soon quitting the scene. This raid was in fact the last of 64 raids that the Japanese had inflicted on the Top End over an 18 month period since the first and most devastating attack on 19 February 1942.

Soon after this last raid the detachment departed for the south and marched into Grovely Camp in Brisbane in January 1944 where the rest of the 2/1st was now located. This was the end of operations in the Northern Territory by the *Seventh* and its successor the *Second First*.

Working Conditions in the Territory

The nature of the work and the limiting conditions of the wet season necessitated that the fieldwork had to be carried out in the drier months from April to November. Small field parties spent long periods in isolation and under difficult and unpleasant working conditions. Food was mainly bully beef, dog biscuits, rice, curry and the odd tin of fruit although the occasional barramundi, water fowl or scrub cattle provided a welcome change of diet.

Water could not be carried in sufficient quantity to meet all needs so supplies had to be replenished from sources along the way. Waterholes were often contaminated, which necessitated treatment with purification tablets.

The arduous tropical conditions and nature of the work impacted on the health and fitness of the personnel. Almost everybody suffered from prickly heat and infected sand fly and mosquito bites from time to time. Abrasions and cuts were common as a lot of axe and machete work was required to clear vegetation along traverse lines for chaining. Cuts readily developed into tropical ulcers if not quickly treated. Early in 1942 there was an epidemic of impetigo, a skin condition in which many infected sores appear on the skin. The complaint is extremely uncomfortable when the pustules break and clothing sticks to the raw wounds. Dengue fever, which causes

fever and acute pains in the joints, became a major cause of casualties often requiring hospitalization for treatment. The survey parties were usually under strength due to personnel convalescing in hospital or being declared medically unfit for the tropics and repatriated south.

Motor vehicles were the mainstay for moving over land. Access to many areas was difficult due to the lack of roads and tracks, and difficult terrain which could vary from coastal mangrove swamps, wetlands, rugged plateaux and escarpments. The initial vehicles brought to the Territory with the unit in 1941 were soon found to be unsuitable for off-road operations (Figure 20). The motor transport section had the frustrating job of trying to keep the vehicles in service so that work could go on. The Ford Blitz trucks (Figure 21) used by the detachment working in the Victoria and Roper River areas in 1943 proved to be better in tough situations.



Figure 20: Survey Vehicle 1941



Photo – Military Map Makers in Northern Australia JF Hunt

Figure 21: Ford Blitz Trucks 1943

The Final Campaigns of the War

In October 1944 a detachment of the 2/1st was sent to Hollandia in Dutch New Guinea where the Americans had established a large base as part of MacArthur's island hopping strategy to recapture the Philippines. Here the detachment worked with the Americans to produce maps and terrain models to assist with planning campaigns to occupy islands further to the north.

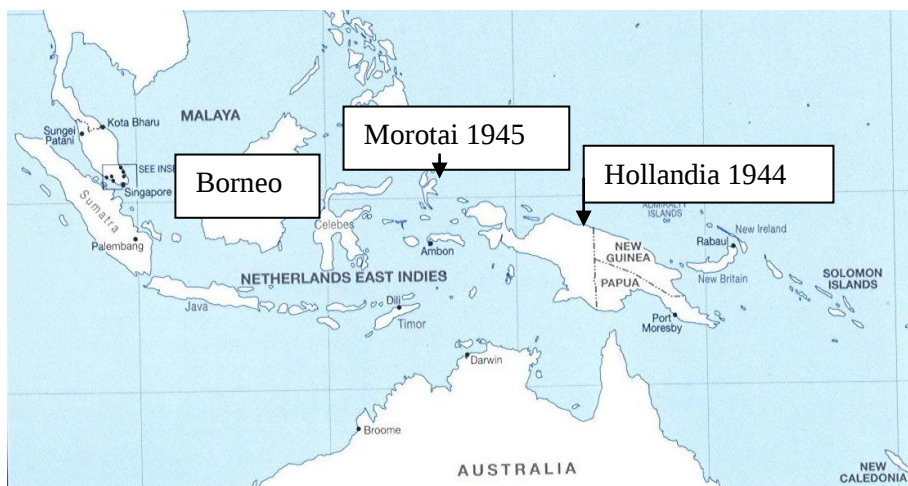


Figure 22: Overseas Deployments 1944-45

After the experiences of the Northern Territory life in Hollandia was not too bad in comparison. Rations were supplied by the Americans which meant delicacies such as bacon, fresh eggs, chicken, fresh vegetables and of course ice cream. For the cost of a bottle of gin an American bull dozer driver even built a swimming pool near the camp by damming a river.



Figure 23: Part of the Hollandia Detachment
*From Left: Arthur Durbin, Jim Aitken, Ron Stone,
Bruce Lee, Fred Withers*

In June 1945 the detachment joined the rest of the 2/1st at Morotai who had moved there from north Queensland back in April. Morotai (Figure 22), in the Dutch East Indies, was a large staging base for Army and R.A.A.F forces preparing for the invasion of Borneo. The work here was similar to that in

Hollandia – producing maps and terrain models but this time for the Australian landings at Tarakan and Brunei.

On 15th August 1945 the Japanese surrendered and all offensive action ceased. The final task given to the Survey Corps was preparing the *Instrument of Surrender*. At a ceremony at Morotai on 9th September 1945, Lieutenant-General Teshima, Commander of the Japanese Second Army, formally surrendered to General Thomas Blamey, Commander-in-Chief of the Australian Military Forces.

The war was over. The job was done so the troops could go home. However because of the shortage of transport some members of the Corps didn't get back to Australia until the end of 1945.

Post War Reunions

The men and women who served in the various units of the armed forces during the war usually developed close friendships with their fellows. The Survey Corps was no exception and at the end of the war several associations were formed to enable members to keep in touch through social events and other activities. The 2/1st Survey Association was one of the first to be formed.

In 1979 some of the members of the *Seventh* decided to organise a reunion of their own. The catalyst for this renewed interest was when Hugh Robb, Bill Hewitt and several others visited Jim Price in Yamba, to cheer him up after a stint in hospital. This first reunion was such a success that it was decided to continue with a reunion each year. Bill Hewitt took the lead in the early days and after Bill passed away his wife Nell took on this role. The reunions were usually held over a three day period in the home town of one of the group and included a dinner and trips to local points of interest. At its peak Nell had some 43 names on the mailing list but with the passing of many members over time, the reunions became less frequent.

The Tea Towel

An interesting item of memorabilia was presented to members at the 1992 reunion held at Wodonga, Victoria. This was a print of a tea towel containing the signatures and home states or towns of the individual members of the *Seventh*. It was the initiative of George Kildey who had arranged for those on board the TSS Zealandia to sign the tea towel during their voyage to Darwin in July/August 1941. On arrival in Darwin the other members of the unit who had travelled overland with the advance party, or arrived later, added their signatures.

The centrepiece of the reproduction includes the unit photograph taken at Wallgrove in June 1943 (shown at Figure 16, page 36). Above the photograph is the purple and white triangular colour patch of the Survey Corps. The top row lists the numerous ports of call made by the Zealandia when transporting the unit on its long voyage to Darwin. The original tea towel is now believed to be held in the Survey Corps Collection at the Army Engineer Museum in Moorebank, NSW.

Commemorative Plaque

In July 2002 a group travelled to Darwin to attend the dedication of a plaque on the Memorial Wall at the Darwin Cenotaph. The group included:

Dara Aitken (wife of Jim) and daughter Helen, Lawrie & Margaret Hanson, Nell Hewitt (wife of Bill), Des & Fran Husband, Jean Kibbey (wife of Ivor) & daughter Marilyn, Arty McClure & Anne McInnes, Stuart & Harley Parkinson, and Betty Robb (wife of Hugh).

The plaque commemorates the contribution of the Northern Territory based units of the Survey Corps to the defence of northern Australia through their commendable surveying and mapping achievements:

- The 7th Military District Survey Section, later renamed 7th Australian Field Survey Section A.I.F from May 1941 to April 1943, and
- Number 1 Section 6th Australian Army Topographical Survey Company from April 1943 to March 1945.



Figure 26: The Memorial Wall at the Darwin Cenotaph



Figure 27: The Plaque on the Memorial Wall

The plaque was dedicated by Army Chaplain Jim Cosgrove on 10th July 2002 in the presence of official guests including Alderman Chis Tilley, Acting Lord Mayor of Darwin; Mr Ray Chin, President of the Darwin Sub Branch RSL; and a representative of the Commander of the Australian Army in Darwin.

Ex members of the *Seventh* including Des Husband, Lawrie Hanson, Stuart Parkinson and Arty McClure participated in the ceremony. Many members of the Northern Territory Division of the Institution of Surveyors, Australia, the sponsors of the plaque, attended the ceremony.