8/4/10/4

JULY &
AUGUST 1941

ORIGINAL

AUSTRALIAN ARCHIVES
ACCESS STATUS

OPEN

DARWIN INFANTRY BATTALION
MISCELLANEOUS CORRESPONDENCE
& DETACHMENTS

AUSTRALIAN WAR MEMORIAL AWM2020.71.8842

H.Q. 7TH MILITARY DISTRICT
SECRET
No. P15/1/14
SECURITY

DEPARTMENT OF THE ARMY.

MILITARY BOARD

ARMY HEAD-QUARTERS,
VICTORIA BARRACKS
3 Jul. 41.

Melbourne, S.C.1.

S.M.7737

N. Comd. (11)	R.M.C. (3)	M.M.G. School
E. Comd. (10)	S. of A. (3)	A.S.C. School
S. Comd. (18)	S.M.E. (2)	S. of Mech.
W. Comd. (6)	S. of Sigs. (2)	A.F.V. School
7 M.D. (4)	No.1 Inf. O.T.S.	A.O.C. School
1 Armd. Div. (2)	No.2 Inf. O.T.S.	
A.I.F. Malaya (3)		

Copies for information to - C.G.S. (5), A.G. (6), Q.M.G. (6), M.G.O.(5), F.M. (2), S.M.B. (2).

EFFICIENCY OF THE BOYS A.Tk. RIFLE AND MAINTENANCE OF THE L.M.G. (BREN)

I am directed to advise that persistent rumours to the effect that the L.M.G. (Bren) and the Boys A.Tk. Rifle are unreliable on service, are circulating among reinforcements A.I.F. Such rumours were passed among personnel of our Forces in the Middle East concerning the Bren before the LIBYAN Campaign.

2. I am to say that exhaustive tests carried out in PALESTINE and EGYPT proved that any rumour to the effect that the Bren is unreliable is entirely false. This has been confirmed since by experience in the Western Desert and in Greece.

This weapon, as with any other automatic, fails to function correctly only when it is not maintained correctly.

THE GUN SERVES WELL THOSE WHO SERVE IT WELL.

3. It must be borne in mind that the presence of fine dust and sand is usual in the present theatre of operations. The above tests and all evidence obtained from personnel who used the weapon on service brought out lessons attached as Appendix "A", for information.

4. The Boys Anti-Tank Rifle will do well the tasks for which it was designed, and its capabilities are fully dealt with in recent Army Training Memoranda.

5. I am to request that action be taken to eradicate any rumours circulating among A.I.F. reinforcements referred to and to instil confidence in the reliability of the weapons concerned. This is most necessary as lack of confidence in equipment is detrimental generally and Reinforcements who join units abroad so prejudiced cause time to be wasted in that they will have to be convinced of the lack of truth in such rumours.

Colonel,
Director of Military Training.

file

To.

D. I. B.

AUSTRALIAN WAR MEMORIAL AWM2020.71.8842

APPENDIX "A"

MAINTENANCE - L.M.G. BREN

1. Result of Tests carried out vide para. 3.

(a) Magazines which are left filled without attention contain much fine dust. On loading, this dust falls into the mechanism.

Lesson: Magazines which are kept filled must be emptied, cleaned and refilled at intervals according to local conditions. Cleaning of all magazines is essential.

(b) Each weapon has individual peculiarities in operation. Some guns may fire best using No.2 hole of the gas regulator, others using No.3 and so on.

Lesson: The recoil must be balanced with the return spring by determining under existing conditions which hole of the gas regulator to use. This may vary with any one gun under different conditions. (i.e. Changing of return spring, presence of more or less friction due to low temperatures, or dust in mechanism.)

(c) The lubricant used and method of application has a direct bearing on the functioning of any weapon under adverse conditions.

In terrain where fine dust and sand persist, ordinary G.S. oil has a tendency to combine with such fine dust etc.present and clog the mechanism.

Graphited grease does not clog weapons when used in the correct manner under any circumstances.

Preparation for firing.

Lesson: (i) Normal conditions.

Grease graphited RD179 will be used for sliding and frictional surfaces except piston rings. Either of the oils G.S. will be used for other parts requiring it which are comparatively inaccessible as laid down heretofore in training manuals.

(ii) Dusty and Sandy conditions

A thin coating of graphited grease will be applied to sliding and frictional surfaces of the mechanism only (except piston rings). No oil will be used whatsoever.

Attention is directed to M.B.I. 018 of 28 Feb . 41.

2. The following test was included in addition -

A quantity of sand was thrown over a gun with magazine on prepared as in para. (c) (ii) above. After the gun had been cocked and the trigger pressed four times (which no doubt cleared most of the sand from the mechanism) it fired perfectly and emptied the magazine without a stoppage.

3. Most of the stoppages which occur in L.M.Gs. (Bren) have been found to be due entirely to faulty and careless loading of magazines. Attention is directed to S.A.T. Vol.I 1937, Pamph. No.4 Less. 1, para. 2. The rim of each round loaded must be forward of the rim of the round preceding it otherwise double feeds will occur. This requires particular attention when loading from chargers.

AUSTRALIAN WAR MEMORIAL AWM2020.71.8842

S.M. 948

Headquarters, 7 M.D.,
DARWIN. N.T.

3 July, 1941.

WARNING ORDER : MOVEMENT OF TROOPS.

Personnel listed hereunder will embark approximately 6 July '41 on S.S. "Marella" for the destinations shown.

They will assemble at a time to be notified at the rear of Civil Aviation Building near Darwin Wharf. Units will be responsible for transport to the assembly point, except in the case of personnel not discharged from hospital, in which cases 119 G.H. will arrange transport from Hospital to assembly point.

Q.M. All members embarking must be issued with greatcoats.

D.I.B. will supply a loading party of 1 N.C.O. and 6 O.R. to report to the E.S.O. at the assembly point at the time of assembly of troops embarking.

NUMBER	RANK	NAME	UNIT	AUTHORITY
For BRISBANE.				
Q.70718	Pte.	Woods. G.C.	D.I.B.	Discharge A.M.R. 184 (i)-(vi)

Clay

For SYDNEY.				
N.73585	Gnr.	Coleman. M.B.	121 Hy.B.	M.B. 74477 - 7 Nov. 40.
N.108896	Pte.	Farrell. C.	39 E.Pn.	Dis. A.M.R. 184 (i) (vi)
NX.55222	"	Oatley. A.H.	2/3 Pnr.	M.B. 74477 - 7 Nov. 40
N.105152	Dvr.	Grimes. D.	7 M.D.MT.	Dis. A.M.R. 184 (i) (vi)
N.79111	Sgt.	Evans. C.B.	119 G.H.	M.B. 74477 - 7 Nov. 40
NX.32288	Gnr.	Wooding. R.W.	2/13 A.F.	Dis. A.M.R. 184 (i) (vi)
NX.33520	A/Sgt	Murray. R.	2/12 F.A.	" " 184 (i) (vi)
N.79219	S/N.	Pegus. E.J.M.	119 G.H.	M.B. 74477 - 7 Nov. 40.
NX.36525	Pte.	O'Shea. P.D.	2/12 F.A.	Dis. A.M.R. 184 (i) (vi)

For MELBOURNE.				
TX.2985	Pte.	Budd. A.W.	2/40 Bn.	M.B. 74477 - 7 Nov. 40
VX.37618	"	Lewis. L.	2/21 Bn.	Dis. A.M.R. 184 (i) (vi)
VX.32683	Dvr.	Dowling. C.	2 C. Bde.	" " 184 (i) (vi)
V.80045	Capt.	J.H. Deutchman.	7MD Prov.	M.B. 74477 - 7 Nov. 40.
TX.3635	Pte.	Terry. J.H.	2 /40 Bn.	Dis. A.M.R. 184 (i) (vi)

QM

Clarkotified

T L Llewellyn
Major,
D.A.Q.M.G. 7th Military District.

DISTRIBUTION : 23Bde. H.Q. (9), R.A.A., D.I.B., 39 Emp. Pln. 7 M.D. M.T. Coy., 119 G.H., 7 M.D. Prov. Cps., A.D.M.S., D.F.O., D.R.O., D.A.A.G., D.A.Q.M.G., Camp Comdt., A.D.S. & T.

4/7/41

S.M. 948

Headquarters, 7 M.D.,
DARWIN. N.T.

3 July, 1941.

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QM ※ All members embarking must be issued with greatcoats.

D.I.B. will supply a loading party of 1 N.C.O. and 6 O.R. to report to the E.S.O. at the assembly point at the time of assembly of troops embarking.

~~NUMBER~~	RANK	NAME	UNIT	AUTHORITY
For BRISBANE.				
Q.70718	Pte.	Woods. G.C.	D.I.B.	Discharge A.M.R. 184 (i)-(vi)

C.Cos

For SYDNEY.

N.73585	Gnr.	Coleman. M.B.	121 Hy.B.	M.B. 74477 - 7 Nov. 40.
N.108896	Pte.	Farrell. C.	39 E.Pn.	Dis. A.M.R. 184 (i) (vi)
NX.55222	"	Oatley. A.H.	2/3 Pnr.	M.B. 74477 - 7 Nov. 40
N.105152	Dvr.	Grimes. D.	7 M.D.MT.	Dis. A.M.R. 184 (i) (vi)
N.79111	Sgt.	Evans. C.B.	119 G.H.	M.B. 74477 - 7 Nov. 40
NX.32288	Gnr.	Weeding. R.W.	2/13 A.F.	Dis. A.M.R. 184 (i) (vi)
NX.33520	A/Sgt	Murray. R.	2/12 F.A.	" " 184 (i) (vi)
N.79219	S/N.	Pegus. E.J.M.	119 G.H.	M.B. 74477 - 7 Nov. 40.
NX.36525	Pte.	O'Shea. P.D.	2/12 F.A.	Dis. A.M.R. 184 (i) (vi)

For MELBOURNE.

TX.2985	Pte.	Budd. A.W.	2/40 Bn.	M.B. 74477 - 7 Nov. 40
VX.37618	"	Lewis. L.	2/21 Bn.	Dis. A.M.R. 184 (i) (vi)
VX.32683	Dvr.	Dowling. C.	2 C. Bde.	" " 184 (i) (vi)
V.80045	Capt.	J.H. Deutchman.	7MD Prov.	M.B. 74477 - 7 Nov. 40.
TX.3635	Pte.	Terry. J.H.	2 /40 Bn.	Dis. A.M.R. 184 (i) (vi)

QM ※

T L Llewellyn
Major,
D.A.Q.M.G. 7th Military District.

DISTRIBUTION : 23Bde. H.Q. (9), R.A.A., D.I.B., 39 Emp. Pln. 7 M.D. M.T. Coy., 119 G.H., 7 M.D. Prov. Cps., A.D.M.S., D.F.O., D.R.O., D.A.A.G., D.A.Q.M.G., Camp Comdt., A.D.S. & T.

AUSTRALIAN WAR MEMORIAL AWM2020.71.8842

Australian Military Forces—7th Military District.

Please quote this Number when replying.

Head-Quarters,
Darwin,

S.M. 951.

4 July, '41.

WARNING ORDER : MOVEMENT OF TROOPS.

Reference S.M. 948 of 3 July '41 relative to the above, it is advised that the following additional personnel will be despatched from Darwin per S.S. "Marella" on approx. 6 July '41 :-

NUMBER	RANK	NAME	UNIT	AUTHORITY
For SYDNEY.				
N.99121	L/Cpl.	Hudson. J.	D.I.B.	M.B. 74477 - 7 Nov. 40.
NX.21928	Gnr.	Forster. W.W.	2/13 Fd.R.	" "
2279	"	Jones. J.W.D.	18 Fd. Bty.	" "
NX.36662	Pte.	Roberts. C.L.	2/12 Fd. Amb.	Discharge A.M.R. 184 (i) (vi)
For MELBOURNE.				
TX.2556	Pte.	Fitzpatrick. K.F.	2/40 Bn.	M.B. 74477 - 7 Nov. 40.

Hospital

A. Capt Qm advised 1100 hrs 5/7. KSL

Capt.,
Staff Capt. "Q" 7th Military District.

5/1/41

DISTRIBUTION : H.Q. 23 Bde. (3), D.I.B. (1), 18 Fld. Bty. (1), A.D.M.S. (1), D.F.O. (1), D.R.O. (1), D.A.A.G. (1), D.A.Q.M.G. (1), Camp Comdt. (1), File...

AUSTRALIAN WAR MEMORIAL AWM2020.71.8842

Australian Military Forces—7th Military District.

Please quote this Number when replying.

Head-Quarters,
Darwin, 5 July, 1941. LM 22

S.M. 954.

MOVEMENT OF TROOPS : S.S. "MARELLA".

Reference 7 M.D. S.M. 948 of 3 July and S.M. 951 of 4 July, time of assembly for troops embarking and loading party will be 0900 hours on Sunday 6 July.

E. A. Dudley Capt.,
Staff Capt. "Q" 7th Military District.

DISTRIBUTION: H.Q. 23 Bde. (7), R.A.A., 18 Fld. Bty., D.I.B., 39 Emp. Pln., 7 M.D. M.T. Coy., 119 G.H., 7 M.D. Prov. Corps, A.D.M.S., D.F.O., D.R.O., D.A.A.G., D.A.Q.M.G., Camp Comdt., A.D.S. & T., File...

AUSTRALIAN WAR MEMORIAL AWM2020.71.8842

SECRET

Bn HQ
14 July

Coy Commanders to initial after reading & hand on personally, last named to return to me

[illegible]

Maj Master W.F.M.

Coy	Initials
O C Hdqrs Coy	[illegible]
A "	
B "	
C "	[illegible]
D "	[illegible]
E "	R.L.L.

A.G.1a/NOD.

H.Q. 7TH MILITARY DISTRICT
SECRET
No. H10/5/10

DEPARTMENT OF THE ARMY.

SECRET

59/501/119

MILITARY BOARD

ARMY HEAD-QUARTERS,
VICTORIA BARRACKS

Melbourne, S.C.1.

5th July, 1941

S.M. 7870

N. Comd. (11); E.Comd. (10); S.Comd. (18);W.Comd.(6); 7 M.D.(4).

Copies for information to:-

Pte. Sec.; C.G.S. (6); A.G.(8); Q.M.G.(4); M.G.O.(5); F.M.(2); S.M.B.(2); Chairman Man Power Committee.

MAINTENANCE OF GARRISONS BATTALIONS.

1. In order to maintain existing Garrison Battalions at their authorized War Establishments, it has been decided that the following action regarding these units is to be taken :-

Existing Garrison Battalions will retain their present numerical designations as shown in the Order of Battle; and in addition, the role of the Battalion will be shown in brackets, e.g. (Coast Defence),(Internal Security) (Internment and Prisoners of War Camps).

2. The maintenance of Garrison Battalions is to be carried out as under :-

(a) All present full time duty personnel of Garrison Battalions (Coast Defence) will be retained with the exception of those who, for other than disciplinary reasons, in the opinion of the G.O.C., Command or the Commandant, Military District, would not stand the strain of covering force duties, or who wish to transfer to Battalions on Internal Security or Internment and Prisoners of War Camp duties. Such personnel will be transferred accordingly to replace wastage in Garrison Battalions (Internal Security) or to Garrison Battalions (Internment and Prisoners of War Camps). After transfers as above have been effected Garrison Battalions (Coast Defence) will be maintained at authorized strength of F.T.D. personnel by the enlistment of additional personnel from categories in the following order of priority -

(i) Persons enlisted under the conditions hitherto operating under M.B.I. A.75/1940;

(ii) Persons enlisted under conditions laid down in M.B. Circular 38915 of 12th June, 1941;

(iii) Universal Service Personnel volunteering for full time duty;

(iv) Universal Service Personnel called up for F.T.D.

/(b).....

AUSTRALIAN WAR MEMORIAL AWM2020.71.8842

(b) Personnel enlisted to undergo 21 days training per annum for the purpose of completing Garrison Battalions (Coast Defence) to War Establishment on Mobilization will be maintained as follows -

(i) Persons enlisted under the conditions hitherto operating under M.B.I. A.75/1940;

(ii) Persons enlisted under conditions laid down in M.D. Circular 38915 of 12th June, 1941.

If sufficient personnel of the above categories are not available to bring the Battalions to War Establishment on Mobilization the deficiency must be met by allotment of Universal Service Personnel who, where practicable, may carry out some (or all) of their compulsory training with such Garrison Battalions.

(c) In Western Command 19 Garrison Battalion (Coast Defence) will be brought up to War Establishment and maintained at full strength under the conditions as in para.3 (b) above.

3. Garrison Battalions (Internal Security) will be maintained by personnel of the same categories as laid down for Garrison Battalions (Coast Defence) in para. 2 (a) above.

4. Pending the issue of any further instructions which may be required the maintenance of Garrison Battalions (or units) for guarding Internment and Prisoners of War Camps will be in accordance with M.D. Circular 38915 of 12th June, 1941.

Please acknowledge receipt of this circular on enclosed form by return post.

A. Kennedy

Colonel,
Director of Organization and Recruiting.

AUSTRALIAN WAR MEMORIAL AWM2020.71.8842

Australian Military Forces—7th Military District.

Please quote this Number when replying.

Head-Quarters, Darwin Infantry Bn.,
Darwin, Parap,
7 Jul 41.

Adjutant,
D.I.B.

REPORT ON UNUSUAL OCCURANCES-FRANCIS BAY MAGAZINE.

I wish to bring to your notice the following unusual occurances at the above guard.

On Friday night, the fourth inst., at approximately 1830 hrs. Pte.M.J.James was returning to the magazine area by taxi. Arrived at the gates, the driver addressed him as follows.

"Isn't this the place where all the explosives are kept? Is there any chance of you getting a box of explosives for me?"

Pte James refused and the taxi drove off.

Again on Saturday morning at about 0930 hrs, the same taxi attempted to enter the area. On being stopped by the guard (Pte.Tumeth) the driver said he had received a phone call from Francis Bay asking him to pick up two members of the guard. He put the car in gear and started to move inside, saying he would drive to the guard quarters and pick up his passengers. He was refused admittance by the sentry, who, telephoned the quarters to enquire into the matter. Whilst thus engaged, the driver turned his cab and drove rapidly away from the area.

The taxi was a black Terraplane, with the words Darwin-Parap Taxi Service painted on the hood.

Both Ptes. James and Tumeth can identify the man if necessary.

Moreover there is no telephonic communication from Francis Bay and no member of the guard required a taxi.

4943 Sgt.(E Coy.),
i/c. Francis Bay Magazine Guard.

Capt
Pass to I Sec 7 M.D for information & action considered necessary.
7/7.

AUSTRALIAN WAR MEMORIAL AWM2020.71.8842

S.M 22/41.

SECRET

D.S.B.
8 June 41

Intelligence Section
Int B

Security. Francis Bay Magazine Area

The attached report is passed to you for action considered necessary.

The N.C.O. who submitted this report is still on duty in the Magazine Area

Pending your advices no action will be taken by this unit. ~~The aspect of telephonic communication is recommended for inquiry.~~

Lt Col ~~Capt~~ Staff Capt
Co D S B

S.M. 46. 5129 Registry No. 7MD Memo

Form 9.

AUSTRALIAN MILITARY FORCES : 7TH MILITARY DISTRICT

D.C.R. NO.

2/7/341
31/10/686
20/8/100

Headquarters, Darwin.

10th July 1941

Transfer Nos. 152-155/41

SECRET

file Movements

TRANSFERS

Approval has been given to transfer the undermentioned soldiers to their Command of enlistment. Reasons as stated below:

No.	Rank	Name	Unit	Dis-embkn Class.	Re-board in	Reasons for Transfer
TX2556	Pte.	FITZPATRICK, K.F.	2/40 Bn.	A.II		M.B. 74477 of 7/11/40
NX21928	"	FORSTER, W.W.	2/13 A. Fd.Regt.	A.II		"
N99121	L/Cpl.	HUDSON, J.	D.I.B.	A.II	X gone.	"
N70284	W.O.1	HANDLEY, C.A.	7 M.D. Provost	C		Comp. reasons - Comdt. 7 M.D.
N15009	Cpl.	VALENTINE, A.E.	1/54 A.A. Coy.	C		"

REMARKS

Authorized by Commandant, 7 M.D.

"Q" Branch to arrange movement

Cpl. Valentine left by plane 6/7/41 - Pte. Fitzpatrick, L/Cpl. Hudson and Gnr. Forster are urgent cases and not fit for overland travel

Distribution

~~H.Q. 23 Inf.~~ Bde.	(2)	D.I.B.	(1)
Staff Capt. 'Q'	(1)	D.A.P.M.	(1)
D.I.B.	(1)	C.R.A.E.	(1)
D.R.O.	(1)	File	(1)
D.F.O.	(1)		

S.L. Eskell
Lieut., Aust. Staff Corps
for
D.A.A.G. 7 M.D.

AUSTRALIAN WAR MEMORIAL AWM2020.71.8842

Australian Military Forces—7th Military District.

Please quote this Number when replying.

WDM/JA

Head-Quarters,
Darwin, 10 Jul 41

C.F.D. (Copy 1 & 2)
C.R.E. (" 3)
D.I.B. (" 4)
H.Q. 23 Aust (" 5)
Inf Bde.

AIRCRAFT RECOGNITION SIGNALS

Copy of the above signals for the period 13 Jul 41 to 26 Jul 41 (both dates inclusive) is forwarded herewith.

Please acknowledge receipt on the attached Form A.57.

Asked Capt Matthew to discontinue — no use to us sending these — L Darw

W.D. Matthew. Capt.
for Lt.-Col.,
General Staff, 7 M.D.

AUSTRALIAN WAR MEMORIAL AWM2020.71.8842

SECRET

Copy No. 4 .....

AIRCRAFT RECOGNITION SIGNALS

Pyrotechnic and flashing identification signals for use by aircraft to ground forces or other aircraft.

NOTE - Aircraft are always responsible for taking the initiative to establish their friendly character to ground stations.

Day of Month	Time G.M.T.	Identification Signals from Aircraft	
		Colours of Cartridge to be fired.	Letter to be flashed.
JULY	0000-0600	RR	B
	0600-1200	GY	K
13	1200-1800	RY	D
	1800-2400	GG	N
	0000-0600	RY	U
	0600-1200	YY	J
14	1200-1800	GY	F
	1800-2400	GG	V
	0000-0600	RY	P
	0600-1200	GY	L
15	1200-1800	YY	V
	1800-2400	GG	U
	0000-0600	RR	N
	0600-1200	RG	O
16	1200-1800	GG	T
	1800-2400	YY	K
	0000-0600	YY	S
	0600-1200	RR	T
17	1200-1800	RY	N
	1800-2400	GG	V
	0000-0600	GY	B
	0600-1200	GG	K
18	1200-1800	RG	G
	1800-2400	RR	U
	0000-0600	RY	U
	0600-1200	RR	N
19	1200-1800	YY	G
	1800-2400	RG	Y
	0000-0600	RG	W
	0600-1200	GY	N
20	1200-1800	RR	U
	1800-2400	GG	X
	0000-0600	RR	L
	0600-1200	RG	T
21	1200-1800	GY	M
	1800-2400	YY	V
	0000-0600	GY	P
	0600-1200	RG	S
22	1200-1800	GG	F
	1800-2400	RY	M
	0000-0600	RR	O
	0600-1200	RG	N
23	1200-1800	RY	Y
	1800-2400	YY	V
	0000-0600	GG	K
	0600-1200	RY	G
24	1200-1800	YY	L
	1800-2400	GY	S
	0000-0600	YY	X
	0600-1200	RG	O
25	1200-1800	GY	B
	1800-2400	RY	Y
	0000-0600	GY	P
	0600-1200	RY	F
26	1200-1800	RR	L
	1800-2400	RG	Z

AUSTRALIAN WAR MEMORIAL AWM2020.71.8842

SECRET

S E C R E T.

COPY NO. 6

Area Combined Headquarters,

DARWIN,

10th July, 1941.

DARWIN DEFENCE EXERCISE MEMORANDUM NO. ~~16~~ 17

COMBINED EXERCISE OF MANOEUVRES - NAVY, ARMY AND AIR FORCE,

AND BLACK-OUT TEST.

(SHORT TITLE - D.D.X.M. NO. ~~16~~ 17)

A Combined Services Exercise will be carried out during the period ~~July 29th - 31st, 1941~~ August 5th - 7th.

A Black-out Test for DARWIN will be included during the above period.

2. OBJECTS OF EXERCISE.

To exercise the following :-

(a) Naval Units in Attack, and Defence of the Base.

(b) Military personnel in the Defence of the Base and outlying districts from Attack by Aircraft and Troops landed from Transports.

(c) Aircraft in Attack, and in Defence of the Base.

(d) Inter-Service Communications.

(e) The A.R.P. Organisation.

3. GENERAL IDEA.

RED FORCES, operating from TIMOR, intend to attack and occupy PORT DARWIN with a view to capture of Oil Fuel supplies and to denial to BLUE FORCES of the further use of the Base during hostilities.

4. RED (Attacking Force).

(i) NAVY - H.M.A.S. ~~"TERKA"~~ "Bendigo" representing Six 8" Cruisers of the NATI or KAKO Classes accompanied by Transports. represented by H.M.A.S. "Terka"

(ii) ARMY - Detachment of 8 other ranks who will sail in "Bendigo" &/or "TERKA" and who will represent invading Land Force consisting of a Brigade Gp. of Infantry with normal supporting Arms.
This Force which is to land as from "Terka" is not to attempt more than two landings during the Exercise.

(iii) AIR FORCE - One Flight (3 Aircraft) - Bomber Reconnaissance.
One Flight (3 Aircraft) - Fighters.
Each Flight will represent one Squadron (12 Aircraft)

(iv) COMMANDERS - Commander H. T. Bennett D.S.O. R.N. (Commander-in-Chief)
Lieut.Col. W.W.Ingram M.C., A.A.M.C.
Wing Commander J. R. Balmer, R.A.A.F.
} Embarked in ~~"TERKA"~~. "BENDIGO"

AUSTRALIAN WAR MEMORIAL AWM2020.71.8842

SECRET

It is assumed that the Naval RED FORCE includes an Aircraft Carrier in which the above aircraft are borne. For the purpose of the Exercise the Advanced Operational Bases at DRYSDALE and/or BATCHELOR will represent the Aircraft Carrier, but these A.O.B.s are not available to RED or BLUE FORCES for operational purposes.

RED Aircraft are to commence initial Defensive or Offensive movements from the position of the RED Naval Force, viz. ~~"TERKA"~~. "Bendigo"

BLUE (Defending Force).

(v) NAVY - H.M.A.S. "TOLGA", wearing the Flag of the Senior Naval Officer, BLUE FORCE, and H.M.A.S. "Vigilant" representing 3 Cruisers. (2 - 8" and 1 - 6").

(vi) ARMY - As at present available.

(vii) AIR FORCE - Approximately 12 Aircraft (6 Bomber Reconnaissance and 6 Fighters) subject to service availability, thus giving RED FORCE a theoretical superiority of 2 to 1.

5. TIMES.

All times of Origin of Messages during the Exercise are to be G.M.T. (Zone Z).

Watches are to be synchronised at 2230Z daily.

ZERO TIME will be 0230Z ~~Tuesday, 29th July~~ ~~Friday 1st August~~ Tues. 5 Aug, 1941.

6. LIMITS OF OPERATIONAL AREAS.

(i) NAVAL - South of Latitude 10° S and between the meridians of 126° E and 134° E.

(ii) ARMY - Landing Force, between the limits of ADELAIDE RIVER and BYNOE HARBOUR.

(iii) AIR FORCE - NIL. (Except A.O.B.s at DRYSDALE and BATCHELOR).

7. INTELLIGENCE.

~~31st~~ 4 AUG BLUE FORCE has received information at 0001Z on ~~Monday, 28th July~~ ~~Thursday~~ 6 Sept, to the effect that RED FORCES may reach the Naval Operational Area by Zero Time.

8. CONDUCT OF EXERCISE.

It is assumed that all Navigational Lights between CHARLES POINT and CAPE DON inclusive are extinguished as from dusk on ~~Monday, 28th July~~ ~~Thursday 31st July~~ 4 AUG., unless otherwise requested by S.N.O. BLUE FORCE.

Ships are to be darkened throughout the Exercise.

~~"TOLGA" and "TERKA" are not to exceed Economical Speed (8 knots), and "TERKA" is not to exceed 5 knots whilst Transports are in company.~~ BLUE FORCE is not to exceed a speed of 8 knots. RED FORCE cruisers ("Bendigo") are not to exceed 10 knots and Transports ("Terka") are not to exceed 5 knots

Attention is particularly directed to the instructions contained in Paragraph 11 regarding information of movements etc. which must be communicated to Umpires.

The Exercise will terminate as ordered by A.C.H., and in any case not later than 1000Z on ~~Thursday, 31st July~~ Sunday. 3rd. August.

AUSTRALIAN WAR MEMORIAL AWM2020.71.8842

SECRET

9. DIRECTION OF EXERCISE.

Operations of BLUE FORCE will be conducted by A.C.H. (situated at R.A.A.F. Operations' Room) and by C.D.H. (situated at Larrakeyah.)

A Military Liaison Officer will be stationed at A.C.H.

The Exercise will be directed by the Officer Commanding R.A.A.F. Station (D.O.E.) who will be stationed at A.C.H.

Commander-in-Chief RED FORCE is to communicate to D.O.E., not less than 72 hours before ZERO TIME, the intended position of RED FORCE at ZERO TIME, in order that D.O.E. may, if necessary, take appropriate measures to ensure the success of the Exercise.

10. UMPIRES.

The following Umpires will be stationed at A.C.H. :-

Naval - Commander W. H. Thurlby R.A.N.
Army - Lieutenant Colonel A. L. Elliott, General Staff.
Major K. E. Wheeler Staff Corps.
Air Force - Squadron Leader A. S. Cross R.A.A.F.

Additional Umpires may be appointed by D.O.E.

C.D.H. is to keep Umpires informed, through the Military Liaison Officer at A.C.H., regarding Movements and Operations of all Land Forces.

Umpires will keep D.O.E. informed of all Intelligence, and will recommend to him the imposition of casualties, decisions regarding sightings of Surface Craft and Aircraft etc.

The D.O.E. will inform appropriate Commands accordingly.

11. COMMUNICATIONS.

All Messages originated during the Exercise are to be prefixed "FOR EXERCISE" except in the case of Emergency Messages relating to the safety of Aircraft.

Para. 11. Delete all after line 4 and substitute :-

"Red Force.

Navy - W/T Messages between Red Cruisers, Transports and Aircraft (Airborne or Stationed at either DRYSDALE or BATCHELOR) will be transmitted on 6345 K/c.s.
R.A.A.F. W/T Station will maintain W/T Watch on 6345 K/c.s and all operational messages intercepted from units of the RED FORCE will be passed to Umpires for information. "BENDIGO" will also pass all other instructions relating to operation and disposition of RED Surface units to Umpires through R.A.A.F. W/T Station.
The contents of Messages received by R.A.A.F. Station from RED units are under no circumstances to be divulged to other authorities except by direction of the Umpires.

Army - W/T Communication between "TERKA" and Landing Forces will be maintained by Army W/T Transceiver sets (No. 101).

Communication between "TERKA" and Aircraft will be by V/S only.

SECRET

9. DIRECTION OF EXERCISE.

Operations of BLUE FORCE will be conducted by A.C.H. (situated at R.A.A.F. Operations' Room) and by C.D.H. (situated at Larrakeyah.)

A Military Liaison Officer will be stationed at A.C.H.

The Exercise will be directed by the Officer Commanding R.A.A.F. Station (D.O.E.) who will be stationed at A.C.H.

Commander-in-Chief RED FORCE is to communicate to D.O.E., not less than 72 hours before ZERO TIME, the intended position of RED FORCE at ZERO TIME, in order that D.O.E. may, if necessary, take appropriate measures to ensure the success of the Exercise.

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Umpires will keep D.O.E. informed of all Intelligence, and will recommend to him the imposition of casualties, decisions regarding sightings of Surface Craft and Aircraft etc.

The D.O.E. will inform appropriate Commands accordingly.

11. COMMUNICATIONS.

All Messages originated during the Exercise are to be prefixed "FOR EXERCISE" except in the case of Emergency Messages relating to the safety of Aircraft.

Red Force.

Navy - Operational Messages for RED Aircraft, Airborne or Stationed at DRYSDALE and/or BATCHELOR will be passed by "TERKA" on 6345 K/C's.
All such Messages, and also instructions relating to disposition and operation of RED Surface Craft are to be passed by "TERKA" to R.A.A.F. Station, DARWIN, on the same frequency, for information of Umpires only. The contents of Messages received by R.A.A.F. Station from "TERKA" are under no circumstances to be divulged to other Authorities except by direction of the Umpires.

Army - W/T Communication between "TERKA" and Landing Forces will be maintained by Army W/T Transceiver sets (No.101).

Blue Force.

Navy - Outward W/T Messages to "TOLGA" will be broadcast (F Method by COONAWARRA W/T Station on 150 K/C's.
Inward W/T Messages from "TOLGA" are to be broadcast (F Method) by "TOLGA" through P.M.G.S. on 425 K/C's.
All instructions relating to disposition and operation of BLUE Surface Craft which are originated by "TOLGA" are to be passed to A.C.H. by the above method for the information of Umpires.
Communication between "TOLGA" and Aircraft will be by V/S only.

Blue Force.

Navy - W/T Messages from A.C.H. to "TOLGA" or "VIGILANT" will be broadcast (F Method) through COONAWARRA W/T Station on 425 K/c.s Incoming Messages to A.C.H. will be received by COONAWARRA on the same frequency.
W/T Messages between "TOLGA" and "VIGILANT" will be broadcast (F Method) on 425 K/c.s
All instructions and decisions relating to disposition and operation of BLUE Surface Craft which are originated by BLUE FORCE are to be passed by "TOLGA" to A.C.H. by the above method for the information of Umpires.
Communications between "TOLGA" and/or "VIGILANT" and Aircraft will be by V/S only.

Air Force - Communications between A.C.H. and Blue Aircraft will be via R.A.A.F. Station".

AUSTRALIAN WAR MEMORIAL AWM2020.71.8842

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Air Force - Communications between A.C.H. and BLUE Aircraft will be via R.A.A.F. Station.

12. BLACK-OUT TEST.

A Black-out Test will be conducted throughout DARWIN during the Exercise.

An A.R.P. Liaison Officer will be at C.D.H. during the Test period.

13. RECORDS.

(a) From D.O.E.
Narrative and Remarks.
(to include reports from Umpires).

(b) From Navy.
Narrative and Remarks.

(c) From Army.
(i) Communication Returns.
(ii) Narrative and Remarks.

(d) From R.A.A.F. Headquarters.
(i) Aircraft Track Charts.
(ii) Communication Returns.
(iii) Narrative and Remarks.

(e) From H.M.A. Ships "Bendigo" "TERKA" and "TOLGA" and "VIGILANT"
(i) Communication Returns.
(ii) Track Charts.
(iii) Narrative and Remarks.

(f) From Aircraft.
Communication Returns.

(g) From ~~P.W.S.S. and~~ Coonawarra.
Communication Returns.

DISTRIBUTION:

Copy Nos.	1 - 25	Commandant, 7th Military District, Darwin	(25)
" "	26-31	Naval Officer-in-Charge, Darwin.	(6)
" "	32-37	Officer Commanding, R.A.A.F. Station, Darwin.	(6)
" "	38-39	Area Combined Headquarters.	(2)
" No.	40	Commanding Officer, H.M.A.S. "PLATYPUS".	(1)
" "	41	Commanding Officer, H.M.A.S. "TOLGA".	(1)
" "	42	Commanding Officer, H.M.A.S. "TERKA".	(1)
" "	43	File.	(1)

Commanding Officer H.M.A.S. "Bendigo"
" " H.M.A.S. "Vigilant"

Registry No: [illegible]

Australian Military Forces—7th Military District.

Please quote this Number when replying.

	SM.	1035

KEW/JA

Head-Quarters,
Darwin,

S.M. 24

17 Jul 41

SECRET

23 Aust. Inf. Bde.
D.I.B.

ENEMY INTELLIGENCE AND SECURITY

The following extract taken from a recent "Weekly Intelligence Summary", Headquarters, British Troops, EGYPT, indicates the necessity of enforcing strict night discipline during all exercises : -

" ENEMY INTELLIGENCE.

It is emphasised that the Germans are quick to pick up information. As an example, on one occasion they were able to locate our positions in a sector of TOBRUK by spotting the glow of cigarettes ends, and an accurate plan was then dra wn which was afterwards found on a captured German Artillery officer. This is an example of poor night discipline giving away information unnecessarily. "

A. L. Elliott

Lt.-Col.,
General Staff, 7 M.D.

18/7
C.O.
O.C. Adjt.
Q.M. R.S.M.
R.Q.M.S. O.R.S.

18 JUL 1941

AUSTRALIAN WAR MEMORIAL AWM2020.71.8842

Australian Military Forces—7th Military District.

Please quote this Number when replying.

JB/JA

Head-Quarters,
Darwin,

17 Jul 41

SECRET

D.I.B.

JAPANESE ARMY - MINOR TACTICS

Herewith copy(s) No.(s) 786-795 of Secret Document as above.

C.O.
File

J M Bryant Lieut.
Intelligence Section,
7th Military District.

Distributed:—

Copies Nos. 787 Maj. Master
8 " Fuller
9 Capt. McConnell
90 " Jones
1 " Harrison
2 " Carstens
3 " Bruce
4 " Greer
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AUSTRALIAN WAR MEMORIAL AWM2020.71.8842

Australian Military Forces—7th Military District.

Please quote this Number when replying.

	S.M	27/41

JB/JA

SECRET

D.I.B.

Head-Quarters,
Darwin,

17 Jul 41

LECTURE ON THE JAPANESE ARMY

Herewith copy(s) Nos. 198-199 of Security Document for your information and retention.

Copy

198.— Co, Mc, Adjt, Adm, I.O. } Bn Hqr. Steist

199. Officers other than above

J M Bryant Lieut.
Intelligence Section,
7th Military District.

AUSTRALIAN WAR MEMORIAL AWM2020.71.8842

H.Q. 7TH MILITARY DISTRICT
SECRET
No. A10/2/11

DEPARTMENT OF THE ARMY.

MILITARY BOARD
(Chief of the General Staff).

A82 11/9

Army Headquarters,
Victoria Barracks,
MELBOURNE, S.C.1.

S.M. 9718

N. Comd.(10) .. To send 3 copies of Memo. 15 Jul to 8 M.D.
E. Comd.(12)
S. Comd.(14)
W. Comd. (4)
7 M.D. (4)
8 M.D. (3)

CLOSE SUPPORT BOMBING.

1. I am directed to refer to the Combined Army and Air memorandum dated 15 Jul 41, wherein copies of a Directive on the above subject were forwarded you for preliminary examination as to the practical application of this support with Covering and Field Forces.

2. I am now directed to forward you copies of a lecture, given at the Staff College, Camberley in May 1941 on the same subject.

3. A further communication will be forwarded later regarding:-

(a) The provision of the necessary communications at C.D.Hs. and forward to W/T tentacles with troops in Covering Force Sectors containing C.D.H.

(b) The application of Close Support bombing elsewhere than in Covering Force Sectors containing C.D.H.

4. It will then be desired that Commands submit their requirements to implement the above system of Close Support Bombing after determining the Air Support likely to be available in consultation with A.O.C. operational areas (see S.M.9551 of 7 Aug 41.).

11 Aug 41

Colonel,
Director of Military Operations.

Copies for information to -

D.I.B.

"A" Branch
"Q" Branch
"O" Branch
S.O. Arty.
Deputy Engr.-in-Chief
Chief Sigs. Officer
D.S.D.
D.M.I.(2)
D.M.T.(2)
R.M.C.(2)

AUSTRALIAN WAR MEMORIAL AWM2020.71.8842

Staff College, Camberley.

Junior War Course No. 5.

Air 5.

Close Support.

1. Definition of Close Support.

(a) Direct Support - The isolation of the battlefield by Air Forces. By this is implied the use of air forces against objectives some distance from our own troops to prevent reinforcements, supplies, etc., arriving in time in the battle area.

(b) Close Support - The intervention of air forces on the battlefield itself. By this is implied the use of air forces to overcome opposition which is hindering, or may hinder, the advance of our troops.

Generally speaking, Direct Support will be ordered as part of the Comd.'s pre-arranged plan for the battle.

Close support will be given in response to demands from leading units or formations.

2. Characteristics of Close Support.

(a) Flexibility - bombers can operate against widely separated targets, or concentrate on particular portion of front.

(b) Range - not limited as in the case of artillery. Accuracy is not dependent on range.

(c) Accuracy - less than artillery. Will depend on degree of enemy opposition in air and on ground, training, visibility, accurate description of target, type of target. Target cannot be "registered", nor does accuracy increase as with arty.

(d) Rate of fire - once used, close support aircraft cannot be used again until they have returned to the aerodrome and bombed up. About two hours on the ground between attacks will be needed for bombing up etc., before aircraft are again ready to leave the ground. Economy is therefore essential.

(e) Moral effect - greater than arty. for the same weight of projectiles.

(f) Vulnerability - more vulnerable and costly than arty: highly trained personnel and elaborate equipment cannot be quickly replaced.

(g) Time of attack - aircraft cannot guarantee to reach target at a definite zero hour. Latitude must be allowed for in plan. Support may fail to arrive owing to weather, enemy action or other causes.

(h) Effect of bombardment compared with Arty - very roughly attack by one aircraft carrying 16 - 40 bombs equal to four salvos from eight gun 25 pr. bty.
Attack by a flight of three aircraft equivalent to five mins. concentration.
Compared with Arty., Close Support is inaccurate, slow in application, and uneconomical in material. The advantages are flexibility, range, and moral effect.
It should not be used on targets which can be engaged by arty.

AUSTRALIAN WAR MEMORIAL AWM2020.71.8842

3. Method of Indication of Target.

(a) By messages from leading troops.

(b) By judgment of the pilot, after receiving general instructions as to location and type of target.

(c) By messages from Air Recce.

(a) will probably be the most frequent source, and the Close Support organization is designed to meet this case, but may also be used for (b) and (c).

4. Close Support Bomber Contol.

The Staff controlling the application of Close Support. Usually also the Adv H.Q. of the Close Support Bomber Group.

Two elements -

R.A.F. - Group Comd or deputy, plus small operational staff. W/T organization communicating directly with Close Support Sqns, and other R.A.F. formations as necessary.

Army - Senior staff officer, plus small staff. W/T organization consisting of receiving sets (3) at a control and forward links, known as "Tentacles" (9) for allotment by Army Comd to formations.

5. Method of Operation.

(a) Close Support Bomber Control located near H.Q. of Comd. controlling the battle.

(b) Tentacles allotted to formations in accordance with Comd's plan.

(c) Tentacles sub-allotted by formations to forward tps. (Generally sub-allotment will not be below Inf Bdes or Tank Bns).

(d) Formations to which tentacles are allotted indicate to Control targets to be attacked and when.

(e) Control informs formation whether demand can be met, and sends orders to Sqns for attacks.

6. Time - Time required, from the initiation of the message at the tentacle, until the attack takes place may be from 1 to 1½ hrs.

The following figures, which represent the best that can be expected, are given as a guide, assuming well trained personnel at Close Support Bomber Control and in the Bomber Sqn:-

From Tentacle to Control	7 mins.
In control	5 mins.
From Control to Aerodromes.. ..	7 mins.
Briefing Pilots and getting aircraft away	12 mins.
80 miles at 200 m.p.h.	24 mins.
	55 mins.

7. Form of Demand - See Appx A.

8. Allotment of Close Support Effort.

(a) By allotment of sorties to formations - numbers of sorties available cannot be exactly estimated, as they will depend upon casualties.

(b) By allotment of proportion of effort to formations - tentacles must be informed from time to time of number of sorties at their disposal.

(c) By judgment of Close Support Bomber Control.

(c) only method which allows complete flexibility of effort. Essential that formations should have indication of effort available. This may be given by method (a) or (b), but senior Army Staff officer at Control must be empowered to take decisions under (c). To do this he must know fully the plan and intention of the Comd.

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9. Bombline.

This is a safety line laid down by the formation demanding the Close Support; it gives to the close support aircraft the line short of which it is unsafe to bomb for fear of hitting our own tps.

The Bombline should be defined by features easily recognisable from the air.

A Bombline need only be given if there is danger of the Close support aircraft bombing our own tps; for instance, if the target given is moving on a road towards our own tps, by the time the aircraft arrive, it may be so close that bombing is dangerous, or it may have got under cover, and one of our own units might be mistaken for it.

If the target is a well defined stationary target, a bombline need not be given.

10. Operation of Tentacles.

(a) An Army officer from Close Support Bomber Control will accompany each tentacle.

(b) Tentacle willnot necessarily remain at H.Q. of formation to which allotted. Might be at a forward report centre, or with H.Q. of a unit, though not definitely allotted to that unit.

(c) Officer with tentacle will act as adviser on suitability of targets, time required to provide support, and bomber effort available from time to time.

(d) Demands received for support transmitted to Control on proper form (Appx A.). Officers initiating demands at units must know proper form of demand to avoid reference back for further information.

(e) Tentacle receives message back from Control saying whether support demanded can be given, and informs Comd accordingly.

11. General.

(a) Targets should not be within 500 yds of our own tps.

(b) To assist in the location of targets tentacles are provided with yellow arrows with arms 15' in length, for allotment to troops, which are laid out pointing in the direction of the target. Bars placed across the arrow indicate the distance to the target in units of 500 yds.

(c) Close Support bombers must be allowed latitude as to the time at which they are to attack the target. A quarter to half an hour is sufficient. If the bombers cannot arrive within the time indicated they do not carry out the attack.

12. Present situation.

(a) Close Support will be given by Med Bombers allotted for the purpose when required. Special Close Support Bomber Sqns will not be formed. Close Support does not necessarily imply Dive Bombing. Low level or shallow dive bombing may be employed.

(b) Two Close Support Bomber Controls are being formed.

(c) Combined Army and R.A.F. training in Close Support with certain Bomber Sqns earmarked for the purpose is being initiated.

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13. Training.

Successful and rapid application of Close Support will depend on good training both in Army and R.A.F.

Army must :-

(a) Know capacity and limitations of Close Support.

(b) Understand the means of Control.

(c) Understand the necessary signals procedure.

(d) Be trained to assist aircraft by covering fire to keep down A.A. fire.

(e) Be trained to take advantage of Close Support when it arrives, not working to a definite timed programme, as with Arty.

14. Close support should NEVER be made use of merely because it is available: if possible, use Artillery.

The risk of Close Support bombing against an army well supplied with A.A. weapons, and expert in their use, must be appreciated.

Staff College,
Camberley.
Mar, 1941.

H.M.W.

AUSTRALIAN WAR MEMORIAL AWM2020.71.8842

APPENDIX "A" TO AIR

SIGNALS PROCEDURE

1. Proforma for demand for Close Support.

To: (R.A.F. only)	From:- (Army only)	BOLO
DEGREE OF PRIORITY — Immediate	Originator's No.	2
No. of aircraft required	A. 9	
TARGET. To include any special purpose if not obvious in description of target.	B. DIG DEP four eight two six zero one	
TIME OVER TARGET	C. 1100 - 1115	
BOMBLINE	D.	
SPECIAL INSTRUCTIONS (if any)	E.	
T H I	F. 1002	
SIGNATURE P. Smith, Capt.	Sender Reader	Signals use only

Notes :- (a) Only the writing to the right of the vertical line is transmitted in the body of the message, preceded by A, B, C, etc. Text would be received as :-

A 9. B D I G D F P four eight two six zero one. C 1100-1115. D E nil. F 1002.

(b) Army only complete "From" space as all messages are to Control. R.A.F. at Control only complete "To" space, leaving "From" space as filled in by Army.

(c) Demands for support within two hours should be franked Immediate and anything above that period important.

(d) Originator's number should consist of a figure only.

(e) R.A.F. recce code should be used as far as possible for describing target.

(f) Map Refs should be spelt out, O being zero.

(g) Support should be demanded in multiples of three aircraft, which is the R.A.F. tactical section.

(h) Support should not normally be demanded under 45 mins. notice.

AUSTRALIAN WAR MEMORIAL AWM2020.71.8842

SECRET

Copy No. 6

Area Combined Headquarters,
DARWIN,
18th July, 1941.

AMENDMENT TO D.D.X.M. NO. 17.

Para. 1 Line 2. Delete "July 29th - 31st" and substitute "August 1st - 3rd".

Para. 4 Delete and Substitute :

(i) "NAVY - H.M.A.S. "BENDIGO" representing Six 8" Cruisers of the NATI or KAKO Classes accompanied by Transports, represented by H.M.A.S. "TERKA".

(ii) Line 2 - before "TERKA" insert "BENDIGO and/or".
Line 5 - after "This Force" insert ", which is to land as from "TERKA".

(iv) Delete "Embarked in "TERKA"" and substitute "Embarked in "BENDIGO"".

(iv) Last line. Delete "TERKA" and substitute "BENDIGO".

(v) Line 2 - After "BLUE FORCE, and" insert "H.M.A.S."VIGILANT";"

Para. 5 Last line. Delete "Tuesday, 29th July" and substitute "Friday, 1st August".

Para. 7 Delete "Monday, 28th July" and substitute "Thursday, 31st July".

Para. 8 Line 3 - Delete "Monday, 28th July" and substitute "Thursday, 31st July".

Last line - Delete "Thursday, 31st July" and substitute "Sunday, 3rd August".

Lines 7, 8, 9. Delete and substitute :-

"BLUE FORCE is not to exceed a Speed of 8 knots. RED FORCE Cruisers ("BENDIGO") are not to exceed 10 knots, and Transports ("TERKA") are not to exceed 5 knots.

AUSTRALIAN WAR MEMORIAL AWM2020.71.8842

Para. 13 (e) Line 1. Delete and substitute :-

"Crew H.M.A. Ships "BENDIGO", "TERKA", "TOLGA" and "VIGILANT".

(g) Line 1. Delete "P.W.C.S. and".

Distribution. Add:-

Commanding Officer H.M.A.S. "BENDIGO". (1)
Commanding Officer H.M.A.S. "VIGILANT". (1).

Amendment made

18th July, 1941.

AUSTRALIAN WAR MEMORIAL AWM2020.71.8842

DARWIN DEFENCE EXERCISE MEMORANDUM NO. 17.

DISTRIBUTION:

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C.F.D.	"	"	14
C.R.E.	"	"	15
Sig. Officer.	"	"	16
A.D.M.S.	"	"	17
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AUSTRALIAN WAR MEMORIAL AWM2020.71.8842

S E C R E T.

Copy No. 6

Area Combined Headquarters,
DARWIN,
21st July, 1941.

AMENDMENT NO. 2 TO D.D.X.M. NO.17.

Amendments to "AMENDMENT TO D.D.X.M. NO.17" dated 18th July, 1941.

"Para. 1 Line 2".	Delete "August 1st - 3rd" and substitute "August 5th - 7th".
"Para. 5 Last Line".	Delete "Friday, 1st August" and substitute "Tuesday, 5th August".
"Para 7".	Delete "Thursday, 31st July" and substitute "Monday, 4th August".
"Para. 8 Line 3".	Delete "Thursday, 31st July" and substitute "Monday, 4th August".
"Para. 8 Last Line".	Delete "Sunday, 3rd August" and substitute "Thursday, 7th August".

21st July, 1941.

AUSTRALIAN WAR MEMORIAL AWM2020.71.8842

Registry No.
41/7/13.

Capt Harrison
Ob A. Coy
Dear Sir

I wish to be discharged from the Darwin Inf. Bn. as I am under age. My Mother has decided to have me discharged. My Father is not living and I have to keep my Mother.

— N 101472 Pte Jullens. K.
Age 17 y. 10 months.
21 July. 1923

stated here

adjt — C.S.H.

C.O.

4/7/41

C.O.
O.C. Adjt.
Q.M. R.S.M.
R.Q.M.S. Q.R.S.

file
Foreword

28 JUN 1941

SM 1073

WDM/JA 27 Jul 41

C.F.D. (Copy 1 & 2)
C.R.E. (" 3)
D.I.B. (" 4)
H.Q. 23 Aust Inf Bde (" 5)

AIRCRAFT RECOGNITION SIGNALS

Copy of the above signals for the period 27 Jul 41 to 9 Aug 41 (both dates inclusive) is forwarded herewith.

Please acknowledge receipt on Form A.57 attached.

R. D. Matthew. Capt.
for Lt.-Col.,
General Staff, 7 M.D.

AUSTRALIAN WAR MEMORIAL AWM2020.71.8842

DEPARTMENT OF DEFENCE

7th MILITARY DISTRICT

MINUTE PAPER.

(This side only to be written on)

SUBJECT :—

AUSTRALIAN WAR MEMORIAL AWM2020.71.8842

SECRET

Copy No. 4

AIRCRAFT RECOGNITION SIGNALS

Pyrotechnic and flashing identification signals for use by aircraft to ground forces or other aircraft.

NOTE - Aircraft are always responsible for taking the initiative to establish their friendly character to ground stations.

Day of Month	Time G.M.T.	Identification Signals from Aircraft	
		Colours of Cartridge to be fired.	Letter to be flashed.
JULY	0000-0600	RR	V
	0600-1200	RY	U
27	1200-1800	GY	K
	1800-2400	YY	P
	0000-0600	RR	L
	0600-1200	RY	M
28	1200-1800	GY	X
	1800-2400	RG	Y
	0000-0600	YY	F
	0600-1200	RY	K
29	1200-1800	RR	Y
	1800-2400	GG	V
	0000-0600	GG	P
	0600-1200	RY	M
30	1200-1800	GY	J
	1800-2400	RG	O
	0000-0600	RG	H
	0600-1200	GY	M
31	1200-1800	RY	N
	1800-2400	RR	Y
AUGUST	0000-0600	RG	N
	0600-1200	GG	T
1	1200-1800	RR	D
	1800-2400	GY	G
	0000-0600	RY	Z
	0600-1200	YY	X
2	1200-1800	GG	T
	1800-2400	RG	Y
	0000-0600	RY	T
	0600-1200	RG	F
3	1200-1800	GG	U
	1800-2400	RR	Z
	0000-0600	GG	T
	0600-1200	RY	D
4	1200-1800	RG	W
	1800-2400	YY	M
	0000-0600	RG	N
	0600-1200	GY	D
5	1200-1800	GG	Z
	1800-2400	RY	U
	0000-0600	RY	U
	0600-1200	RG	T
6	1200-1800	GY	F
	1800-2400	GG	Y
	0000-0600	RR	T
	0600-1200	RG	D
7	1200-1800	GG	L
	1800-2400	YY	M
	0000-0600	RG	Z
	0600-1200	GY	T
8	1200-1800	GG	B
	1800-2400	RR	L
	0000-0600	RY	Y
	0600-1200	RR	Z
9	1200-1800	GY	M
	1800-2400	GG	U

AUSTRALIAN WAR MEMORIAL AWM2020.71.8842

S.M. 31.

Australian Military Forces—7th Military District

Please quote this Number when replying.

	ADMS-	S.M. 83

Head-Quarters, Larrakeyah,
Darwin, 25-7-41.

S.M. 34

SECRET

C. O.,
Darwin Inf.Bn.,
P a r a p.

REGIMENTAL MEDICAL OFFICER - D.I.B.

You are advised that :

Captain A.J.Nathan A.A.M.C.,

has been appointed as the Regimental Medical Officer to the Darwin Infantry Battalion.

He is proceeding by the overland route, and will arrive with the 2/1 Heavy Battery.

[signature]
Lt.Col.,A.A.M.C.
A.D.M.S.7th.M.D.

CO ✓
2/0 W.Thn. 25/7
Qm. ✓
Inc. Sec.

AUSTRALIAN WAR MEMORIAL AWM2020.71.8842

S.M. NO. 1087 27 Jul., 41.

AUSTRALIAN MILITARY FORCES 7 MILITARY DISTRICT.

ADMINISTRATIVE INSTRUCTIONS NO.1

3

MOVEMENT - SOUTHERN COMMAND TO 7 M.D. REF. M.B. MEMO 7807 PARA 2 (iv) "MOVEMENT BY RAIL LARRIMAH TO DARWIN."

(1) The following units will move by rail as under :-

UNIT	NUMBERS ALL RANKS.	M.T.	GUNS	STORES	DATE DEPART LARRIMAH	DATE ARRIVE DARWIN.
14 A. Tk. Bty.	137	27	12	on M T	1 Aug.	2 Aug.
2/1 Hy. Bty.	140	9		40 tons	6 Aug.	7 Aug.
Fortress Sigs.	45			War Equ-	"	"
Fortress Engineers.	45			ipment.	"	"
7 M.D. Details.	280				8 Aug.	9 Aug.

(2) Trains will depart Larrimah in accordance with time table A and B. On 1st Aug, two trains will run as shown in time table A and B. On 6th and 7 Aug one train each day as shown in time table A

(3) (a) Station at which units are to detrain will be issued later.
(b) Method of movement from station to quarters will be issued later.

(4) (a) Meals will be provided by catering parties at :-

KATHERINE Hot Meal.
PINE CREEK. Hot tea or Coffee.
Bread butter & jam.

(b) Except for train departing LARRIMAH 1st Aug. vide time table B.
(c)

TIME TABLE A			TIME TABLE B		
LARRIMAH	depart	1145 hrs	LARRIMAH	depart	1700 hrs
KATHERINE	arrive	1716 "	KATHERINE	arrive	2231 "
	depart	1846 "		depart	2301 "
PINE CREEK	arrive	2147 "	PINE CREEK	arrive	0202 "
	depart	2232 "		depart	0302 "
ADELAIDE Rv	arrive	0227 "	ADELAIDE Rv	arrive	0657 "
	depart	0237 "		depart	0757 "
WINNELLIE	arrive	0630 "	WINNELLIE	arrive	1150 "
	depart	0715 "		depart	1205 "
DARWIN	arrive	0743 "	DARWIN	arrive	1235 "

2 Trains ~~Arr. 3rd Aug~~ 8th & 9th Aug
1 Train " each

(5) (a) Darwin Inf. Bn. will arrange to supply two catering parties. Each party will consist of 1 Officer, 1 N.C.O., 1 Cook, 5 Other Ranks. One party to be detailed for duty at KATHERINE. - Astill's party
One party to be detailed for duty at PINE CREEK. Wotherine "
Parties will move from Darwin by rail on 29 July departing Darwin 0800 hours, arriving Pine Creek 1500 hrs Katherine 1953 hrs.
(b) Catering parties supplied by 23 Inf Bde and now at Pine Creek and Katherine will be recalled and will depart Katherine 30 July at 0700 hrs, Pine Creek 1300 hrs arrive Darwin 2115 hrs 30 July.
(c) R.T.O. Darwin will issue warrants for all catering party movements. Warrants to be endorsed "S.M. 7807".
(d) Messing equipment now held by 23 Inf. Bde catering parties at Katherine and Pine Creek will be handed over to Darwin Inf. Bn., catering parties. Officer in charge of parties to make out the necessary transfer vouchers.

CO 1/8. 2/c Qm. Rtns PRC

/ (6)

(6) A.D.S.&.T. 7 M.D. will make available the necessary rations for the catering party. Officers in charge catering parties to confer with Supply Officer 7 M.D. regarding method of obtaining supplies.
Emergency rations for 200 men for one day to be carried on all up troop trains and to be arranged by Officer in charge Katherine catering party.

(7) A.D.M.S. 7 M.D. will arrange for 1 medical orderly with medical supplies to travel on each train departing Darwin at 0700 hours on 30 July, 5 Aug., 7 Aug.

L. L Llewellyn
Major,
D.A.Q.M.G., 7th. Military District.

DISTRIBUTION:
23 Inf. Bde
C.F.D.
D.I.B.
D.A.A.G.
A.D.S.&.T. 7 M.D.
Supply Officer.
A.D.M.S.
C.O.
R.T.O. DARWIN.
D.F.O.
D.R.O.
R.T.O. LARRIMAH.

AUSTRALIAN WAR MEMORIAL AWM2020.71.8842

AMENDMENT NO.2

D.D.X.M. NO.17

DISTRIBUTION:

23 Aust. Inf. Bde.	Copy No. 1 - 5
D.I.B.	" " 6
Commandant 7 M.D.	" " 7
General Staff 7 M.D.	" " 8 - 10
A.A. & Q.M.G.	" " XX 11 - 13
C.F.D.	" " XX 14
C.R.E.	" " XX 15
Sig. Offr.	" " 16
A.D.M.S.	" " 17
A.D.S.T.	" " 18
O.O.	" " 19
S.O.M.E.	" " 20
Umpires	" " 21 - 23
A.R.P. Chief Warden	" " 24
File	" " 25

AUSTRALIAN WAR MEMORIAL AWM2020.71.8842

DEPARTMENT OF THE ARMY.

MILITARY BOARD

H.Q. 7th Military District
SECRET
No. A10/8/1
SECURITY

ARMY HEAD-QUARTERS,
VICTORIA BARRACKS

S.M. 9033

Melbourne, S.C.1.

28 Jul. 41.

~~53720~~

N. Comd.	(11)	A.I.F. M.E.	(10)
E. Comd.	(10)	A.I.F. Malaya	(.3)
S. Comd.	(18)		
W. Comd.	(6)		
7 M.D.	(4)		
1 Armd. Div.	(2)		

Copies for information to - M.L.O. Bombay; Sec. Air Board (2).

NOTES ON PROBABLE EFFECTS OF BLISTER GAS IN TROPICS
- EXPERIMENTAL RESEARCH STATION - PORTON

I am directed to inform you that the attached Appendix on "Probable Effects of Blister Gas in the Tropics" from the Experimental Research Station, Porton is intended for circulation to officers of General Staff.

J.H.B. Foo Lt Major
for Colonel,
Deputy Engineer-in-Chief.

RECEIVED
- 2 AUG 1941
7TH MILITARY DIST

AUSTRALIAN WAR MEMORIAL AWM2020.71.8842

APPENDIX "A"

NOTES ON PROBABLE EFFECTS OF BLISTER GAS IN THE TROPICS
- EXPERIMENTAL RESEARCH STATION - PORTON

It is expected that as the rate of evaporation is greater under warm conditions, blister gas will be far more valuable in the tropics where higher vapour concentrations may be produced.

Part Effected	Characteristic Damage
EYES	Conjunctivitis with complete disability for 3-4 days. From 1 in 1,000,000 for 60 mins. 1 in 100,000 " 5 " 1 in 1,000,000 high concentration temperate climates but not unreasonable to expect 1 in 100,000 in tropical conditions. In tropics may anticipate that bulk of eye injuries will be more severe than those of last war.
LUNGS	Usual damage in mild climates is not very severe. Laryngitis and mild bronchitis. In tropics will probably cause higher death rate with respiratory damage and ulcers of bronchi with bronchopneumonia.
SKIN	Effects greater than in temperate climate.

Temperate Climate	Tropical Climate
Thick clothes render aerial spray (H.S.) almost valueless in temperate winter conditions.	Can use Mustard all year round.
In summer relatively thick clothing is difficult to penetrate.	Thin clothing easily penetrated by small drops.
Small area of bare skin exposed.	Large area exposed.
Time-interval between skin contamination and effective decontamination is less in summer by half.	In tropical conditions the value of skin decontamination is still less than the relatively poor results in hot European summer.
Impregnated clothing of great value against vapour and fine spray.	No such clothing available for tropical use against vapour and spray. Cotton drill not readily impregnated. Even if impregnated it cannot adequately cover the body.
In temperate climate skin is much less damaged by the same dosage of mustard in cool conditions than in hot summer weather.	Greater susceptibility more marked.

CONCLUSION.

Mustard commends itself as a far more potent weapon in the tropics than it has hitherto proved in European conditions.

Experimental Research Station,
PORTON.

AUSTRALIAN WAR MEMORIAL AWM2020.71.8842

SECRET
URGENT

SM 15/41

D.I.B.
29 June 41

General Staff
7 MD.

Passive Air Defence

AHQ. SM.5380. 13 May 41

Ref your Cas. 1077 undated I am to advise that plans for D.I.B (Parad) Camp have been completed but are awaiting Commanding Officer's signature.

Plan will reach HQ 7 MD on Friday 1 Aug 41.

Capt Staff Corps
Dy
Capt. Darwen Inf Bn.

Adjt.:

Please send letter to Lt-Col Bundey stating plans for passive air defence, D.I.B. Parapark Camp complete but awaiting C.Os. signature. Should be 7 M.D. Friday.

W.J.H.

AUSTRALIAN WAR MEMORIAL AWM2020.71.8842

A10/3/4

Australian Military Forces—7th Military District.

Please quote this Number when replying.

SM	677	

Head-Quarters,
Darwin,

Jul 41

KEW/JA

SECRET

URGENT

23 Aust. Inf. Bde.
7 M.D. Sigs.
D.I.B.
A.D.S. & T.
S.O.M.E.

Urgent

PASSIVE AIR DEFENCE

With reference to A.H.Q. S.M.5380 of 13 May 41 relative to the above subject, your plans, asked for in 7 M.D. S.M.779 of 29 May 41 have not yet been received and are to be submitted without further delay. Priority of issues of material to carry out the various schemes cannot be determined until all have been received.

W. Lindell

Lt.-Col.,
General Staff, 7 M.D.

AUSTRALIAN WAR MEMORIAL AWM2020.71.8842

Darwin Inf Bn.
Parap.
31 Jul 41.

2.1.C.
D.1.B.

Quantities of Several Materials necessary for Passive Air Defence Scheme for Darwin Inf. Bn. Parap Camp.

The following dispositions to be sandbagged & protected.

I Switch Board. Bn H.Q.
Area 20 x 10 x 11 feet high.

II R.A.P. 60 x 20 x 11 feet high.

III Sig. Office 12 x 7-6 x 11 feet high

IV Q. Store 80 x 50 x 11 feet high.

V. Ammo. Store inside Q Store.
28 x 8 x 9 feet high

Materials.

Sandbags. 20,000 (80 bales ~~each of 250~~)

Timber. 100 ~~sup.~~ sup ft. 4 x 3 ~~Hwd.~~ Hardwood.

Wire netting 4 rolls 6 feet wide.

Corr. Galv. Iron. 22. G. 30/6'-0" sheets.

Hession for covering windows. 550 sq feet.

Black paint 8 galls.

~~Kerosene tins 20. only~~ } Handling of

Wooden shovels ~~40~~ 20 " } incendiary bombs.

II

The sanbagging to be 30" in thickness, + bonded.

~~Alec L. Rigby Lieut~~
~~I.O. D.T.B.~~

AUSTRALIAN WAR MEMORIAL AWM2020.71.8842

Australian Military Forces—7th Military District.

Please quote this Number when replying.

WFM/B

Head-Quarters, Darwin Inf. Bn.
Darwin, Parap.

SECRET
URGENT

GM. 15/41

1 Aug 41

PA

General Staff
7 M.D.

PASSIVE AIR DEFENCE: YOUR INSTRUCTION SM1077 KEW/JA

Plans for D.I.B, Parap Camp are as follows:-

1/ Slit trenches to be constructed in Bn.H.Q. and Coy areas as shown on attached sketch.

2/ A-A L.A's mounted EAST and WEST as shown on attached sketch.

3/ Protection is required for:-
- a/ Switchboard, Bn.H.Q.
- b/ R.A.P.
- c/ Signals Office,
- d/ Q.M.Store
- e/ Ammunition store inside Q.M.Store.

4/ Materials required are estimated as follows:-

Sandbags	20,000
Timber	100 super ft. 4" x 3" Hardwood
Wire Netting	4 Rolls, 6ft. Wide
Corrugated Galvanised Iron 22G	30 x 6ft. Sheets
Hessian for Covering Windows	550 sq. ft.
Black Paint	8 gallons
Wooden Shovels	20 for handling of incendiary bombs.

The sandbagging to be 30in. in thickness and bonded.

AGJ

.....Lt.Col. Staff Corps.
C.O. Darwin Inf. Bn.

AUSTRALIAN WAR MEMORIAL AWM2020.71.8842

Dar. Inf. Bn.

A.H.Q. (M.I.),
MELBOURNE. S.C.1.

1st August, 1941.

NOTES ON

AERIAL PHOTOGRAPHY

APPLICATIONS, CHARACTERISTICS AND USES FOR MILITARY INTELLIGENCE.

- - - - -

AUSTRALIAN WAR MEMORIAL AWM2020.71.8842

AERIAL PHOTOGRAPHY

GLOSSARY OF TERMS

ANNOTATION. Markings on the face of a photograph to identify objects or call attention to some feature.

COMPOSITE VERTICAL. A photograph made from one vertical and two or more obliques, exposed simultaneously. The obliques are transformed before being used.

CONTROLLED MOSAIC. A mosaic in which a net of ground controls is used as a basis in assembling the prints.

EXPOSURE. The operation of taking a picture.

FOCAL LENGTH. The distance from the nodal point of a camera lens to the sensitive plate.

INDEX MAP. A map on which areas are marked that have been photographed.

INTERPRETATION. The operation of identifying military features such as machine-gun positions, trenches, dugouts, etc. It requires more skill and training than photograph reading.

LEGEND. The information lettered near the edge of a print or written on the back.

MAP RESTITUTION. The correction of a map from photographic information.

MOSAIC. A picture formed by matching together individual prints. Mosaics are classified as "controlled" and "uncontrolled".

NEGATIVE. A sensitive film or plate after it has been exposed and developed.

OBLIQUE. A photograph taken with the lens axis depressed approximately 30 degrees below the horizon.

PHOTOGRAPH READING. The operation of recognizing normal features on a photograph.

PLOTTING. Identifying on a map the area covered by a photograph.

PRINT. A photographic image on paper made from a negative. Synonymous with photograph.

STEREOGRAM. A pair of pictures of the same area taken from different viewpoints and mounted on a card for viewing in a stereoscope.

STEREOSCOPE. An instrument for viewing suitable photographs to get an impression of relief. Military stereoscopes are of two types - the hand stereoscope for use with stereograms, and the mirror stereoscope which does not require the prints to be cut out and mounted.

/ TRANSFORMATION. ...

AUSTRALIAN WAR MEMORIAL AWM2020.71.8842

TRANSFORMATION. The operation of making a vertical print from a tilted negative by means of a suitable transforming camera.

UNCONTROLLED MOSAIC. A mosaic assembled solely by matching features on adjacent prints.

VERTICAL. A photograph taken with the lens axis perpendicular.

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AUSTRALIAN WAR MEMORIAL AWM2020.71.8842

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PART III : NAVAL OPERATIONS

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AUSTRALIAN WAR MEMORIAL AWM2020.71.8842

PART I.

AERIAL PHOTOGRAPHY

CHAPTER I.

GENERAL INFORMATION.

(a) An important agent of progress has been the development of aerial photography. A child of the war, it found its first extensive employment in military operations. In the brief period of its existance, it has had a revolutionary effect upon warfare. Aerial photography has added greatly to the means of securing information about an enemy, and as a source of intelligence it is unsurpassed. The exactness and detail with which terrain features are portrayed on photographs, particularly adapts them to use in operations requiring a knowledge of the ground. The employment of photographs in mapping is constantly increasing, with a steady development in technique and accuracy.

The value of photographs in intelligence and in mapping has been thoroughly understood, but many less technical applications have developed more slowly. For instance, the use of photographs in artillery and infantry operations has been hampered by the lack of knowledge among soldiers of how to interpret what is seen on the picture. In civilian engineering projects, the advantages of photographs have been utilized only to a slight extent, because of the general unfamiliarity with their characteristics.

The faculty of reading aerial photographs is easily acquired, but heretofore there has been no complete text on this subject. Works on photography have been confined to the more technical uses, as in the preparation of topographic maps from photographs. There has been nothing available in print for the individual who desired to learn how to recognize features on a photograph in order to make use of the wealth of terrain information thus obtainable. Photographs are of value in practically every type of military operation, but their use in this connection has been retarded by a general lack of knowledge of the principles of their employment.

(b) Aerial photograph reading is the operation of recognizing the character of the various features on an aerial photograph. This comprises only the ability to distinguish the normal natural and artificial features. No more skill is required to read a print than is necessary to use a topographic map. The identification and interpretation of military objects, such as batteries, trenches, etc., is called interpretation. A knowledge of interpretation is not necessary except in the military intelligence service.

(c) Comparison of Maps and Aerial Photographs.

A map is a graphic representation of a portion of the earth's surface, on a reduced scale, in which conventional signs are used to indicate the various features.

/ The ....

AUSTRALIAN WAR MEMORIAL AWM2020.71.8842

The use of conventional signs does not indicate precisely the exact size or character of many features which are "conventionalized". An aerial photograph is an actual image of a portion of the earth's surface on a reduced scale, with the size and shape of various features accurately delineated.

(d) Characteristics of Aerial Photographs.

An important characteristic of aerial photographs is that they show the ground exactly and to scale, thus furnishing information about the width of roads and streams; the exact character, size, and shape of all natural growth; the size, shape and character of buildings, etc. Another important advantage is that the aerial photograph is timely and shows the present condition of objects. Thus the photograph shows new roads built since a map was made, buildings destroyed by shell fire, roads torn up, bridges damaged or destroyed - in brief, the exact condition of the ground.

Occasionally a photograph is desired of an isolated spot or object, in which case a single picture is taken with the object in the centre. Such individual vertical photographs are called "pin-points". (See Appendix I.)

The stereoscopic use of photographs is of great assistance in identifying indistinct objects and in securing exact data on the relief of the ground. Oblique photographs may also be studied stereoscopically in the same manner as verticals if they overlap sufficiently.

CHAPTER II.

ORIENTATION AND SCALE.

(a) Orientation.

The first operation in using an aerial photograph is to orient it; that is, determine the location of the area pictured. Normally a legend is placed on photographs before they are issued, and also an arrow indicating true north. In other cases identifying data are written on the back of prints, or on an attached slip of paper.

(b) Use of Templates.

The use of templates is an aid to plotting, especially if a large number of photographs of the same scale are to be plotted. A template is constructed by measuring the width and length of the photograph in inches and converting these dimensions to the width and length of the same area on a map of a given scale. This conversion is readily done by multiplying each distance by the ratio between the scale of the photograph and the scale of the map. These distances are then marked on a piece of cardboard or celluloid and a rectangular opening cut out, having the exact size of the photograph as plotted on the map. A different template must be used for each ratio of

/ photograph ....

AUSTRALIAN WAR MEMORIAL AWM2020.71.8842

photograph scale to map scale.

For example, the size of a template to plot a series of photographs each 7 by 9 ins., with a scale of 1/8,000, on a map with a scale of 1/20,000 would be found as follows:-

$$1/8{,}000 : 1/20{,}000 :: 7 : x$$

$$= \frac{1/20{,}000 \times 7}{1/8{,}000} = 2.8"$$

Therefore the 7-in. side of the photograph represents 2.8 ins. on the map. Similarly the 9-in. side is found to represent 3.6 ins. on the map. Hence the template will have a rectangular opening 2.8 ins. by 3.6 ins.

(c) Scale.

The scale of an aerial photograph is expressed in the same manner as the scale of a map is expressed by using a representative fraction (R.F.) as 1/10,000. This means that each unit on the photograph (foot, inch, or metre) represents 10,000 of the same units (feet, inches, or metres) on the ground. The R.F. may be converted to inches per thousand yards, and a graphic scale constructed if desirable.

The scale of an aerial photograph depends on the focal length of the lens used and the altitude of the camera above the earth.

Appendix III. represents a vertical section through the camera and the ground, and a diagrammatic plan of the same vertical section. In this diagram

O	=	the lens
ab	=	the sensitive plate (negative)
f	=	the focal length
h	=	the altitude of the camera above the ground
BA	=	the ground
l	=	the length (ab) of the photograph
L	=	the length (BA) of area covered on the ground

It will be seen that the length "l" of photograph bears the same proportion to the focal length "f" as the length of ground area covered "L" bears to the altitude "h". "abO" and "BAO" form similar triangles and therefore the sides and altitude of one are proportional to the sides and altitude of the other. It follows, therefore, that the image of the ground distance on the plate is to the actual ground distance as the altitude of the smaller triangle (which is the focal length of the lens) is to the altitude of the larger triangle (which is the height of the camera from the ground). In other words -

$$l : L :: f : h$$

$$\text{or } \frac{l}{L} = \frac{f}{h}$$

/ Therefore ....

AUSTRALIAN WAR MEMORIAL AWM2020.71.8842

Therefore: $\frac{\text{focal length}}{\text{height}} = \text{scale} \quad \frac{f}{h} = s$

Applying this proportion to a photograph taken with a 10-in. lens at a height of 8,000 ft., we have -

$$\frac{10}{8,000 \times 12} = \frac{1}{9,600} = \text{scale of photograph}$$

NOTE: The same unit of measure must be used throughout, and as the focal length was in inches it was necessary to reduce the altitude to inches also.

The scale found by this method is accurate if the altitude is accurately known. However, the altitude is seldom known exactly, for the reason that the altimeter registers the height of the aeroplane above the starting point, which may vary considerably from the height above the area photographed. Unless the altitude is known to be accurate, the scale calculated from the focal length and altitude should be considered as approximate only. To determine the scale more accurately, use should be made of the methods described subsequently.

(d) Securing Scale by Comparison with a Map.

When a map is available, the scale of an aerial photograph may be determined accurately by measuring the distance between two objects which appear on both the map and the photograph. Then the ratio between map distance and photograph distance is the same as the ratio between map scale and photograph scale:

(MD)		(PD)		(MS)		(PS)
Map distance	:	Photograph distance	::	Map scale	:	Photograph scale

Therefore: $\frac{PD \times MS}{MD} = PS$

For example, the distance between two houses on a photograph is 7½ ins. On a map of a scale of 1/20,000 the houses are 3 ins. apart. Then:

$$\frac{7.5 \times 1/20,000}{3} = \frac{7.5}{60,000} = \frac{1}{8,000}$$ Scale of photograph

(e) Securing Scale from a Known Distance on the Ground.

When a distance on the ground is known exactly the scale of a photograph may be found from the ratio:

$$\frac{\text{Photographic distance}}{\text{Ground distance}} = \text{scale}$$

For example, section lines are marked by parallel roads one mile apart in some parts of the country or a ground distance may be known from other sources. Given a ground distance of 1,823 ft. between two objects which are 3½ ins. apart on an aerial photograph, then:

$$\frac{3.5}{1,823 \times 12} = \frac{1}{6,250}$$ Scale of photograph

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(f) Uniformity of Scale.

The scale of an aerial photograph may be taken as uniform all over its area for ordinary purposes. Actually the scale at one place on a print may differ slightly from the scale at another place, but this difference is usually so small that it may be ignored except for very precise work. On an uncontrolled mosaic the scale error may be appreciable, for in this case the errors of each individual photograph are cumulative. Therefore distances and angles on an uncontrolled mosaic should not be accepted as exact.

The errors of scale are principally due to the camera being tilted from the vertical at the moment of exposure, and to variations in elevation of the ground. A photograph of perfectly flat ground taken with the lens axis vertical is uniform in scale all over its area. Tilt of the camera or irregularities in the surface of the ground act to displace the image of a ground object from its true position. In a series of photographs, as in a mosaic, a further source of error is a difference in height of the camera between the times of exposure of successive pictures. Each photograph may be uniform in scale but as this scale varies with height all photographs of the series will not have the same scale. This makes it difficult to match these photographs together.

It is important to note that while scale errors act to displace ground objects from their true positions, thus making distances and angles slightly inaccurate, the topographic detail is practically unaffected. Therefore, even a badly tilted vertical photograph will furnish excellent information about the character and size of ground features.

CHAPTER III.

HOW TO EXAMINE AERIAL PHOTOGRAPHS.

(a) Facility in the use of aerial photographs is quickly gained from experience. At the start, certain hints about the methods of study will be found of advantage, especially in establishing a systematic order of examination.

As photographs are produced by the action of light on a sensitive plate, the shadows are important in the identification of objects. To secure an accurate visual image of the ground, a vertical photograph should be so placed that the shadows fall naturally. Improper placing may cause erroneous readings, with depressions mistaken for elevations, and vice versa. The habit should be formed of always placing a photograph properly to study it. The rule is simple: Always turn the print until the shadows of elevation fall toward the reader.

/ Examination ....

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Examination of a photograph should be systematic, concentrating on each detail in turn rather than studying the picture as a whole. Usually it is best to follow point by point along roads, railroads or other continuous features. A reading glass may be helpful though it is seldom necessary.

Oblique aerial photographs represent a perspective view. From a study of the picture, the reader may locate the spot on the map over which the camera was suspended at the moment of exposure. The picture is then precisely similar to the view that an observer would obtain from the top of an elevation at the spot. Care must be exercised in reading an oblique photograph as the scale rapidly changes from the top to the bottom of the picture. Hence the apparent size or location of an object, as compared to the size or location of some other object may give a false idea of relative position.

The oblique is very advantageous in studying relief of the terrain, as the elevations are much more apparent than in a vertical photograph. Stereoscopic examinations of obliques will bring out relief even more clearly.

(b) Identification of Objects.

The steps in identification of an object may be summarised as follows:-

First determine its general type; this is usually apparent at first glance.
Note its size, shape and location.
Study its surroundings carefully.
Note the shadows and what they indicate.

(c) Effect of Weather and Climate.

The appearance of ground objects, especially natural features, may vary widely at different seasons of the year. Cultivated fields and woods change not only with the seasons but with the climate. Hence the leaves may be visible on trees in the south some time before they appear in more northerly regions. If a photograph is being studied that was taken a considerable time in the past, its date should be noted in order to properly identify the natural features.

(d) Effect of Time of Day.

The appearance of the ground changes with the time of day. The principal difference is in the shadows, as they not only change direction with the sun, but their length diminishes, then increases from morning until night.

CHAPTER IV.

LIGHT AND SHADE.

(a) Photographs cannot be taken without light, and where there is light there are usually shadows. Cloudy

/ skies ....

skies may diffuse the light to an extent that shadows disappear, and at times the shadows of low clouds may be heavy enough to prevent ground objects from casting a shadow. In general, shadows are present on the majority of aerial photographs, and they furnish a splendid means of recognizing the character of objects.

The shape of shadows is governed by the laws of perspective. Under similar conditions the shadow of an object will always have the same appearance. The size and shape of the shadow of a fixed object depends on:-

The shape of the object.
Its height or depression.
The altitude and direction of the sun (time of day).

Recalling the rule that a photograph under examination should be turned until the shadows fall toward the reader, the source of light is then at the top of the print. When so placed, the photograph will yield correct impressions of relief, and is ready for the study of details.

(b) The Form of an Object.

The form of an object is not always plain from its shape on the photograph, as the latter shows the object solely in plan. The form is recognized from a study of the light and shade. The shape of the shadow gives an indication of the general form.

There is an invariable rule which states:-
"Shadows opposite the source of light indicate elevations; shadows adjacent to the source of light indicate depressions."

In the case of buildings or other large objects, the form is readily recognized. The shape of these objects is usually indicative of their size and character, but shadows, though of value in determining height, are not essential for identification.

(c) The Size of an Object.

All detail on a photograph appears to scale instead of being exaggerated as when represented by conventional signs. Consequently the size of an object, its width, and its length, may be secured with accurate results by direct measurement on the photograph.

There are several classes of objects whose shapes on the photograph do not always establish their character. Examples of these are tall slender objects such as chimneys, telephone poles, windmills and water-towers. A telephone pole viewed from above appears as a minute dot, often practically invisible. Its shadow is much more prominent, and not only identifies the object but furnishes information about its height.

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(d) The Height of an Object.

The width and length of an object appear on an aerial photograph to scale, but the height and depth are not shown directly; they must be secured from the shadows. At any given time of day, the length of a shadow is directly proportional to the height of the object casting the shadow. The actual height in feet can be obtained by comparison of the shadow with the shadow of some other object whose height is known. If no other object of known height appears on the photograph, the height can be approximately estimated from a general knowledge of the heights of common features, as telegraph poles, and one-story, flat-roofed structures.

(e) Shadows as Detectives.

Shadows are very effective in revealing objects that are indistinct on a photograph, due to their small size, to their appearance blending with their surroundings, or to their being camouflaged or screened from view.

Most objects project above the ground, and consequently cast a shadow. Such shadows often reveal an object which is almost invisible. Fences and hedges frequently appear indistinctly on a photograph, but in most cases can be identified from their shadows.

Shadows are thus valuable in:-

Revealing the form of objects.
Estimating the height of objects.
Detecting small or indistinct objects.
Revealing the relief of the ground.

When the date and time of day are known, the direction of shadows can be used to determine the north point.

CHAPTER V.

ELEVATION.

Upon a careful examination of an aerial photograph, the relief of the ground will be disclosed by:-

Shadows.
Drainage lines.
Ridge lines.
The location of natural growth.
Curves in unimproved roads.
The direction of furrows in cultivation.
Stereoscopic examination.

/ CHAPTER VI. ....

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CHAPTER VI.

NATURAL FEATURES.

(a) The various features on the ground may be conveniently divided into two main classes:- works and structures, comprising houses, bridges, fences, and other artificial objects; and natural features, such as vegetation and streams.

All features appear on aerial photographs as exact images on a small scale of the objects themselves, instead of being represented by conventional signs as on maps.

It is therefore unnecessary to be familiar with a series of arbitrary signs in order to read a photograph.

All natural features are shown on a photograph in exact detail.

(b) The Aerial Viewpoint.

The aerial view presented by photographs shows the ground from an angle unfamiliar to those not accustomed to flying. The average reader is accustomed to seeing objects from the side rather than from the top. The faculty should be cultivated of recognizing objects from a top view alone. With a slight amount of practice, the appearance of objects from an aerial point of view will become familiar, and all common features will be readily identified.

(c) The recognition of Objects.

The recognition of an object is made from the shape, the shadows, and the character of the surroundings. From these indications the form and nature of the object are found. The first step in training is to study the characteristic indications of objects commonly found on aerial photographs.

(d) Water Forms.

In general, water photographs dark and appears black on prints. Large bodies of water present the same appearance as on a map, except that the edges are shown more accurately. Coast lines are seen in all the detail of inlets, capes, and bays. The sea appears dark, with a white edging of surf.

(e) Vegetation.

Trees are the most common of all natural features and are easily recognized, whether in clumps or isolated. From their appearance and the relative length of their shadows, the kind of trees is determined. In winter the evergreens present a prominent contrast to the leafless limbs of other species.

Orchards differ from natural woods in the regular arrangement of the trees in rows.

CHAPTER VII ....

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CHAPTER VII.

WORKS AND STRUCTURES.

(a) The term "works and structures" is used to denote buildings, bridges, and other artificial features appearing on aerial photographs. Works and structures are identified by applying the same principles used to identify natural features - that is, by a study of the appearance, surroundings and shadows of each object.

(b) Roads.

Roads are a common form of artificial feature, and are prominent objects on maps and photographs. They are easily identified from their appearance, and their condition, type of surface and other elements are recognized without difficulty. In general, roads appear as narrow continuous lines, usually light in colour.

(c) Railways.

A railway appears narrower than a highway, with straight stretches. Curves are gradual, sharp turns appearing only in mountainous districts. Accompanying features, such as telegraph poles, side-tracks, and stations, aid in identification. The line of rails is not visible except on large-scale photographs, but is revealed by the road ballast, which often is very light in colour.

(d) Bridges.

All bridges except the very small culverts are easily recognized. To determine the type, it is necessary to consider the width and appearance of the approaches, and also the shadows. Bridges may be classed as trestle, girder, truss and arch bridges.

(e) Buildings.

Buildings are easily recognized on aerial photographs. Their type and character are found from an examination of the surroundings and the shadows. Their length and width can be directly scaled on the photograph while their height is ascertained by comparison of the shadows with shadows of other objects.

(f) Cemeteries.

Cemeteries are distinguished by the dotted appearance of the tombstones. The roadways in a cemetery are winding and often follow a geometrical pattern, giving a park-like appearance. In the country, cemeteries are found in church-yards.

(g) Telephone and telegraph lines.

Telephone and telegraph poles appear as small dots, practically invisible. The shadows of these poles

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being of uniform length and spaced at regular intervals indicate their character.

(h) Fences and Hedges.

Fences and hedges are characterized by straight lines, and by their location along division lines between fields. It is sometimes difficult to distinguish between the two, as the weeds and brush along a fence closely resemble a hedge.

CHAPTER VIII.

MARKING AND ANNOTATING PHOTOGRAPHS.

(a) For convenience in making practical use of aerial photographs additional information is often marked on or attached to the prints. This data is of two kinds:-

Information about the photograph as a whole; its source, date, scale, locality, etc.
Symbols or words used to mark or call attention to individual features on the photograph.

(b) Conventional Signs.

One disadvantage of aerial photographs is the absence of place-names. Normally this is overcome by using a map in conjunction with the photographs. In some cases it may be desirable to mark names on the print, or, for quantity production, letter them on the negative.

(c) Annotation.

Whether or not a map is available, it is sometimes desirable to mark photographs with explanatory data. There are several methods of adding information to a photograph, and the one to be employed will depend on the circumstances.

The usual methods are to:-

Mark with India ink or indelible pencil directly on the face of the photograph.
Mark on a tissue overlay attached to the photograph.
Mark on the face of the photograph with India ink and then bleach out the photographic image.
Make a tracing of essential features.
Furnish an accompanying map.

Marking directly on the face of a photograph is employed to indicate the location of military objects, such as batteries and machine guns, and is normally done by intelligence officers. It is used to add place-names, to indicate targets, or to interpret features. Care should be taken when marking on the face of a photograph not to cover over important detail.

/ PART II. ....

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PART II.

MILITARY INTELLIGENCE AND AERIAL PHOTOGRAPHY.

The fullest information about the enemy is necessary to plan operations and direct the successful employment of troops. The information required covers the whole range of warfare, and its procurement is of such importance that an entire section of the general staff is devoted to this work. The process of collecting, co-ordinating and evaluating information is called military intelligence. An elaborate system of technique has been developed from actual wartime experience, and trained intelligence personnel is required to supervise its execution.

Relation of Photographs to Intelligence.

Military intelligence utilizes all possible sources of information and attempts by careful checking to reject unreliable or erroneous items and arrive at the true facts of any situation. In order properly to understand the relation of aerial photographs to intelligence, it is necessary that an idea be formed of the various sources of knowledge, their general characteristics, and the relative value of different kinds of information.

The data for the principal sources are given in the following tabulation:-

SOURCE	KIND OF INFORMATION	RELIABILITY
Ground Sources:		
Units in contact with the enemy.	Location of enemy troops within view. Activities of enemy. Character of terrain.	Excellent.
Sound and flash ranging.	Location and rate of fire of active enemy guns.	Very good; locations are approximate only.
Prisoners and deserters.	Location and names of enemy units. Recent activity. Methods of training. State of morale. Future plans. Miscellaneous (terrain, equipment, etc.)	Consider individual unreliable until corroborated.
Inhabitants.	Enemy activities. Character of terrain. Condition of roads and bridges.	Excellent if friendly. Unreliable if alien.
Captured orders and documents.	Future plans. Location and disposition of troops. State of morale. Methods of training. Terrain information.	Orders are extremely valuable, but are unreliable until authenticated. Letters and

/ diaries ...

SOURCE	KIND OF INFORMATION	RELIABILITY
		diaries usually reliable. Maps and photographs excellent.
Air Sources:		
Balloon Observation.	Enemy activities in and near the front. Character of terrain. Location of enemy units.	Excellent. Range limited in extent. Similar to terrestrial observation from a high point.
Visual reconnaissance from airplanes and airships.	Locates enemy activities of all kinds deep into enemy position.	Excellent. Lacks completeness.
Aerial photographs.	Information about enemy activities of all kinds. Accurate terrain information.	Excellent.

Summary of ground sources. They give reliable and detailed information about enemy troops in contact; furnish some information about the enemy's immediate rear; but give no information about the enemy's rear zone except from prisoners' statements and captured documents, both of which are unreliable until corroborated.

Summary of air sources. They give detailed and accurate information about enemy activities for an extended area back from the front line. Visual observation detects objects in motion, guns that are firing, and the character and location of activities in general. It lacks completeness, as an observer cannot possibly inspect the entire area beneath him, and he cannot identify all that he does see. His duties are performed under arduous conditions, and he is hampered by the high speed and often poor visibility. As the "eye of the camera" portrays every detail on the ground and impresses on the plate an exact image of each object, aerial photographs afford the most comprehensive and accurate source of information. A disadvantage is that photographic information is not available, as a rule, until several hours after a flight, due to the time consumed in developing and printing the pictures. In urgent cases, photographs may be produced in a few minutes by using special methods of handling.

From the above it will be seen that it is a function of photographs to check the reliability of information from other sources, and fix ground locations more precisely, as well as to furnish new facts.

Interpretation, Restitution, and Exploitation.

Photographs must be systematically studied in order to extract the information they contain. Their use in intelligence comprises three distinct classes of operation: interpretation, restitution, and exploitation.

Interpretation is the discovery and identification of

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all military features on a photograph. Its object is to locate every sign of activity, however obscure or concealed it may be, and distinguish its true character. No military work can be performed without leaving some traces that will appear on a picture; objects which are themselves invisible are detected from their indications. For example, machine guns are too small to be seen on a photograph, but their location is often clearly recognized from the paths leading to their site. Naturally, the greater the care exercised in attempting to conceal an object or give it a misleading appearance, the more difficult its detection becomes. Absolute concealment is practically impossible, but fortunately for ground troops photograph interpreters are not infallible and will always make some mistakes in interpretation.

Restitution is the operation of transferring data from photographs to maps, for the purpose of making maps more complete, or correcting inaccuracies. Much of the information gained in interpretation, especially of objects of a fixed character, such as trenches, wire defences, railroads, etc., is disseminated by means of suitable maps. ~~Methods of restitution are discussed in the chapter on mapping.~~

Exploitation is the term applied to the analysis of photographic information for the purpose of deducing the enemy's future plans of action. A study of the reasons underlying changes in enemy activities such as increased traffic on roads, the building of trenches, the establishment of new supply dumps, etc., taken in conjunction with the tactical situation, will enable his future movements to be estimated with approximate accuracy.

Qualifications of Photographic Interpreters.

Rapid and accurate interpretation of photographs requires a high degree of skill and training. Unlike photograph reading, which is comparatively simple, the technique of interpretation requires special training and a considerable amount of experience. It is particularly difficult to develop good interpreters in time of peace, as the opportunities for actual practice are very limited. The methods of interpretation vary with the kind of warfare, the topography of the theatre of operations, and especially with the organization and methods of operation of enemy units. In general, training in photographic interpretation should include:-

A knowledge of the technique of aerial photography.
Instruction in the systematic examination of photographs.
A thorough knowledge of the military organization of the principal countries.
A study of the tactical employment of all branches of ground troops.
A knowledge of the influence of terrain on various operations.
A study of the principles and technique of camouflage.

Too much emphasis should not be placed on past examples. As an instance, the appearance of a battery in a World War photograph does not necessarily indicate how a battery will appear in a future operation. An interpreter should be familiar with the characteristics common to all battery positions and be able to detect these under new and strange conditions. The use of World War photographs to illustrate the technique of interpretation is almost compulsory, as few prints of later date are available. It should be constantly borne in mind, however, that the conditions

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that existed in trench warfare are unlikely to be duplicated again, and hence the appearance of military objects on photographs in a future war may be markedly different.

The basic principles of interpretation are the same in any type of warfare, but their application is subject to wide variation. An interpreter should possess two qualities in a high degree - imagination and common sense. Imagination is necessary to make proper deductions from available evidences, but if unrestrained will result in inaccuracies. This is where common sense comes into play. A lack of either of these two qualities will seriously lower the efficiency of the interpreter. Too much imagination leads to errors, while a lack of imagination will result in a victory for camouflage.

Basis for Interpretation.

A photograph cannot be completely interpreted from an examination of the picture alone. It must be considered in conjunction with information from other sources and with the tactical situation. It is not sound practice to issue an unfamiliar print to a student and expect him to interpret it without any knowledge of the military situation at the time the photograph was taken. Some objects are clearly recognizable in any situation, but usually the deduction to be drawn from certain signs of activity will vary with the character of the existing situation.

Before starting to interpret a photograph, an interpreter should have a general knowledge of the military situation as a whole, with detailed and recent knowledge of the special situation in the area covered by the photograph. The latest intelligence from all other sources should be on file, including the best available maps. And lastly, a previous picture of the same area should be used for comparison if the territory has been photographed before.

As speed is desirable in interpretation, it is important that all collateral information be filed in a manner to make it readily accessible. Normally, an interpreter works in, or adjacent to, an intelligence room in which situation maps and information files are maintained. In other cases he may be obliged to prepare his own situation maps. Whatever system is used, the following sources of information must be available for quick reference:-

Maps:-

The general strategical situation posted on a map of a scale of 1/1,000,000.

The special situation posted on a map of a scale of about 1/62,500.

The location of the front line in detail posted on a battle map, scale 1/20,000.

An artillery objective map, at a scale of 1/20,000, showing the location of all enemy trenches, machine guns, trench mortars, battery positions, etc.

A photographic index map showing all areas that have been photographed.

A rear-zone map at any convenient scale showing the location of enemy camps, depots, dumps, railways,

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aerodromes, etc.

All maps must be maintained up to date by using coloured pencils, map-tacks, strings, and other means of indicating data.

Photograph files:-

Photographs should be filed in a systematic way to enable a quick inspection of any desired print. Mosaics and other photographs that are constantly referred to may be placed on the walls of the room.

Information files:-

Intelligence summaries, sound and flash ranging reports, and miscellaneous information of all kinds may be filed in any convenient manner.

Equipment for Interpretation.

Mechanical aids are always useful in interpretation, and some are essential for the successful performance of this service. A good magnifying glass, and a mirror type of stereoscope are needed to aid in the visual examination of prints. A hand stereoscope is used with prepared stereograms. A set of drafting instruments, including a pair of proportional dividers, a triangular engineer scale, and an assortment of pens, pencils, erasers, and inks are also required. For the preparation of mosaics, the draftsman will need mucilage, rubber cement, single-edge razor blades, a package of number ten sewing needles, and beaverboard or similar material for making mounts. Rubber stamps are used for placing data on the back of photographs.

The prompt dissemination of intelligence is very important. The information obtained from interpretation is issued in a variety of ways, of which the principal are: annotation of the prints, intelligence reports, and specially marked maps. Blank forms may be designed for conveniently handling intelligence.

Procedure in Interpretation.

Success in interpretation depends largely on the experience and judgment of the operator. No uniform rules can be laid down as standard, as each interpreter follows the procedure he has found most satisfactory. Any method used should proceed in logical steps. Speed in interpretation can be acquired by habitually performing each step in the same order. Normally, the procedure will consist of the following operations, in order:-

The location on a map of the area covered by the photograph.
A comparison with a previous photograph to detect any changes.
The location and identification of points reported by other intelligence agencies.
A careful examination to discover any new information.
An analysis of the information shown on the photograph in conjunction with information from other sources.

Interpretation is complete when all possible information shown on the photograph has been discovered. When time does not permit of a thorough initial examination of a picture, the more

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important features are studied, and information of an urgent character obtained. Later the interpretation is completed.

Technique of Interpretation.

Interpretation is based on the principle that any military activity will leave visible on aphotograph indications which are peculiar to that type of activity alone. Consequently, a careful study of all indications surrounding an object will enable its true character to be accurately identified.

Interpretation is not guesswork, and unsupported conjectures should be rigidly excluded. Where conditions do not allow of definite identification, care must be taken to make this plain in the report. For example, report may read, "A battery is suspected in the south edge of woods at 785/439." Such a report is often of value.

The appearance of the ground is changed in a definite manner by every type of military activity. These changes consist of new paths and roads, sudden increases in the width of roads, variations in the appearance of the ground, and in many cases objects are visible whose character is clearly recognizable. The signs of use vary with different activities; for example, the circulation around a battery of 75's is distinct from that surrounding a large calibre gun on a railway mount. To properly distinguish between various kinds of positions, it is necessary to know the essential elements of each type.

As enemy batteries are perhaps the most important class of objects appearing on photographs, the elements of such positions will be discussed to illustrate the method of identification. Every battery includes the following elements:-

The actual emplacement of the guns.
Shelter for battery personnel.
Ammunition dump.
Caisson and limber position.
Trails or patch connecting the above.
Routes for replenishing ammunition supply.

Some of these elements may be carefully concealed, but the remaining elements serve to reveal the location and character of the position. When signs of circulation are seen, such as new trails, the significance of these is disvocered by searching for the accompanying elements of the probable type of activity causing the circulation.

Identification of Features.

The actual identification of various features is accomplished by a study of the shadows, the surroundings, and a familiarity with the appearance of objects on a photograph. A magnifying glass should be freely used in examining doubtful or obscure details. Stereoscopic examination is of the greatest importance in studying relief and in detecting the true character of camouflaged positions.

Signs of circulation are the commonest indications of activity, and frequently draw attention to relatively inconspicuous objects. Paths and trails are studied to determine why they are located at a particular place, and what caused their formation or increased use. Other indications, such as fresh earth from excavations, are noted, and a deduction is made as to the probable type of activity at the given point.

/ Shadows ....

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Shadows often draw attention to minor features. An examination of the shadow cast by an object is of value in determining the size, shape, and character of the object.

Careful attention should be given to verifying all photographic information. Not only must the photograph itself be thoroughly examined, but all other sources of information should be used for comparison. Many features may be positively identified from the picture alone, while others require confirmation from other sources. The completeness of interpretation will depend on the experience of the interpreter.

Every opportunity should be taken to inspect captured enemy positions of all kinds. An examination of the methods used by the enemy in constructing and concealing military works is of great value in interpreting future photographs. A print of the area should always be referred to when visiting a captured position, in order to compare the actual position of the ground with its appearance on the photograph.

Types of Positions.

The illustrations of various types of positions, together with accompanying text, are designed to furnish an idea of the appearance of different activities and their characteristics. Though the examples are mainly drawn from stabilized situations, the basic principles are applicable to all kinds of warfare. The reader is cautioned against trying to standardize the appearance of any object, as this varies widely with the tactical methods of the enemy and with the topography of the country.

Infantry Positions.

An infantry position consists of a primary line of defence, a support line, and a reserve line. The location of the primary line is controlled by the tactical situation and the character of the ground. The extent to which defensive works are constructed will depend on the length of time the position remains stationary. Infantry positions always include a number of auxiliary elements such as machine-gun firing positions, observation posts, command posts, and the like. When fully organized, a defensive position will also include trenches and barbed wire barriers.

In highly mobile situations, entrenchments may be limited to individual "fox-holes" dug by each man for his own protection. With all cover fully utilized, very few indications of the infantry positions may appear on photographs. Nevertheless, the position can be detected, as effective defence requires a systematic and uniform arrangement of the various elements. An interpreter familiar with the methods of tactical employment practiced by the enemy is able to gain an idea of the general layout of a position from the more visible indications, and then by searching for missing elements, the whole line can be established.

Normally, the support line will not be entrenched in unstabilized warfare. It should be sought at points that are suitable for the location of supports because of the nature of the ground and the proximity to the main line of resistance. Reserves will be found in the rear of the supports, in some cases a considerable distance back. Field trains may be expected in the vicinity of the reserves, and higher headquarters will

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also be located somewhere in the reserve area.

Entrenchments.

The term entrenchments not only refers to firing trenches, but includes all accessories, such as communication trenches, dugouts, and organized strong points. In general, trenches are easily recognized from their distinctive angles or zig-zag plan.

Individual entrenchments are commonly found in mobile situations. Each man digs himself a "fox-hole" for his own protection. They are spaced at skirmish distances, and are distinguished by the shadows of each hole, and the piles of freshly excavated earth, which appear much lighter than the normal ground.

Hasty entrenchments are constructed while first organizing a position. They are elementary in character and often formed by linking together fox-holes or shell-holes. Communication trenches are absent, or few in number. Machine-gun and trench mortar emplacements are seldom directly in or connected with the main trenches. Wire entanglements are either lacking or elementary.

Trenches under construction are fragmentary in appearance, with fresh earth visible. Uncompleted portions are often marked out by lines scratched on the ground. Incomplete trenches are shallow and show little shadow.

Well-organized entrenchments are elaborate and require considerable time and labour for their construction; they will seldom be used except under stabilized conditions. The firing trenches consist of short-firing bays alternating with irregular traverses. A fire step is sometimes visible. The parapet in the side of the trench is lighter in colour, with notches for firing. Entrances to dugouts appear as small black dots. The firing trench is always connected with the rear by communication trenches.

Well-organized trenches are invariably accompanied by wire entanglements. Machine guns are located throughout the battle position, only a small proportion being in the main line of resistance or in front of it. In elaborate entrenchments, all trenches are not habitually in use. Those most frequently used have a more distinct outline as they are kept in better condition and small cave-ins from the sides are rebuilt.

Dummy trenches. The shallow depth of dummy trenches is shown by the lighter shadows. The absence of paths and fewer signs of use also reveal their character.

Auxiliary Defences.

In addition to entrenchments, various other means are used to strengthen a defensive position. Among these are wire entanglements, and less frequently, abattis and "wolf-holes".

Wire. Barbed-wire defences are practically impossible to conceal. When new, the earth is tracked up by the working parties, and the light is reflected from the shining strands. Belts of wire appear as a broad ribbon, usually serpentine or zig-zag in trace. Shadows of the supporting posts are sometimes visible. Old wire becomes darker as weeds grow up around it.

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It is highly important to discover all gaps in wire, and these are revealed by the paths made by enemy patrols and observation parties. Attempts may be made to hide wire by placing it parallel to field furrows, or following lines of natural growth. Such belts of wire are readily detected by stereoscopic examination, which is also useful in finding openings in the wire.

Abattis. This defence is constructed of cut-down trees laid in rows with the branches interlacing and pointing toward the enemy position. It is used when wire is not available or time does not permit building more effective barriers. It appears as dark lines with shadows which distinguish it from belts of wire.

Chevaux de frise. A type wire entanglement prepared in the rear and then carried forward to the desired location. The pieces are usually placed end to end, but occasionally are found placed side by side. When placed longways, chevaux de frise resemble a fence, except that the trace is not straight. Placed sideways, the image on a photograph looks like a duckboard walk.

Wolf-holes (Trous des loups). These consist of holes or short ditches with steep sides. Sharpened stakes or broken branches are placed in the bottom. Shadows reveal the holes, and the absence of paths distinguishes them from fox-holes or machine-gun pits.

Barricades. Found in the streets of villages, in sunken roads, or through defiles. They are constructed of any available material. The obstruction to the road is clearly shown by the shadow of the barricade. When barricades are used, machine guns are often located so that their field of fire converges on the spot. Consequently, the existence of such machine guns should always be suspected, and their location determined if possible.

Machine Guns and Infantry Howitzers.

Machine guns are difficult to discover by visual inspection of a photograph. Their small size renders them practically invisible if emplaced in the open, and a slight amount of natural cover is sufficient for concealment. However, when systematically searched for, they are fairly easy to detect. This is because the tactical requirements for a firing position limit the number of good locations in any area. Hence, if the interpreter knows where to look for them, he is able to localize the search within a small radius.

As machine guns are of vital importance both in attack and defence, an endeavour should be made to discover every machine-gun firing position within the area. A regular procedure should be followed in searching for machine guns, about as follows:-

Examine the ground thoroughly, paying special attention to paths, tracks, and small saps.
Study each suspected position stereoscopically.
Study the terrain and ascertain the field of fire from each suspected position.
After locating the more visible positions, see if their field of fire adequately covers the ground in front of the enemy position. If not, then select locations which would fill the gaps and search for

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machine guns at these spots.

Machine guns are seldom alone. Usually they are emplaced by sections, two machine guns close together. Hence study the area adjacent to each position, to find indications of supporting firing positions. Captured machine-gun positions should be carefully examined with a view to detecting any new methods of concealment or changes in tactical employment.

Unentrenched machine-gun positions are invisible except on large-scale photographs. They are detected by the signs of circulation: tracks made by the personnel establishing the position, and paths used in bringing up ammunition and supplies. Only a small amount of circulation is required to leave evidences visible on a print. Oblique photographs are a valuable aid in discovering machine-gun emplacements. They not only show relief better than verticals, but reveal where fields of fire are masked and show points that are enfiladed from firing positions.

Entrenched machine-gun positions consist of a pit large enough for a gun and its crew. Sometimes the position is covered over. A V-shaped opening is cut in the parapet for traversing the gun, and gives a distinctive shadow. Occasionally an open sap extends back from the position to a trench, ravine, woods, or other nearby cover.

Concrete machine-gun positions were common enough in the World War, but it is doubtful that they will be used to any extent in future field operations. Their main usefulness is in secondary defences in rear areas, or in strategical locations along a frontier in anticipation of possible hostilities. They are difficult to conceal in any numbers, and due to the time required for construction they are usually discovered before camouflage can be attempted.

Machine guns are not usually placed in the infantry trenches. When present, they are detected partly by the visible indications, and partly by their fields of fire. Visible marks are shadows of pits, small saps, and V-shaped notches in the parapet. As normally each gap in wire is covered by converging fields of machine-gun fire, a study of wire gaps, and points on which cross-fire is desirable will narrow down the probable location of machine guns. Low wire is an especially good indication.

Infantry howitzer positions appear very similar to those occupied by machine guns. In general, the signs of use are more prominent in howitzer positions. Howitzers are frequently places on reverse slopes, using indirect fire. The firing opening in a howitzer position is usually provided with a cover. When photographed while in use, the cover is absent, and shadows reveal a square hole. The search for howitzers and other infantry weapons is conducted in a similar manner to the search for machine guns. The precise appearance of any position depends largely on the tactical methods of the enemy, and hence exact directions cannot be given without a knowledge of the particular enemy against which operations will be conducted.

Battery Positions.

It is of the utmost importance that the enemy's artillery be identified and located. This not only will furnish the staff with the knowledge of the amount of opposing artillery and its location, but will enable efficient counter-battery work. In mobile warfare where positions are occupied only a short time, it is necessary to locate batteries rapidly and accurately. The

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selection of battery positions is determined by both tactical and topographical considerations; a thorough knowledge of artillery technique and employment is also essential to intelligently interpret artillery positions on a photograph. The interpreter must be familiar with the situation and know where to look.

The types of battery positions differ with the topography of an area. The effect of topography will be discussed under the following heads:-

Thickly populated areas.
Flat country with scattered houses and woods.
Closely wooded country.
Areas with numerous ravines and gullies.
Open country.

Thickly populated areas. Houses, fences, hedges and paths are numerous, with buildings damaged in varying degrees. Batteries are found in barns, on the ground floor of buildings, and under trees. The large amount of debris makes it difficult to find tracks of personnel. Gun blasts and telephone lines help to indicate the presence of batteries under cover.

Flat country with houses and woods. Batteries find cover in orchards, barns, and woods. Signs of circulation are hard to conceal and serve to indicate the location of positions.

Wooded country. Wooded areas afford the best concealment for batteries. Tracks and paths are hidden by the trees. Search should be made along the edges of woods and clearings for blast marks and signs of activity.

Eroded areas. Batteries are found in ravines. Brush and tree branches are often used for camouflage. Paths extend to the nearest road.

Open country. Where woods and habitations are infrequent, it is more difficult to conceal batteries. The lack of natural cover makes paths conspicuous even if the gun position is dug in and covered over. Sod is frequently used for camouflage, but the bare spots that remain indicate that a battery is near.

Types of Battery Positions.

Battery positions may be classed as open, entrenched, concealed, platform and railway.

Open battery positions. These batteries are identified by locating on the photograph the gun position, personnel shelters, command posts and observation posts, telephone lines, and paths. Blast marks in front of the guns aid discovery and also indicate that the battery is active. The circulation cannot be entirely concealed and this reveals the character of the activity on the ground. Cut brush and other material may be used as a screen. The clearing caused by cutting brush is often very distinctive. The limbers may be found nearby and will often point out a position. Anti-aircraft guns are distinguished by their all-round fire, which leave a circular mark around the gun from the movements of the gunners.

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Entrenched batteries. An entrenched battery is shown by:-

An excavation for the guns, with a parapet formed by the excavated earth.
Shelter for personnel, usually a trench, open or covered.
Telephone lines leading away from the battery.
Limbers. These will be toward the rear, and hidden in trees, in a ravine, or in any other spot affording a degree of concealment.
Paths connecting the various elements.

Concealed batteries. This type refers to batteries placed in a building, under a bridge, or in some other similar spot affording absolute concealment of the guns themselves. They are detected from the blast marks, and paths of circulation.

Railway batteries. These are of two kinds; those firing from the railway, the gun remaining on the mount; and those in which the gun is taken off the car and placed in a prepared emplacement. Where guns fire from their mobile mounts, a standard-gauge track is necessary and serves to locate the battery. Bracing the mount, preparing ammunition dump, personnel shelter, etc., all leave signs discernible on the photograph. In addition, some types of railway guns have very limited traverse, and employ a curved track or epi. This curved track is very distinctive. Due to the size of railway artillery, it is difficult to effect any satisfactory concealment, consequently this type of gun is easily located.

Platform artillery. Where the heavy guns are removed from the rails and emplaced, they are classed as platform artillery. The platforms for heavy guns are necessarily large and heavy, and very conspicuous on a photograph. Camouflage may be used, but is ineffective against skilled interpretation.

Dummy batteries. Dummy batteries are less frequent in mobile warfare than in stabilized situations. They may occasionally be used to divert attention from batteries of large calibre. They are recognized by the weak signs of use, absence of blast marks, and different appearance as compared to an active battery.

Concealment. An effort is made to conceal battery positions as far as time will permit. Both natural and artificial camouflage are employed. Concealment is defeated in many cases by obvious signs of circulation, and by blast marks.

Blast marks, under ordinary conditions, appear as white blots where the ground surface has been blown away by the discharge. In snow, blast marks appear as black smudges.

The presence of blast marks is not a certain indication that a position is occupied, as these marks remain visible for a considerable length of time in dry weather.

Record of Enemy Batteries.

All information received about enemy batteries is recorded in a systematic manner. This enables the number of active hostile batteries, with their locations, to be determined at any time, and facilitates counter-battery operations.

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A satisfactory method is to use prepared cards with a printed heading having spaces to fill in the location, calibre, and other identifying data. Beneath the heading is a space for a picture of the battery. This is cut from an aerial photograph and pasted on the card. If a photograph is not available, a sketch may be used, and in some cases it is desirable to paste both on the card.

Lines are drawn across the card below the space for the picture, and a chronological record of the battery is maintained until it is either abandoned or destroyed. Besides the information obtained from interpretation and from aerial observation, intelligence from all other sources is entered in order to make the record as complete as possible.

In stabilized situations a similar record is made of suitable artillery targets other than batteries, such as dumps, bridges, villages, etc.

Communications.

Means of communication include wire lines (surface, buried, and overhead), radio, and visual signalling stations.

Telephone centrals are revealed by the junction of several wire lines. The switchboard itself may be in a building, under a bridge or otherwise concealed, but may be located from the wire lines.

Surface lines, when first laid, are invisible. If in continuous use the paths made by line inspectors serve to reveal them.

Buried lines are easily recognized. They are characterized by shallow trenches which run in straight lines, with sharp angles at the bends. These trenches when covered appear fuzzy. When the wire trenches are left open for access to the wire, a black shadow appears.

Overhead wire. Ordinarily, extensive use will be made of existing pole lines. In such cases, this is revealed by new poles being installed to replace poles that were previously destroyed, and by the paths made by the wire inspectors. New construction ordinarily will be on short poles, revealed by paths and by shadows of the poles themselves.

Radio. Field radio sets are inconspicuous. Shadows of the poles may sometimes reveal them. Signs of use will quickly develop. In general field sets are hard to locate. Larger sets are easily found, due to the prominence of the aerial supports.

Visual signalling station. Platforms in trees or other elevated places may sometimes be used as visual signalling stations. The stereoscope will usually detect these. In position warfare, visual signalling is employed extensively; trenches are cut radiating from signal stations to hide the rays of light from observation. These points are very distinctive on a photograph.

Shelters.

Personnel shelters vary from hastily dug pits to elaborate concrete dugouts. In mobile warfare they usually will be open

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ditches or trenches. Due to the time necessary for construction, dugouts will not be used except when the line becomes stationary, or for relatively slow-moving positions, as heavy artillery. In the rear zone, dugouts will probably be found at every camp for protection from air raids.

Open shelters. These are designed to shield the personnel from artillery fire and will make the maximum use of the conformation of the ground. They will consist of open ditches or pits at first, but will be covered over as soon as practicable. Usually this cover is for concealment, though where material is available the cover may be made strong enough to protect from medium fire. It is revealed by signs of circulation, and when in the open, by shadows.

Covered shelters are revealed by shade of cover used, usually lighter or darker than surrounding ground. Cut brush may be employed for concealment.

Dugouts. These are revealed by a black dot at the entrance, by paths, and when new, by the appearance of removed earth. May be looked for in the side of a hill, on the slopes of a ravine, or in bushes near camps of heavy artillery position. When snow is on the ground, it melts above heated dugouts and thus reveals their presence.

Tanks.

Tanks are large enough to be visible on a photograph unless hidden under trees. They leave a broad, visible path and the actual position of tanks can be ascertained by following out these trails. Of the various defences against tanks, we are concerned only with those which appear on photographs. Tank defences are principally mines, tank traps, and barricades.

Anti-tank mines. Mines consist of boxes containing explosives that are arranged to be detonated by the weight of the tank. They are scattered in places where tanks are expected, usually covered with light brush or earth. As it takes a period of days for the disturbed earth to lose its light colour, they are easily located. Isolated mines are generally larger and placed in natural tank paths; that is, in gaps between trees, along roads, etc.

Tank traps. These consist of shell-holes which have been covered over with a light roof and camouflaged. In some cases pits are dug, especially in roads. These are carefully screened against ground observation, but are difficult to hide on photographs.

Tank barricades. These are constructed in streets of villages, across sunken roads, or at other similar spots. They may be of any available material, and are easily recognized. In stable situations as in the World War, elaborate barricades were sometimes built, consisting of concrete pillars joined with heavy chains.

Tank operations. The choice of routes for the advance of tanks depends not only upon the military situation, but also upon the character of the terrain. Detailed topographic information is required to efficiently direct the operations of tanks. The best source of this information is the vertical photograph, though in rugged country oblique photographs are also of value.

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There is one class of data which is wholly lacking on maps - that is, recent information on the condition of the ground surface. Abnormal conditions may result from excessive rains, poorly drained areas, or artificial floods caused by the enemy. The examination of a photograph will reveal the present character of the surface at all points.

The presence of concealed pits, tank traps, mines, and other barriers is also shown on photographs. However, the detection of such objects is a function of intelligence officers, as it requires special training not necessary in the ordinary uses of photographs.

Depots and Dumps.

The location of depots and dumps is a question of access. Points of convergence of paths and roads usually betray their location. Verification is often necessary to learn the kind of material stored and dispensed.

Ammunition dumps in the rear zone are denoted by the regular rows in which shells are stacked. Often the shells are placed in a series of pits for fire protection.

Rear Zone.

Photographs of the rear zone reveal information of the greatest importance. The enemy's camps, supply depots, reserves, and other activities can be located and their size ascertained. Changes in the size of camps, new railway construction, expansion of depots and similar indications are valuable to learn the enemy's probable intentions. Rear-zone interpretation furnishes information to the staff regarding the enemy's activities and intentions, giving the staff the amount, location and activity of the enemy's forces; from this information, his intentions can be learned.

Rear-zone photographs also furnish information about objectives for bombardment aviation.

Interrogation of Prisoners.

The interrogation of prisoners is a valuable source of information in connection with the interpretation of photographs. Also the examination of prisoners can be facilitated if photographs of the area in which the prisoner served are available for the use of the officer conducting the interrogation.

The information gained from prisoners is not trustworthy until it has been checked, even if no deliberate attempt is made to mislead. Properly used, this type of information is useful to confirm the results of interpretation, especially of rear-zone activities. Interpreters should make arrangements to secure prompt reports from the personnel charged with questioning prisoners and deserters, maintaining this information on file.

Whenever a prisoner is captured who can probably give valuable information, arrangements should be made to use photographs in the examination. A brief account should be secured of where the prisoner was captured, his actions prior to that time, the location where he was trained, and the railhead from which he marched to the front. Photographs are then selected from the files showing areas in which he served at the front, the camp at which he is supposed to have trained, and the railway station where he was detrained. Maps corresponding to these localities are also procured.

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It is better to start the interrogation with the prisoner's capture, and work back to his previous experiences. Points mentioned are located and marked on the photographs. The prints may be shown to him to aid his memory. The reliability of his statements may be checked by asking about items already known. He is questioned in detail about all places where he claims to have been. He should be asked about the operations and location of units, and if from the artillery, the location of battery positions, the types of emplacements, ammunition dumps, etc.

Some of the information obtained may seem trivial, but may be found of value later. In the case of items about points which have not yet been photographed, the data should be filed for use when a photograph is secured. Prisoners are apt to be hazy in their recollection of some localities, or ignorant of the names of the places they served in. Photographs serve to refresh their memory and enable them to point out spots whose names they had forgotten.

Chemical Warfare.

All toxic and disabling gases, to be effective, must be placed in the desired areas in sufficient concentration. Whether these gases are contained in artillery projectiles, aircraft bombs, or fired from projectors, their behaviour is greatly influenced by the topography and the weather.

Military gases, being heavier than air, will flow down slopes and accumulate in valleys and hollows, forming gas pools. Elevated spots are soon cleared of gas by gravity flow and the action of the wind. A given locality, for gas warfare purposes, is thus divided into three kinds of areas:-

Elevated or exposed areas where it is difficult to maintain an effective concentration.
Depressions, gullies and hollows that are favourable to the formation of gas pools.
Intermediate terrain, which does not allow as efficient results as the second class, but is still suitable for temporary concentrations.

It is advisable to examine an area on a photograph, and mark the location of the different zones, according to their suitability for the offensive use of gases. This will furnish information as a guide in attacking any particular point.

The character of surface features, especially vegetation, also influences the effectiveness of a gas attack. Underbrush, small trees and the like, act as shields against the wind and cause the gases to dissipate more slowly. Bogs and marshy ground are unfavourable, while standing crops are advantageous in diminishing the wind velocity near the ground.

The effect of wind in dissipating gas vapour is modified by the terrain, and the velocity of the wind itself is influenced by the topography. Places sheltered from the direct wind by trees, houses, or ground relief will have a wind velocity considerably less than that prevailing in the open spaces.

The detailed terrain information furnished by photographs aids chemical warfare operations by locating places that are especially favourable for gas attacks and by furnishing data to determine the amount of gas required at any point.

In defence against gases, photographs are useful in very much the same way. Localities particularly vulnerable to

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chemical attacks may be noted and precautions taken. Spots favourable to the formation of gas pools may be noted in advance and avoided as far as possible. In the selection of sites for positions of all kinds, consideration may be given to the effect of a possible gas attack on that point.

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/ PART III. ....

PART III.

NAVAL OPERATIONS.

The conditions under which naval operations are conducted are quite different from those encountered in land warfare. Nevertheless, there is one factor which is as important to an admiral as to a general. This is the procurement of prompt and accurate intelligence of the enemy.

There are many methods of securing information, and no one of them is sufficient alone. The subject of naval intelligence is extensive, but only the naval use of aerial photographs will be discussed. A working knowledge of the limitations and advantages of photographs is all that is necessary to employ them with valuable results.

A major objective of naval intelligence is to determine the location of all units of the enemy fleet. Aerial reconnaissance is of great importance, but visual observation can often be supplemented by photography to advantage. The precise visual identification of vessels from the air may be hampered by haze and clouds, altitude, or high speed. A photograph may be brought back and examined at leisure. If details of enemy vessels are on file, positive identification can be made from the print.

An aeroplace engaged on a scouting mission should take aerial photographs of all enemy craft sighted, as a matter of routine. Even if visual observation alone gives an accurate result, the photographs will always yield additional information upon careful examination.

Whenever practicable, scouting photographs should be taken in stereoscopic pairs. That is, each objective is photographed twice, with the two pictures overlapping about 50 per cent. This will permit stereoscopic examination, which is especially valuable in distinguishing between vessels of the same size and type.

The vertical photograph is the best for high altitude photography, but oblique photographs are also useful when conditions are suitable to take them. Identification of vessels is easier on an oblique photograph but some units may be obscured by smoke, and only a part of a fleet can be covered in one view. It follows that smoke is useful to screen against oblique photographs. It does not, however, interfere materially with vertical photography.

Intelligence officers maintain albums of aeroplace silhouettes for use in the identification of aircraft, and similarly a special album showing enemy vessels from an overhead position should be maintained for use in both visual and photographic identifications of enemy craft.

Operations involving a knowledge of shore conditions, such as landings in force, will disclose that aerial photographs are the most accurate source of topographic information. Even if good maps are available, a strip mosaic of the beach and adjacent areas or oblique photographs will show detailed and timely indications of terrain conditions. The disposition of enemy troops, the details of entrenchments and the location of hostile artillery can be learned by interpretation.

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The use of mobile large calibre guns in coast defence presents another problem in naval operations. No longer are heavy guns all grouped in fixed emplacements whose positions are known. They may be encountered at any point on a coast line where railways or roads permit their use. Their presence is easily detected by photographing the strip of land bordering the water.

The British operations against the Gallipoli peninsula afford a good example of a situation in which photographs aid naval operations. The shore batteries against which fire was directed by the fleet were located by means of aerial photographs.

An example of another type of action occurred in connection with the famous raid on Zeebrugge. Prior to the date of the attack, photographs were made of the harbour, and were carefully examined in conjunction with the map to determine the character and location of the various activities. This information formed a basis for the detailed plan of action drawn up for the attack.

The discovery of enemy submarines is sometimes made by means of photographs. It is a peculiar property of optics that the higher an observer is located above a body of water, the deeper his vision extends beneath the surface. This is also true of aerial photographs. Submarines entirely submerged may be detected on photographs, at depths as great as 100 ft. As only a few hours elapse from the time a photograph is taken until it is available for use, submarines detected on the print may still be in the same locality, affording good targets for aerial bombing.

This same ability to "see under water" is useful in finding the location of deep channels and shoals in a waterway. The extent to which under-water relief appears on a photograph is affected somewhat by the weather, but frequently a view of a harbour or bay will show clearly all shoals, bars and other shallow places.

Naval aviation uses photographs for some purposes in the same manner as army aviation. Photographs of enemy land positions afford information about the strength and disposition of his forces; also they serve to locate suitable targets for naval guns and for aerial bombing. When called upon to support a landing operation, points against which machine gun and bombing attacks may be made are found from an examination of photographs.

When an air base is to be established on shore, sites for aerodromes may be selected by photographing the area and studying the terrain in detail. The exact size of fields may be scaled, and the condition of the surface and the presence of obstructions thus determined.

The use of "mystery" ships was a romantic feature of the World War, and in a recent book about an imaginary war, the author has the enemy deceived by commercial vessels rigged up to resemble battleships. While an observer might easily mistake the true character of a ship when seen from some thousands of feet in the air, an aerial photograph will positively betray all masquerading vessels. This is one of the reasons why visual observation should always be confirmed by photographs if possible.

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DIAGRAM SHOWING HOW STEREOSCOPIC PIN-POINTS ARE PHOTOGRAPHED

APPENDIX I.

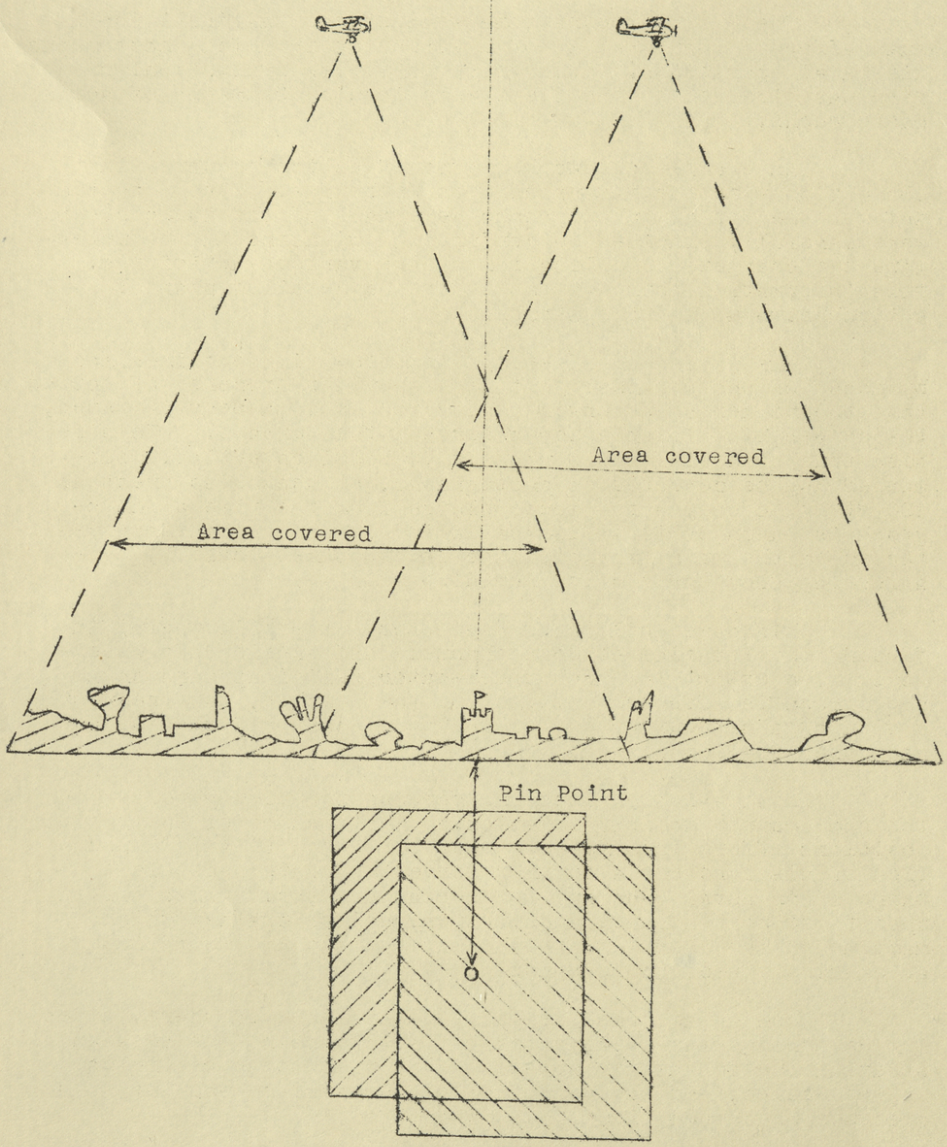

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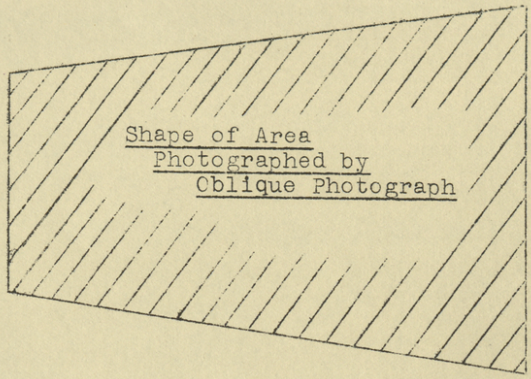
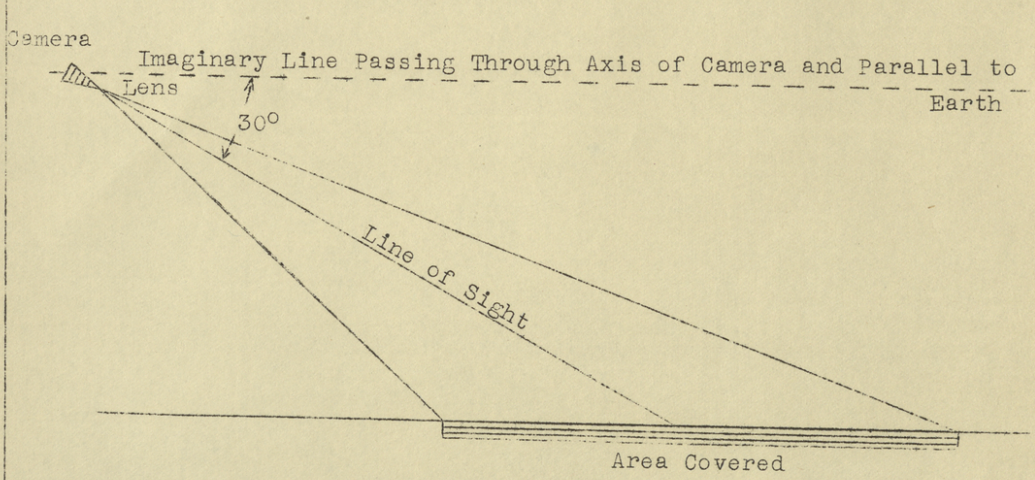
DIAGRAM SHOWING THE INCLINATION OF A CAMERA WHEN TAKING AN OBLIQUE PHOTOGRAPH

APPENDIX II





Showing Line of Sight and Area Covered in Oblique Aerial Photograph

NOTICE THAT THE AREA COVERED IS NOT A RECTANGLE, BUT WEDGE-SHAPED.

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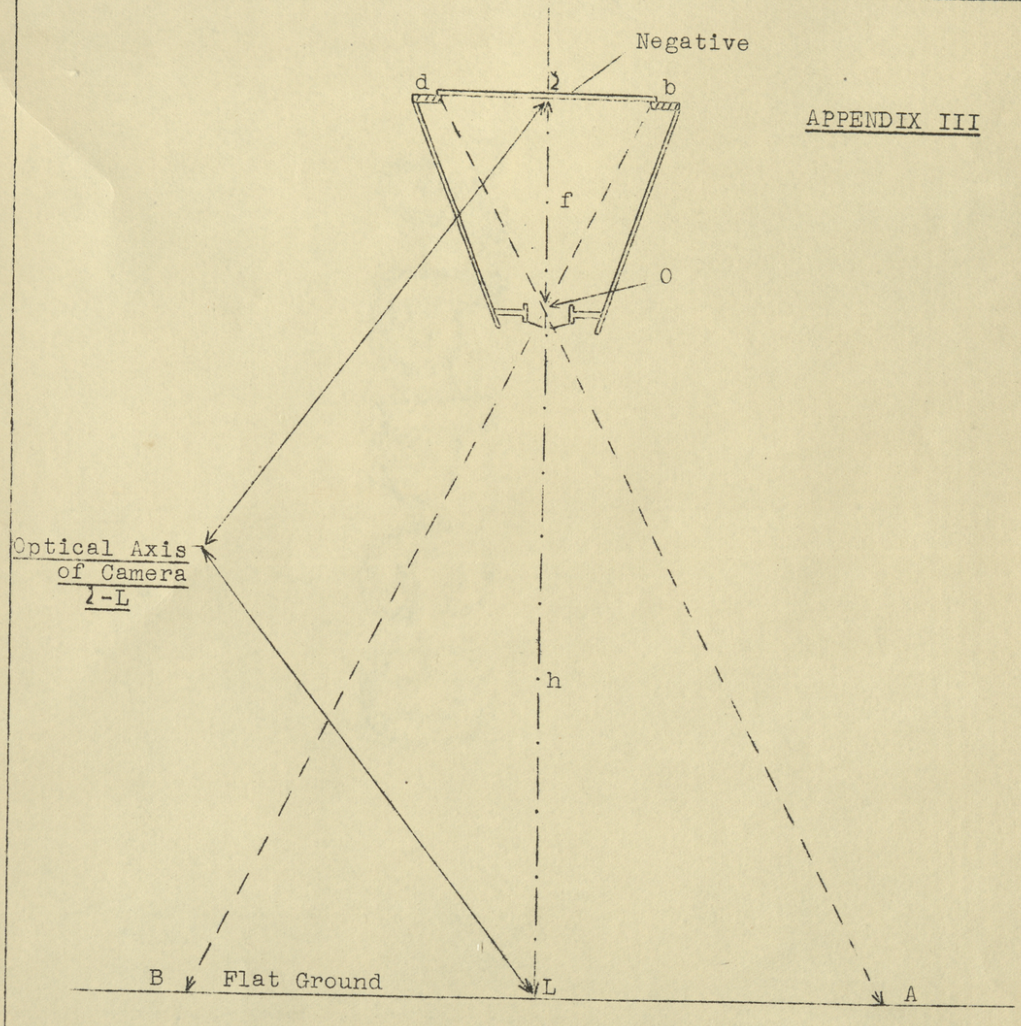
APPENDIX III



VERTICAL SECTION THROUGH AERIAL CAMERA AND THE GROUND ILLUSTRATING THE RELATION OF THE SCALE TO THE ALTITUDE.

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SECRET

COPY NO.....

OPERATION ORDER NO. I

4 August '41.

I. INFORMATION

A Combined Services Exercise will be carried out between 1200 hrs. 5 Aug. '41 and 1700 hrs. 7 Aug. '41, to test DARWIN DEFENCES.

ENEMY:- RED FORCES operating from TIMOR, intend attack and occupation of PORT DARWIN with view to capture OIL FUEL SUPPLIES, and denial to our FORCES (BLUE FORCES) further use of the BASE during hostilities. Details of ENEMY strength as already stated at C.O.'s Conference.

OWN TROOPS:- DARWIN INFANTRY BATTALION less SECURITY GUARDS.

2. INTENTION

(a) Occupy and defend the NARROWS.

(b) Occupy and defend the CIVIL AERODROME.

3. METHOD

(a) A Coy will man and control all SECURITY GUARDS as laid down, and will have services of UNIVERSAL SERVICE PERSONNEL and existing GUARDS at W/T STATIONS supplied at present by B. Coy.

(b) B and C Coys plus ONE Mortar Detachment each will occupy prepared DEFENCE LINES at the NARROWS, B. Coy on the LEFT and C Coy on the RIGHT.

D Coy will take up DEFENSIVE POSITION at CIVIL AERODROME.

E Coy less ONE L.A. Section will be in reserve at 805120

ONE L.A. Section from E Coy. will be detached and come under the command of C.R.A. LAST POINT.

TROOPS will be in position and COMMUNICATION established by 1200 hrs. 5 Aug. '41 when EXERCISE will commence.

A ECHELON will move to selected BATTALION POSITIONS not later than 1000 hrs. 5 Aug. '41. R.S.M. will supervise move from PARAP and take charge of the BATTALION ORDERLY ROOM at BATTLE H.Q. 806118.

B ECHELON will remain at PARAP under command of MAJOR W.F. MASTER M.C.

4 ADMINISTRATION

See Appendix A.

5 INTERCOMMUNICATION

(a) All MESSAGES will bear the prefix "FOR EXERCISE". Code Names will be used for duration of EXERCISE as follows :-

BN. H.Q.	GEFA
A COY.	KARO
B COY.	GREO
C COY.	JONO
D COY	CARO
E COY.	FUTO
SIGNALS	FOCO
283 L.A.D.	WODU
B ECHELON	MASO

(b) W/T Sets No.108 will be manned by SIGNAL DETACHMENTS allotted to COMPANY&S etc. as follows :-

C COY.	I
E COY (In Reserve)	2
BN. H.Q.	I

(c) LIGHT SIGNALS will be advised to Os. C. Coys.

W/T Frequencies as allotted by CHIEF SIGNAL OFFICER.

(d) TRAFFIC ROUTES TO AND FROM DARWIN

ROUTE IN:- DALY ST. and DALY ST. BRIDGE and thence via CAVANAGH ST. or SMITH ST.

ROUTE OUT:-MITCHELL ST. or ESPLANADE, McKAY ST., LAMBELL TERRACE, GILRUTH NECK, VESTEY'S MAIN SOUTH ROAD.

Acknowledge

.....Capt. Staff Corps
Adjt. Darwin Inf. Bn.

Method of Issue.....
Time of Signature.....

Commander of Covering Forces	(2)	T.O.	1
Chief Umpire "	" (1)	B Coy	1
C.R.A.	1	C Coy	1
C.O.	1	D Coy	1
2 i/c	1	E Coy	1
Adjt.	1	H.Q. Coy	1
Q.M.	1	283 L.A.D.	1
M.O.	1	W/Diary	3
I.O.	1	File	1
R.S.M.	1		

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APPENDIX "A"

ADMINISTRATION

(a) Security Guards Guard Commanders at all vulnerable Points are to be warned that this exercise is in progress. As far as possible troops will avoid vulnerable points, and where necessary to enter such areas, will be in possession of a pass signed by CHIEF ARMY UMPIRE.

BALL AMMUNITION will be retained by Guards. U.S.Personnel will not be issued with BALL AMMUNITION.

(b) UMPIRES:- Umpires will be distinguished by a 4in. white armband. CHIEF UMPIRE COVERING FORCES, Major R.A.CAMPBELL, 2/40 Bn.

Allotment of unit Umpires will be as follows:-

Capt. C.S.Harrison	"B"Coy
Lieut L.J.Jones	"C"Coy
Capt. A.C.Baldwin	Bn.H.Q. and Reserve.

Umpires will be included in ration state by Coys to which allotted.

Umpires' decisions will be final and must be abided by in all cases.

(c) SCREENS

Each Coy will carry one RED and one BLUE screen per platoon, which will be made available to Umpires when asked for/

(d) TRANSPORT

For duration of Exercises, T.O. will make available one 30cwt. lorry per Coy, for rations and baggage. One 30cwt. lorry and one Utility to "A" Echelon, C.O's car at Bn.H.Q. D/R's under command of Signal Officer. Remainder of Mpt. will remain with "B" Echelon at Parap.

(e) RATIONS

Troops will move out of Parap with unconsumed portion of day's rations on the man. Evening meal (hot) will be delivered to Coy Areas at night with dry rations for following day. When submitting ration states to Battle H.Q. for communication to "B" Echelon, Coys will include any attached personnel/

(f) AMMUNITION AND FIREWORKS

All .303in. S.A.A. BALL will be withdrawn before moving out of camp, and O's.C.Coys will render a certificate to this Bn.H.Q.(parap) by 0900 hours 5 Aug'41.

Blank Ammunition will be issued at 1600 hours 4 Aug'41 on the following basis:-

"A"Coy	1000 Rounds
"B","C","D" Coys	500 rounds each
HQ.Coy	500 rounds

Cartridges Signal Green 1IN. Mk.1 2 per Coy incl. H.Q.Coy
Cartridges Signal Red 1in. Mk.1 2 per Coy incl. H.Q.Coy
Smoke Candles Ground Experimental:-

"B"Coy	2
"C"Coy	2

Thunderflashes 10, Thunderflashes Brassards 3, Generators Smoke No. 5 Mk.1 5. } Capt. C.S. Harrison

Pistols Signal No. 1 Mk.III. Drawn on signature from H.Q. Coy by "B", "C", & "D" Coys.

DEMONSTRATION SIGNALS to be arranged by Coys with Battle H.Q.

(g) BLACKOUTS

In conjunction with the exercise, Blackout tests will be carried out as follows:-

5/6 Aug'41.....2110 hours to 2130 hours
" 0001 " 0430 "
6/7 Aug'41.....0001 " 0430 "

O.C. "B" Echelon will take necessary action on alarm at Parap.

Coy and Detachment Commanders will be responsible for extinguishing and/or screening of lights during exercise. and maintenance of night discipline throughout.

ALARM Alarm Signals at commencement will be a continuous sounding of a siren for three minutes.

ALL CLEAR two long soundings on siren.

AIR RAID ALARMS will be as above except that periods of sounding

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of sounding will be for half-minute with half-minute intervals.
SECURITY MEASURES will conform to all the above Signals particular attention being paid to cigarettes.

(h) REPRESENTATIVES (amplifying INTARMATION para)
RED TROOPS (ENEMY) wearing working dress and steel helmets with white rising sun painted on them.
ENEMY AIRCRAFT distinguished by tail unit painted white. Dives on troops by enemy aircraft (not under 500 ft.) represent machine-gunning. Bomb doors open in enemy aircraft ; bombing.
FIRE Artillery umpires will advise.
M.M.G.:- Yellow flag and rattles.
L.M.G.:- White flag and rattles.
Rifle fire:- Red Flag
Grenades:- Thunderflashes.

CASUALTIES
Labels distributed by Umpires.

(i) R.A.P. R.A.P. will be maintained at Parap Camp under supervision of Capt. Holt as from 5 Aug'41 to completion of exercise. Detachments of 6 Stretcher Bearers will report to "B" and "C" Coys and will rem in under command as stated, and remainder will report to R.S.M. at Battle H.Q.
For purposes of exercise only, all ranks will carry Field Dressings in top left hand pocket of shirt.

(j) TIME
Watches will be synchronised by Coys at Battle H.Q. at 1200 hours and thereafter daily at 1200 hours. Times will be local times.

(k) DRESS
Dress:- Fighting Order. Long trousers may be worn at night
Water Bottles will be filled before leaving Parap and must be conserved.
Blankets and Mosquito Nets will be moved under Coy administration.

(l) TERMINATION OF EXERCISE
Exercise will terminate at approx. 1700 hours 7 Aug '41.

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Australian Military Forces—7th Military District.

Please quote this Number when replying.

SM	1140	

ALE/JA

Head-Quarters,
Darwin, 4 Aug 41

Secret. Free

D.I.B.

SECURITY GUARD - DARWIN WHARF

Reference your S.M. 16/41 of 28 Apr 41. It is desirable in the best interests of Security that the attached "Orders for Wharf Guard", replace those now in use. (Appendix 3, your 16/41)

The amendments and additions to the existing "Orders for Wharf Guard" have been brought about by the introduction of new types of passes issued in accordance with National Security (General) Regulations 7A. Also, it was decided at a recent conference of representatives of the Navy, Army and Customs that certain procedure must be observed by personnel of H.M. Ships who invite guests aboard their craft. (This is covered by para.5 of attached "Orders".)

Sentries must carry out their duties in strict accordance with the orders issued.

Copy sent to Ore Banks 16/8/41

A. L. Elliott

Lt.-Col.,

General Staff (Int.), 7 M.D.

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APPENDIX 3.

ORDERS FOR WHARF GUARD

The Jetty, including the Naval Oil Fuel Pipeline and Landing Steps for Flying Boat passengers, is a Prohibited Area and it is the duty of the sentry to prevent unauthorised persons from entering or remaining in the neighborhood of this area.

1. No person will be permitted to enter the jetty, or board any vessel unless in possession of the prescribed pass.

2. All passes will be examined closely by the guard when persons are entering or leaving the jetty.

3. The date (in respect to the period for which the pass is valid) will be closely watched, and passes presented to the guard on the date of expiry will be retained by the guard. All expired passes will be forwarded to I.S.G.S. 7 M.D. as early as possible.

4. Signature of the "Authorised Issuing Officer" on the pass to be checked with the specimen signature held in the guard hut.

5. Personnel serving in H.M.A. Ships. Guests of personnel serving in H.M.A. Ships will be permitted to board the latter whilst berthed at the Wharf provided the following arrangements are STRICTLY carried out -

   (a) Commanding Officers of H.M. and H.M.A. Ships concerned are to supply a list of guests in duplicate to O. in C. of the guard who will forward the duplicate to the Sub-Collector of Customs DARWIN within 24 hours of guests leaving the wharf.

   (b) Guests of both officers and men are to be met at the entrance to the wharf by a responsible Naval Officer who is to escort them to the ship. Departing guests are to be escorted off the wharf in a similar manner.

6. Passengers and crew of merchant vessels will show the pass provided by the Purser of the ship.

7. Passengers embarking at DARWIN will show their steamer ticket on entering the jetty.

8. Policemen in uniform will be admitted without a pass. Police in plain clothes must be in possession of a pass.

9. Navy personnel proceeding on leave from H.M. Ships moored alongside wharf will be "checked" past the sentry post by senior member of leave party.

10. The sentry will pay compliments to the following : -

    His Honour, The Administrator.
    The Commandant 7 M.D.
    Naval Officer-in-Charge DARWIN.
    C.O., R.A.A.F. Station DARWIN.

    To all other officers he will come to attention.

11. The sentry may sit down, but at all times he will have his rifle in the hand ready to challenge instantly any person approaches his post. Reading, writing and smoking are strictly forbidden.

    Two blasts of a whistle to be blown in case of alarm.

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Sm. 67.

Australian Military Forces—7th Military District.

Please quote this Number when replying

Sm	1138	

WDM/JA

Head-Quarters,
Darwin,
4 Aug 41

SECRET

H.Q. 23 Aust. Inf. Bde.

D.I.B.

COMBINED DEFENCE EXERCISE 5, 6, 7 AUG 41

Enclosed are / copies 1/54 A.A. Coy. Secret Memo setting out location of detachments of that unit.

It will be seen that these detachments are in positions which will fall within the zones of practically all troops of the Fixed Defences, Covering Forces and Field Forces.

Permanent passes signed by Lt.-Col. A.L. Elliott have been issued to O.C. 1/54 A.A. Coy. Maj. R.C. Harper and 2 i/c Lieut. G.E. Patterson allowing them freedom of movement in all defence areas at all hours.

Section officers, mechanists and company transport drivers will be issued with a pass signed by Maj. Harper and for the duration of the exercise are to be allowed by all units to proceed on duty as indicated in the pass.

It is especially urged that freedom of movement within the illuminated area is necessary for the efficient working and control of the unit.

As several locations are situated forward of the stop line this unit should be kept closely informed of the general situation in order that each and every detachment may co-operate with the unit in its vicinity.

If it is required to withdraw equipment behind the Stop Line, about 35 minutes notice will be required to load up and move off, and arrangements for passing vehicles and trailers through the Stop Line must be made. Without loading ramps the Searchlight would probably have to be abandoned, or this time greatly increased, as the alternative method of dismantling the searchlight on the ground and re-building on the truck is of necessity slow.

W. Lindsell
Lt.-Col.,
General Staff, 7 M.D.

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F.M. 40.

23

S E C R E T

REPORT BY

DIRECTOR OF EXERCISE

ON D.D.X.M. NO. 17, HELD AT DARWIN

5/8/1941 to 6/8/1941

CONTENTS

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B. OBJECT OF EXERCISE AND FORCES PARTICIPATING.

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H. ARMY

I. AIR FORCE

J. A.R.P.

K. GENERAL COMMENTS.

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INTRODUCTION

A. This report does not include individual narratives or diaries of events which are peculiar to each service, and which will automatically be discussed by each service. It covers the broad outline of events and general remarks common to all three services, with some special points regarding each.

B. OBJECT OF EXERCISE

1. To test the plans of all three services for the defence of DARWIN.

2. FORCES PARTICIPATING

(i) RED FORCE : (a) Navy H.M.A.S. "BENDIGO" representing six 8-in cruisers.

H.M.A.S. "TERKA" representing accompanying transports.

(b) Army 6 Signallers with 101. W/T. sets.
2 Officers and 16 O.R's.
The whole representing a Bde Gp.

(c) Air Force One flight (3 aircraft) Bomber Rec.
One flight (3 aircraft) Fighter-bombers.
Each flight representing one squadron (12 aircraft).

(ii) BLUE FORCE (a) Navy H.M.A.S. "TOLGA" and H.M.A.S. "VIGILANT" representing 3 cruisers (2 8-in and 1 6-in.)

(b) Army As existing in 7 M.D.

(c) Air Force 6 Bomber Reconnaissance.
6 Fighter-bombers.

C. OUTLINE OF RED FORCE PLAN

1. Object : To capture DARWIN, thus preventing its use to BLUE forces and for future use by RED force.

2. Method : (i) Capture WYNDHAM, W.A., with one 8-in. cruiser, landing marines to capture town and aerodrome. This cruiser to land bombs and aircraft supplies.

(ii) Aircraft to leave carrier, which was to move out of operational area, and use WYNDHAM as a land base for operations against WYNDHAM and BLUE naval and Air Forces.

(iii) The destruction of BLUE Naval and Air Forces.

(iv) After (iii) the landing of the Army to capture DARWIN. This was to take two distinct courses :

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(a) The landing of a Bn. Gp., on the Peninsular between KING'S and MICKET CREEKS, with role of striking through to BLUE L. of C. near KNUCKEY'S LAGOON, and then adopt guerilla tactics to the S.E., with the object of drawing the BLUE Field Force away from the LEE POINT Area.

(b) The landing two hours after (a) in the LEE POINT Area of the Regt. Gp. (less one Bn.Gp.) with the role of striking through the stop line and splitting into two - one Bn. Gp., keeping contact with BLUE Field Force in the vicinity of MARRARA SWAMP; the other striking direct through the NARROWS on to DARWIN.

Coinciding with the second landing, which was within range of BLUE EAST POINT Battery, a RED naval bombardment of the Forts and the WINNELLIE concentration area.

D. OUTLINE OF BLUE FORCE PLAN

1. All BLUE Force plans, with the exception of Naval, whose main role was a set piece, were in accordance with the appreciations and active service plans prepared by each service for operation in a real emergency, and dealt with the forces available in the district.

2. A.C.H. was established at R.A.A.F. Headquarters, R.A.A.F. Station, DARWIN. This was staffed by Naval and R.A.A.F. personnel with a Military officer in continued attendance.

3. C.D.H. was established at Headquarters 7 M.D., LARRAKEYAH BARRACKS, staffed by Military personnel with an Air Force liaison officer present.

4. In brief, the relative functions of A.C.H. and C.D.H., are:

(i) A.C.H. is responsible for location and interception of enemy forces, and protection of trade routes, by Naval and Air Forces, i.e., operations to seaward.

(ii) C.D.H. is responsible for combined measures to meet any attack.

E. GENERAL DESCRIPTION OF EVENTS

1. The exercise opened by N.O.C.D. being informed by telegram from WYNDHAM that an unidentified cruiser was approaching WYNDHAM. No further communication was received from this town.

2. A.C.H. was informed and R.A.A.F. sent out an aircraft to reconnoitre. The report submitted that a RED cruiser had captured the town and aerodrome with marines, and that the RED carrier-borne aircraft had occupied the aerodrome. The RED cruiser was severely damaged whilst leaving WYNDHAM by bombs from the reconnaissance aircraft, but the BLUE aircraft was subsequently shot down by RED air force.

3. From thence onward RED aircraft, operating from WYNDHAM, bombed the following targets:-

R.A.A.F., CIVIL and BATCHELOR Aerodromes;
NAVAL and MILITARY Headquarters,
COONAWARRA, EAST and WEST Wireless Stations;
POST OFFICE,
WINNELLIE Camp Area,
FORTRESS Area.

4. Shortly afterwards the BLUE Navy sighted the RED Navy, accompanied by transports, off BATHURST ISLAND.

5. On Tuesday afternoon, BLUE Navy and Air Force attacked the RED navy, and BLUE Air-force intercepted the RED bombing aircraft.

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6. (i) Losses were assessed as far as possible at conclusion of first day of exercise. Owing to difficulty in transmitting results of each engagement to D.C.E., and no details coming to hand from A.A. defences, a true summary of caulaties could not be arrive at. It is reasonable to assume that RED aircraft would have suffered severe losses from ground defences and air action and that casualties to BLUE would be severe.

(ii) The Naval action was hard to assess. The Red force had a superiority over BLUE, even after detaching a cruiser to WYNDHAM and leaving one for protection of transports, and it is considered that the BLUE Navy was put completely out of action.

7. Under cover of darkness the RED transports approached the coast unobserved. If aircraft had flown at night this might not have happened without observation as it was a clear moonlight night.

8. The A.R.P. Organisation carried out an exercise during the night and various fires and explosions, prepared beforehand, took place. Fires, casualties, etc., were dealt with and a "Black-out" was enforced.

9. At 0220 hours., i.k., on 6th AUGUST, 1941, the first RED landing took place, and during the landing they were judged to have lost 25% in casualties. This would not necessarily have been the case in actual fact as the two guns mounted on the beach would have received considerable attention from RED armoured launches supporting the attack, and their fire would have been masked by smoke.

10. This force met with minor opposition and was able to drive through to just N.E. of KNUCKEYS LAGOON. BLUE Force organised a counter attack during the morning which was adjudged highly successful, resulting in the route of the RED force. It must be borne in mind, however, that this RED Force was halted by the Umpire, and in actual fact could have moved EAST, avoided the full brunt of the counter attack, and continued to a certain extent their original role.

11. The LEE POINT landing was unobserved, although this was due entirely to the small representation of the RED force. A landing of the size envisaged would certainly have been observed. After landing, the RED Force moved on the EAST side of the Peninsula, passed through the stop-line, and penetrated as far as RAPID CREEK, where it was strongly opposed by 2/21 Bn. One Bn. then disengaged and cut through past MARRARA SWAMP on to WINNELLIE. The Commander of the BLUE Force then decided to use his reserve (2/40 Bn.) to counter-attack. 2/21 Bn. withdrew in direction of THE NARROWS, keeping contact with RED Force, 2/40 Bn. counter attacking enemy on his LEFT flank clearing WINNELLIE en route. This counter-attack was most effective. The whole picture on this front was unreal, due to the RED Force not moving on a front commensurate with the force represented. It is doubtful if such a landing would, in actual fact, have passed the stop-line, if the stop-line had been held more strongly.

12. The combined effect of these two land attacks caused R.A.A.F., to decide to evacuate the Aerodrome and move to BATCHELOR, but lack of

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transport prevented this from being carried out, although aircraft were able to get away.

13. Sabotage (for exercise) by fifth columnists occurred; the P st Office, Railway Marshalling Yards, Power House and A.W.A. Wireless Station being put out of action, and the water pipeline, jetty and one ship at the jetty being damaged.

F. A.C.H. and C.D.H.

1. A.C.H.

(i) A.C.H. was established at its present situation two days before the commencement of the exercise. The Staff comprised two Naval Officers, two Air Force Officers, continuity officer, Army liaison officer, and four clerks, three of which were provided by Naval Headquarters, None of these personnel, with the exception of one Naval Officer, had any training or experience in A.C.H. work, and under these circumstances, it is considered that results were reasonable.

(ii) Room space was entirely inadequate. The whole of this Staff was functionning in two small rooms and portion of Operations Room.

(iii) It is considered that Signal traffic between A.C.H and R.A.A.F. Operations was too great and should be reduced to a minimum

2. C.D.H.

(i) The organisation for the defence of DARWIN as laid down by the various Boards provides for the establishment and function of C.D.H. This organisation has never before been established at DARWIN, or participated in an exercise. Only two or three requests were received by C.D.H. by the BLUE Air Force, and these were vague and were not the result of consultation between the Officers Commanding the various services.

(ii) C.D.H. communications were not adequate. One message from C.D.H. took over two hours to reach D.O.E.

3. GENERAL

(i) BLUE Navy and Air Force cooperation was complete, due to the fact that A.C.H. Organisation has been in being for a considerable period, even though not established in the one building. This shows that C.D.H. should be established and made to function immediately, otherwise there can be no adequate cooperation between the Army and other services.

G. NAVY (i) Comment on Naval activities is almost impossible due to the unreal naval situation. The taking of WYNDHAM and the landing of troops in the LEE POINT area were set pieces and due to the close proximity of ships, no real reconnaissance could be carried out.

(ii) Look-outs for aircraft on ships appeared to be most efficient as as were defence measures. Such naval tactics as were carried out seemed to be sound.

(iii) The vessels used did not permit of sufficient troops being transported and landed to depict the force represented.

H. ARMY

1. RED FORCE

(i) The general plan of attack was well conceived and the characteristics of out potential enemy were closely studied, and were illustrated as far as possible by the limited representation allowed. The landings and attacks were reasonably portrayed.

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(ii) Both landing parties showed a tendency to advance on too small a frontage for the force represented.

(iii) Both parties showed determination and stamina in carrying out a difficult role, and illustrated that although the country is difficult, it can be traversed by by infantry carrying fairly heavy loads

(iv) The landing party on LEE POINT sector was inclined to carry out evasive action instead of boldly attacking. This evasive action was easily accomplished with the small force and nature of the terrain, but was contrary to the order issued by the commander RED Force, and deprived the exercise of some of its value.

(v) In future exercises it is imperative that a larger force should be employed, and it should receive special training beforehand.

2. BLUE FORCE

(i) The general plans for BLUE Force were fundamentally sound, their actual implementation being adversely affected by difficulties of communication.

(ii) Communications were the weakest portion of the exercise and this was due to :

(a) Insufficient equipment

(b) Wrong use of equipment

(c) Overloading system with inaccurate, vague, wrongly addressed and useless messages.

(d) Wireless is not dependable. Fuller use must be made of runners, cyclists, and despatch riders, as well as line. Long messages are quicker by hand than by line or wireless for short distances.
Messages should be as short as possible . For multiple addressees the same number of copies as addressees should be handed in to Signals. Messages must be properly made out.

(iii) The flatness of the country and the scrub prevents observation and normal tactics cannot be applied. Semi-jungle tactics should be evolved and attempts made to effect surprise in defence.

(iv) Camouflage was generally good, but positions were given away by movement and talking.

(v) Intelligence Sections must be more inquisitive and chase information rather than await it. Some attention should be paid to the organisation of sections.

(vi) Air Riaid alarms were not given by all units when hostile aircraft were in the vininity.

(vii) Hy. A.A. Arty., cannot effectively engage aircraft below 1,000 ft. This is the task of L.M.Gs., and rifles.

(viii) Some vehicles did not observe the instructions regarding shading of lamps. Park-lights and tail-lights were left uncovered.

(ix) Only one password should be in use at the one time, unless Field Force becomes entirely separated from Fortress Area.

(x) The standard of efficiency and keeness of troops was of a high order.

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(xi) The fixed defences require better communication and should observe instructions regarding reports. Warnings of hotile aircraft approaching were not given in many cases. The Blackout was not fully observed.

(xii) The covering force flanks appear to be weak and should receive some attention. Their H.Q., H.Q. Coy., and "E" Coy., may receive bombs directed to Civil Aerodrome. PARAP Camp should be completely evacuated in an emergency in view of its vulnerability. Carrier sorties must be treated as patrols to avoid being shot on return by A/Tk. weapons.

(xiii) (a) The Field Force was handicapped in initial stages by the lateness of receipt of the order from Headquarters to move to ALERT positions. Consequently, there was heavy traffic on the road when RED aircraft attack commenced.

(b) Movement to ALERT positions was good and units dispersed well and were generally well concealed from aerial observation. It is questionable whether the extent of dispersion did not throw a considerable drain on communication equipment which could have been used to better effect in forward areas.

(c) The delay in forwarding messages from sub-unit where initial landing took place to Unit H.Q., may have been avoided if signal sections had functioned properly, although generally they worked well considering the volume of traffic.

(d) The move to ALERT positions and sighting of enemy warships indicated that a landing was expected on the night of the 5/6th AUGUST, 1941 and Field Force was warned. All personnel should have therefore, "stood-to" early on the 6th AUGUST, 1941.

(e) Disposition of forward detachments was not entirely effective.

(f) Air support should have been requested.

(g) BATCHELOR Aerodrome was not protected with A.A. weapons.

I. AIR FORCE

1. After the first bombing attack on the aerodrome the Offi er Commanding R.A.A.F., Station, DARWIN was declared a casualty. This step was taken because it was found impossible for Group Captain HEATON to carry out both Officer Commanding, R.A.A.F., Station, and Director of Exercises. As Wing Commander BALMER was at sea in command of RED Force aircraft the command of the BLUE Air Force devolved upon Squadron Leader McDONALD. This officer was new to DARWIN and was unfamiliar with many aspects of the work and terrain, and this should be borne in mind.

2. Taking of WYNDHAM

Establishment of an Air Base at WYNDHAM by RED Force proved to be very feasible, especially in dry weather. Aircraft could be dispersed on clay-pan around aerodrome in such a manner as to render attacks on enemy aircraft abortive. Attempts to render the aerodrome unserviceable were useless because almost the entire clay-pan , some five miles by three, could have been used instead.

3. Disposition of BLUE Aircraft

Aircraft were dispersed to Civil Aerodrome. BATCHELOR and ADELAIDE RIVER. This was considered to be tactically sound.

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(3) (Cont'd)

Towards the end of the exercise, however, when DARWIN aerodrome was considered untenable due to proximity of enemy forces, a tactical mistake was made by sending all the remaining aircraft to one aerodrome (BATCHELOR), where the concentration was successfully attacked by RED aircraft, as aircraft could not be dispersed due to the incomplete state of the runways.

4. Evacuation of Personnel and Equipment to BATCHELOR was practically impossible due to lack of transport facilities. Army at present are unable to assist. BATCHELOR should therefore be always available in working condition, with subsidiary workshops, messing and sleeping facilities and communications and should be adequately defended.

5. Adelaide River

The Aerodrome proved most useful to BLUE force and adequate refuelling facilities for dry weather operations should be available.

6. Transport Facilities.

Transport on BLUE Station was found to be entirely inadequate for Station requirements. Transport was not available for servicing of dispersed aircraft, and armed tender had to be taken off Aerodrome Defence to bring bombs from the Store house at FRANCIS BAY.

7. Operation of RED and Blue Air Force.

(i) RED AIR FORCE

Tactics were good, targets well selected and attacks well planned and executed, and it was obvious that much damage was done to R.A.A.F., Aerodrome and other targets.

(ii) BLUE AIR FORCE

Defending actions and attacks were considered to be well planned and executed. Bombing of RED cruisers was considered to be correct, but heavy losses to BLUE aircraft could reasonably be expected. BLUE stand-by flight (Wirraway) was airborne in many cases with one minute of the alarm sounding and they carried out their role effectively and most efficiently.

8. Conduct of BLUE Air Force Plans Policy

(i) It is obvious that the aerodrome is vulnerable to attack and would be badly damaged. BLUE Air Force should therefore be placed on a mobile basis as far as possible and transport provided.

(ii) It was apparent that existing BLUE Air Force was entirely inadequate to d al with opposing forces unless reinforced by further squadrons.

(iii) Dummy aircraft on BLUE aerodrome were not used to best advantage. These aircraft should be placed adjacent to gun posts in order to bring attacking aircraft within range of ground defences.

(iv) Separate fire alarms should be provided. Present alarm is too inflexible to provide all necessary signals.

9. GENERAL

(i) Aerodrome defence at the BLUE Aerodrome was efficiently planned and executed, as were medical arrangements.

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(ii) No night attacks by RED or BLUE forces were executed as proper lighting facilities were not available at A.O.Bs. Recognition of RED aircraft by BLUE Force was also very difficult and this had a large bearing on the conduct of the exercise.

(iii) It was also apparent that the staff of Operations Room was inadequate to provide for proper rest periods and relief of those on duty. All personnel had to go without meals and rest in order to cope with work. Blackout precautions and lighting arrangements during Blackout periods were efficiently carried out.

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BLUE W/T. communications were adequate and efficient. It should be borne in mind, however, that BLUE A.F. communications were also coping with D.O.E. and A.C.H., and this placed an unreal load on all channels. Communications with C.D.H. and Army H.Q.rs. were entirely inadequate, and the need of communications to dispersal areas, fuelling points, etc., was urgently felt.

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(i) No provision was made for daylight alarms. Residents appear to be well instructed in night procedure, but not so well for daylight raids.

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(vii) Civil transport will be required to augment the number of ambulances.

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(Signed) C.EATON, Group Captain,
Officer Commanding, R.A.A.F., Station,
DIRECTOR OF EXERCISE.

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DARWIN, N.T. 15/8/1941

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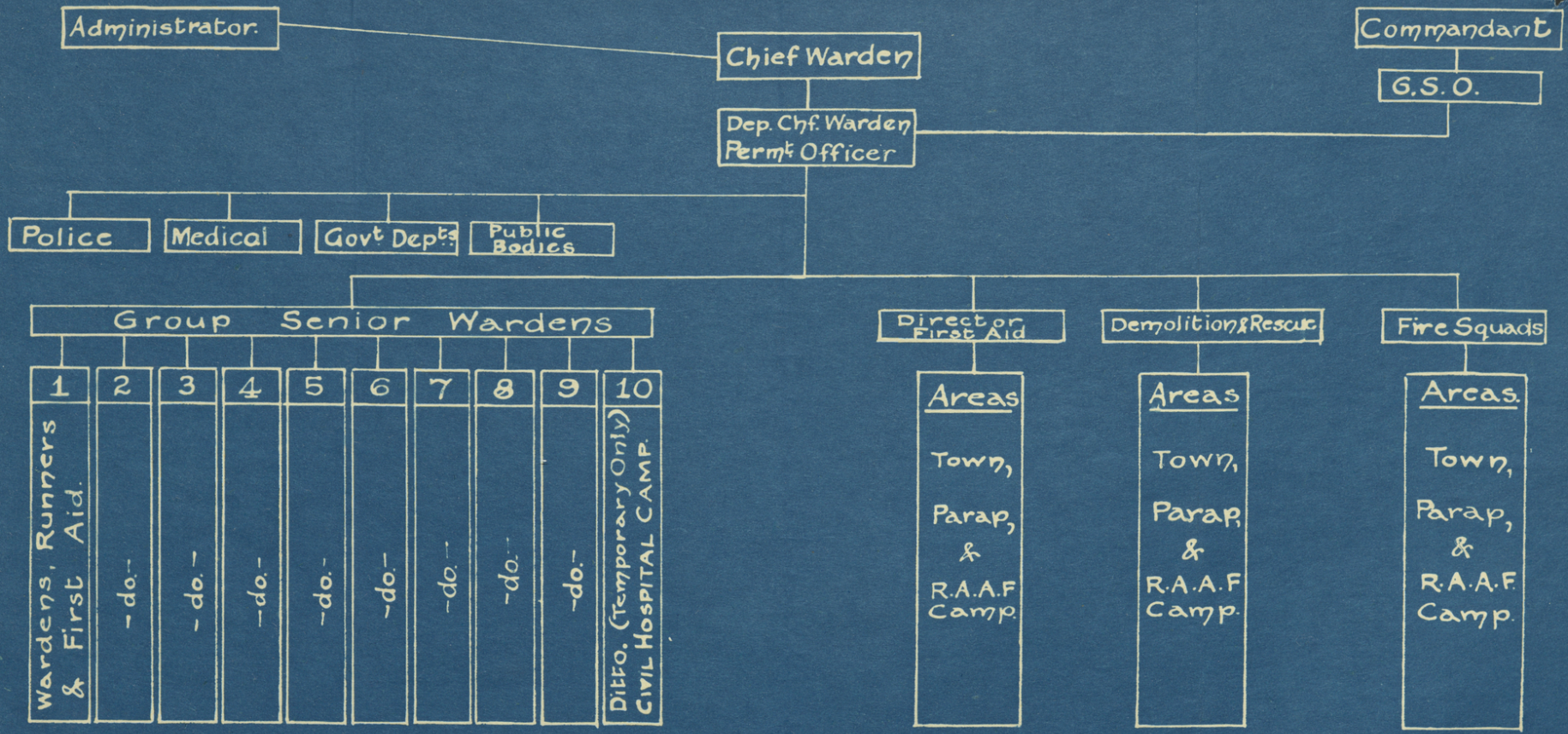
A. R. P. – DARWIN.



A. R. MILLER.
Chief Warden.
E. T. HARRISON.
Dep. Chief Warden.
& Permanent Officer.

Darwin. N. T.
28th July, 1941.

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22

S.M. 4/0

S E C R E T

REPORT BY

DIRECTOR OF EXERCISE

ON D.D.X.M. NO. 17, HELD AT DARWIN

5/8/1941 to 6/8/1941

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K. GENERAL COMMENTS.

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INTRODUCTION

A. This report does not include individual narratives or diaries of events which are peculiar to each service, and which will automatically be discussed by each service. It covers the broad outline of events and general remarks common to all three services, with some special points regarding each.

B. OBJECT OF EXERCISE

1. To test the plans of all three services for the defence of DARWIN.

2. FORCES PARTICIPATING

(i) RED FORCE : (a) Navy H.M.A.S. "BENDIGO" representing six 8-in cruisers.

H.M.A.S. "TERKA" representing accompanying transports.

(b) Army 6 Signallers with 101. W/T. sets.
2 Officers and 16 O.R's.
The whole representing a Bde Gp.

(c) Air Force One flight (3 aircraft) Bomber Rec.
One flight (3 aircraft) Fighter-bombers.
Each flight representing one squadron (12 aircraft).

(ii) BLUE FORCE (a) Navy H.M.A.S. "TOLGA" and H.M.A.S. "VIGILANT" representing 3 cruisers (2 8-in and 1 6-in.)

(b) Army As existing in 7 M.D.

(c) Air Force 6 Bomber Reconnaissance.
6 Fighter-bombers.

C. OUTLINE OF RED FORCE PLAN

1. Object : To capture DARWIN, thus preventing its use to BLUE forces and for future use by RED force.

2. Method : (i) Capture WYNDHAM, W.A., with one 8-in. cruiser, landing marines to capture town and aerodrome. This cruiser to land bombs and aircraft supplies.

(ii) Aircraft to leave carrier, which was to move out of operational area, and use WYNDHAM as a land base for operations against WYNDHAM and BLUE naval and Air Forces.

(iii) The destruction of BLUE Naval and Air Forces.

(iv) After (iii) the landing of the Army to capture DARWIN. This was to take two distinct courses :

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(a) The landing of a Bn. Gp., on the Peninsular between KING'S and MICKET CREEKS, with role of striking through to BLUE L. of C. near KNUCKEY'S LAGOON, and then adopt guerilla tactics to the S.E., with the object of drawing the BLUE Field Force away from the LEE POINT Area.

(b) The landing two hours after (a) in the LEE POINT Area of the Regt. Gp. (less one Bn.Gp.) with the role of striking through the stop line and splitting into two - one Bn. Gp., keeping contact with BLUE Field Force in the vicinity of MARRARA SWAMP; the other striking direct through the NARROWS on to DARWIN.

Coinciding with the second landing, which was within range of BLUE EAST POINT Battery, a RED naval bombardment of the Forts and the WINNELLIE concentration area.

D. OUTLINE OF BLUE FORCE PLAN

1. All BLUE Force plans, with the exception of Naval, whose main role was a set piece, were in accordance with the appreciations and active service plans prepared by each service for operation in a real emergency, and dealt with the forces available in the district.

2. A.C.H. was established at R.A.A.F. Headquarters, R.A.A.F. Station, DARWIN. This was staffed by Naval and R.A.A.F. personnel with a Military officer in continued attendance.

3. C.D.H. was established at Headquarters 7 M.D., LARRAKEYAH BARRACKS, staffed by Military personnel with an Air Force liaison officer present.

4. In brief, the relative functions of A.C.H. and C.D.H., are:

(i) A.C.H. is responsible for location and interception of enemy forces, and protection of trade routes, by Naval and Air Forces, i.e., operations to seaward.

(ii) C.D.H. is responsible for combined measures to meet any attack.

E. GENERAL DESCRIPTION OF EVENTS

1. The exercise opened by N.O.C.D. being informed by telegram from WYNDHAM that an unidentified cruiser was approaching WYNDHAM. No further communication was received from this town.

2. A.C.H. was informed and R.A.A.F. sent out an aircraft to reconnoitre. The report submitted that a RED cruiser had captured the town and aerodrome with marines, and that the RED carrier-borne aircraft had occupied the aerodrome. The RED cruiser was severely damaged whilst leaving WYNDHAM by bombs from the reconnaissance aircraft, but the BLUE aircraft was subsequently shot down by RED air force.

3. From thence onward RED aircraft, operating from WYNDHAM, bombed the following targets:-

R.A.A.F., CIVIL and BATCHELOR Aerodromes;
NAVAL and MILITARY Headquarters,
COONAWARRA, EAST and WEST Wireless Stations;
POST OFFICE,
WINNELLIE Camp Area,
FORTRESS Area.

4. Shortly afterwards the BLUE Navy sighted the RED Navy, accompanied by transports, off BATHURST ISLAND.

5. On Tuesday afternoon, BLUE Navy and Air Force attacked the RED navy, and BLUE Air-force intercepted the RED bombing aircraft.

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6. (i) Losses were assessed as far as possible at conclusion of first day of exercise. Owing to difficulty in transmitting results of each engagement to D.C.E., and no details coming to hand from A.A. defences, a true summary of caulaties could not be arrive at. It is reasonable to assume that RED aircraft would have suffered severe losses from ground defences and air action and that casualties to BLUE would be severe.

(ii) The Naval action was hard to assess. The Red force had a superiority over BLUE, even after detaching a cruiser to WYNDHAM and leaving one for protection of transports, and it is considered that the BLUE Navy was put completely out of action.

7. Under cover of darkness the RED transports approached the coast unobserved. If aircraft had flown at night this might not have happened without observation as it was a clear moonlight night.

8. The A.R.P. Organisation carried out an exercise during the night and various fires and explosions, prepared beforehand, took place. Fires, casualties, etc., were dealt with and a "Black-out" was enforced.

9. At 0220 hours., i.k., on 6th AUGUST, 1941, the first RED landing took place, and during the landing they were judged to have lost 25% in casualties. This would not necessarily have been the case in actual fact as the two guns mounted on the beach would have received considerable attention from RED armoured launches supporting the attack, and their fire would have been masked by smoke.

10. This force met with minor opposition and was able to drive through to just N.E. of KNUCKEYS LAGOON. BLUE Force organised a counter attack during the morning which was adjudged highly successful, resulting in the route of the RED force. It must be borne in mind, however, that this RED Force was halted by the Umpire, and in actual fact could have moved EAST, avoided the full brunt of the counter attack, and continued to a certain extent their original role.

11. The LEE POINT landing was unobserved, although this was due entirely to the small representation of the RED force. A landing of the size envisaged would certainly have been observed. After landing, the RED Force moved on the EAST side of the Peninsula, passed through the stop-line, and penetrated as far as RAPID CREEK, where it was strongly opposed by 2/21 Bn. One Bn. then disengaged and cut through past MARRARA SWAMP on to WINNELLIE. The Commander of the BLUE Force then decided to use his reserve (2/40 Bn.) to counter-attack. 2/21 Bn. withdrew in direction of THE NARROWS, keeping contact with RED Force, 2/40 Bn. counter attacking enemy on his LEFT flank clearing WINNELLIE en route. This counter-attack was most effective. The whole picture on this front was unreal, due to the RED Force not moving on a front commensurate with the force represented. It is doubtful if such a landing would, in actual fact, have passed the stop-line, if the stop-line had been held more strongly.

12. The combined effect of these two land attacks caused R.A.A.F. to decide to evacuate the Aerodrome and move to BATCHELOR, but lack of

transport prevented this from being carried out, although aircraft were able to get away.

13. Sabotage (for exercise) by fifth columnists occurred; the P st Office, Railway Marshalling Yards, Power House and A.W.A. Wireless Station being put out of action, and the water pipeline, jetty and one ship at the jetty being damaged.

F. A.C.H. and C.D.H.

1. A.C.H.

(i) A.C.H. was established at its present situation two days before the commencement of the exercise. The Staff comprised two Naval Officers, two Air Force Officers, continuity officer, Army liaison officer, and four clerks, three of which were provided by Naval Headquarters, None of these personnel, with the exception of one Naval Officer, had any training or experience in A.C.H. work, and under these circumstances, it is considered that results were reasonable.

(ii) Room space was entirely inadequate. The whole of this Staff was functionning in two small rooms and portion of Operations Room.

(iii) It is considered that Signal traffic between A.C.H and R.A.A.F. Operations was too great and should be reduced to a minimum

2. C.D.H.

(i) The organisation for the defence of DARWIN as laid down by the various Boards provides for the establishment and function of C.D.H. This organisation has never before been established at DARWIN, or participated in an exercise. Only two or three requests were received by C.D.H. by the BLUE Air Force, and these were vague and were not the result of consultation between the Officers Commanding the various services.

(ii) C.D.H. communications were not adequate. One message from C.D.H. took over two hours to reach D.O.E.

3. GENERAL

(i) BLUE Navy and Air Force cooperation was complete, due to the fact that A.C.H. Organisation has been in being for a considerable period, even though not established in the one building. This shows that C.D.H. should be established and made to function immediately, otherwise there can be no adequate cooperation between the Army and other services.

G. NAVY (i) Comment on Naval activities is almost impossible due to the unreal naval situation. The taking of WYNDHAM and the landing of troops in the LEE POINT area were set pieces and due to the close proximity of ships, no real reconnaissance could be carried out.

(ii) Look-outs for aircraft on ships appeared to be most efficient as as were defence measures. Such naval tactics as were carried out seemed to be sound.

(iii) The vessels used did not permit of sufficient troops being transported and landed to depict the force represented.

H. ARMY

1. RED FORCE

(i) The general plan of attack was well conceived and the characteristics of out potential enemy were closely studied, and were illustrated as far as possible by the limited representation allowed. The landings and attacks were reasonably portrayed.

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(ii) Both landing parties showed a tendency to advance on too small a frontage for the force represented.

(iii) Both parties showed determination and stamina in carrying out a difficult role, and illustrated that although the country is difficult, it can be traversed by by infantry carrying fairly heavy loads

(iv) The landing party on LEE POINT sector was inclined to carry out evasive action instead of boldly attacking. This evasive action was easily accomplished with the small force and nature of the terrain, but was contrary to the order issued by the commander RED Force, and deprived the exercise of some of its value.

(v) In future exercises it is imperative that a larger force should be employed, and it should receive special training beforehand.

2. BLUE FORCE

(i) The general plans for BLUE Force were fundamentally sound, their actual implementation being adversely affected by difficulties of communication.

(ii) Communications were the weakest portion of the exercise and this was due to :

(a) Insufficient equipment

(b) Wrong use of equipment

(c) Overloading system with inaccurate, vague, wrongly addressed and useless messages.

(d) Wireless is not dependable. Fuller use must be made of runners, cyclists, and despatch riders, as well as line. Long messages are quicker by hand than by line or wireless for short distances. Messages should be as short as possible . For multiple addressees the same number of copies as addressees should be handed in to Signals. Messages must be properly made out.

(iii) The flatness of the country and the scrub prevents observation and normal tactics cannot be applied. Semi-jungle tactics should be evolved and attempts made to effect surprise in defence.

(iv) Camouflage was generally good, but positions were given away by movement and talking.

(v) Intelligence Sections must be more inquisitive and chase information rather than await it. Some attention should be paid to the organisation of sections.

(vi) Air Riaid alarms were not given by all units when hostile aircraft were in the vininity.

(vii) Hy. A.A. Arty., cannot effectively engage aircraft below 1,000 ft. This is the task of L.M.Gs., and rifles.

(viii) Some vehicles did not observe the instructions regarding shading of lamps. Park-lights and tail-lights were left uncovered.

(ix) Only one password should be in use at the one time, unless Field Force becomes entirely separated from Fortress Area.

(x) The standard of efficiency and keeness of troops was of a high order.

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X left flank of narrows is weak.
E Coy to go to another area.
Camp Camp was practically evacuated.
except for "B" echelon & LAD.
LAD was in Scout.

(xi) The fixed defences require better communication and should observe instructions regarding reports. Warnings of hotile aircraft approaching were not given in many cases. The Blackout was not fully observed.

(xii) The covering force flanks appear to be weak and should receive some attention. Their H.Q., H.Q. Coy., and "E" Coy., may receive bombs directed to Civil Aerodrome. PARAP Camp should be completely evacuated in an emergency in view of its vulnerability. Carrier sorties must be treated as patrols to avoid being shot on return by A/Tk. weapons.

(xiii) (a) The Field Force was handicapped in initial stages by the lateness of receipt of the order from Headquarters to move to ALERT positions. Consequently, there was heavy traffic on the road when RED aircraft attack commenced.

(b) Movement to ALERT positions was good and units dispersed well and were generally well concealed from aerial observation. It is questionable whether the extent of dispersion did not throw a considerable drain on communication equipment which could have been used to better effect in forward areas.

(c) The delay in forwarding messages from sub-unit where initial landing took place to Unit H.Q., may have been avoided if signal sections had functioned properly, although generally they worked well considering the volume of traffic.

(d) The move to ALERT positions and sighting of enemy warships indicated that a landing was expected on the night of the 5/6th AUGUST, 1941 and Field Force was warned. All personnel should have therefore, "stood-to" early on the 6th AUGUST, 1941.

(e) Disposition of forward detachments was not entirely effective.

(f) Air support should have been requested.

(g) BATCHELOR Aerodrome was not protected with A.A. weapons.

I. AIR FORCE

1. After the first bombing attack on the aerodrome the Offi er Commanding R.A.A.F., Station, DARWIN was declared a casualty. This step was taken because it was found impossible for Group Captain HEATON to carry out both Officer Commanding, R.A.A.F., Station, and Director of Exercises. As Wing Commander BALMER was at sea in command of RED Force aircraft the command of the BLUE Air Force devolved upon Squadron Leader McDONALD. This officer was new to DARWIN and was unfamiliar with many aspects of the work and terrain, and this should be borne in mind.

2. Taking of WYNDHAM

Establishment of an Air Base at WYNDHAM by RED Force proved to be very feasible, especially in dry weather. Aircraft could be dispersed on clay-pan around aerodrome in such a manner as to render attacks on enemy aircraft abortive. Attempts to render the aerodrome unserviceable were useless because almost the entire clay-pan, some five miles by three, could have been used instead.

3. Disposition of BLUE Aircraft

Aircraft were dispersed to Civil Aerodrome, BATCHELOR and ADELAIDE RIVER. This was considered to be tactically sound.

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(3) (Cont'd)

Towards the end of the exercise, however, when DARWIN aerodrome was considered untenable due to proximity of enemy forces, a tactical mistake was made by sending all the remaining aircraft to one aerodrome (BATCHELOR), where the concentration was successfully attacked by RED aircraft, as aircraft could not be dispersed due to the incomplete state of the runways.

4. Evacuation of Personnel and Equipment to BATCHELOR was practically impossible due to lack of transport facilities. Army at present are unable to assist. BATCHELOR should therefore be always available in working condition, with subsidiary workshops, messing and sleeping facilities and communications and should be adequately defended.

5. Adelaide River

The Aerodrome proved most useful to BLUE force and adequate refuelling facilities for dry weather operations should be available.

6. Transport Facilities.

Transport on BLUE Station was found to be entirely inadequate for Station requirements. Transport was not available for servicing of dispersed aircraft, and armed tender had to be taken off Aerodrome Defence to bring bombs from the Store house at FRANCIS BAY.

7. Operation of RED and Blue Air Force.

(i) RED AIR FORCE

Tactics were good, targets well selected and attacks well planned and executed, and it was obvious that much damage was done to R.A.A.F., Aerodrome and other targets.

(ii) BLUE AIR FORCE

Defending actions and attacks were considered to be well planned and executed. Bombing of RED cruisers was considered to be correct, but heavy losses to BLUE aircraft could reasonably be expected. BLUE stand-by flight (Wirraway) was airborne in many cases with one minute of the alarm sounding and they carried out their role effectively and most efficiently.

8. Conduct of BLUE Air Force Plans Policy

(i) It is obvious that the aerodrome is vulnerable to attack and would be badly damaged. BLUE Air Force should therefore be placed on a mobile basis as far as possible and transport provided.

(ii) It was apparent that existing BLUE Air Force was entirely inadequate to deal with opposing forces unless reinforced by further squadrons.

(iii) Dummy aircraft on BLUE aerodrome were not used to best advantage. These aircraft should be placed adjacent to gun posts in order to bring attacking aircraft within range of ground defences.

(iv) Separate fire alarms should be provided. Present alarm is too inflexible to provide all necessary signals.

9. GENERAL

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Officer Commanding, R.A.A.F., Station,
DIRECTOR OF EXERCISE.

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DARWIN, N.T. 15/8/1941

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S.M.

B.155/8/41.

From..... The Commanding Officer, H.M.A.S."Platypus".

To..... The Naval Officer in Charge, Darwin.

Date..... 5th. August, 1941.

Subject... RECONNAISSANCE OF BYNOE HARBOUR.

SECRET

With reference to your message time of origin 1836/22nd. July, I have to report that on 29th. July, 1941, I investigated the head of Bynoe Harbour with a view to assessing its value to:-

(1) The enemy

(2) Our own forces

as a point for the disembarkation of troops etc.

At 0830 I proceeded in H.M.A.S."Vigilant", commanded by Lieutenant Roberts, Royal Australian Naval Reserve, towards the head of the harbour. Accompanying me were Lieutenant-Colonel Thompson of the Darwin Infantry Battalion, Major MacKinnear, four other Officers, one Warrant Officer and two Sergeants.

After passing the surveyed area, (Rankin Point, Chart No.F.010, "Moresby", 1935) observations were taken to decide how near to a suitable beach on Cox Peninsula a fair sized ship could be taken with a view to landing troops, guns etc.

Lines of soundings in zig-zag fashion were run using t the Echo sounding gear but after arriving at a position 2 miles east of Rankin Point it became obvious that

(a) Either a shallow bar existed or,

(b) The remainder of the head of the harbour to the eastward was shallow all over.

"Vigilant" was therefore taken back to the westward and anchored about 1½ miles East South East of Rankin Point in 7 fathoms at low water.

At 1100 in company with Colonel Thompson and his party I landed on a Sandy Beach on Cox Peninsula at a point bearing 065° Mag. approximately from "Vigilant" distance 1½ miles.

Three reconnaissance parties left this beach at 1220 with orders to fan out on certain bearings and after investigating the hinterland to return to the landing beach by 1500.

Two of the parties had returned by 1500 but one comprising Warrant Officer Hornby and Sergeant Weber had not at that time appeared.

By 1545 both Colonel Thompson and I began to get alarmed, more especially as we were informed that both the men were thoroughly reliable pioneers. At 1610 leaving a party of four ashore I returned to "Vigilant" and on a rising tide weighed and proceeded towards the landing beach, anchoring in 3 fathoms at 1652.

A small search....///

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A small search party was then landed at 1700 and a Socket sound signal fired. The ship's foghorn was also blown periodically. Either of these sounds should have been heard at least three miles away.

At 1845 the party from the shore returned when it was decided to land Major MacKinnear and two Sergeants with supplies, their orders being to camp on the beach and keep two large fires going. This party was landed at 1900.

At 1930 "Vigilant" weighed and proceeded seaward. On sighting "Tolga" a signal was sent ordering search parties to be organized. At 2100 "Vigilant" was secured alongside "Tolga". During the passage from Knife Island to "Tolga" I conferred with Colonel Thompson regarding steps to be taken to recover the missing men and as a result the signal Time of origin 1400Z/29 was dispatched. This was somewhat "long-winded" but was framed in such a way that no doubt as to its purport could be in the minds of those to whom it was addressed.

At 0345/30th. a strong search party supplied from "Tolga", "Bendigo" and "Tepka" boarded "Vigilant". Surgeon Lieutenant Armstrong and two Sick Berth Attendents and all appliances embarked also.

In view of the Army Officers being so emphatic that both the lost men were "Star turns", there was only one conclusion to be arrived at to account for them being missing; this was that one had been injured in some way and the other would not leave the injured man.

At 0400 "Vigilant" proceeded, towing whaler from "Bendigo".

The early commencement of the search was prompted by the fact that it was known that each man had only one water bottle and also that the search should be started in the cool of the day if possible. The sand flies had been appallingly attentive in the afternoon and it had been abnormally hot the day before which made it probable that the men might be out of drinking water.

At 0530 "Vigilant" came to with starboard anchor in 5 fathoms off Knife Island.

At 0635 Colonel Thompson and search party were landed and an organized search over a front of 1500 yards commenced. The missing men were found at 0720. Though somewhat "rattled" by their experience they were none the worse for their night out in the bush, their explanation being simply that they had lost themselves.

At 0810 Royal Australian Airforce Training machine flew over "Vigilant" and proceeded on bearing 065° for search.

At 0917 all search parties were re-embarked and "Vigilant" proceeded back to "Tolga" arriving alongside at 1040/30.

My deductions from this reconnaissance as far as survey work is concerned are:-

1. As already mentioned the area east of Knife Island would appear to be too shallow for ships of any size to anchor except for periods when the tide would suit.

2. The deep soundings marked on Chart F.010, obviously taken many years ago (possibly "Geranium" 1921), would appear to indicate a channel that exists at low water and probably being only wide enoughtfor a small craft to use.

3. The general coastline is hopelessly inaccurately charted.

My recommendations are:-

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1. The coastline of Cox Peninsula and the hinterland to be photographed by the Royal Australian Airforce as far as 4 miles to the eastward of Rankin Point. Photographs to include the southern shore and to be taken at low water springs.

2. If a survey of this area is desired a small triangulation could be carried out extending from the Trig Station at Rankin Point and the Trig Station just opposite to the Eastward, the area being then sounded out by "Vigilant" having due regard to her safety as indicated by the depth of water ruling during sounding operations.

3. The time required to carry out this work would be ten days at the outside.

I wish to comment on the part played by Lieutenant Roberts, Royal Australian Naval Reserve, H.M.A.S."Vigilant" in connection with these operations. This Officer handled his craft in a confident manner and was of the greatest assistance to me during the operations. He took his craft up to the head of Bynoe harbour at nine knots in the pitch dark without ever easing down. Though I was on deck during this period I did not at any time have to interfere or give advice in any shape or form. It was a passage that even I, as an old navigator, would have been proud of having undertaken.

Harry T. Bennett

Commander R.N.

Copies to:-

Colonel Thompson,
Darwin Infantry Battalion.

The Commanding Officer
H.M.A.S."Vigilant"

SECRET

P.M 34.

D.I.B

DIRECTOR'S ASSISTANTS' PRELIMINARY REPORT ON COMBINED DEFENCE EXERCISE

OBJECT OF EXERCISE

1. To test the plans of the three Services for the defence of DARWIN.

2. FORCES PARTICIPATING

RED FORCE - Navy		H.M.A.S. "BENDIGO" representing six 8-in. Cruisers H.M.A.S. "TERKA" accompanying Tpts.
	Army	6 Signallers with 101 W.T. Sets 2 Offrs. and 16 O.R.s representing a Bde. Gp.
	Air Force	One flight (3 aircraft) Bomber Recce. One flight (3 aircraft) Fighter Each flight represents One Sqn. (12 Aircraft)
BLUE FORCES		
	Navy	H.M.A.S. "TOLGA" and H.M.A.S. "VIGILANT" representing 3 Cruisers (2-8" and 1-6")
	Army	As existing in 7 M.D.
	Air Force	6 Bomber Recce. 6 Fighters

3. OUTLINE OF RED FORCE PLAN

i. The object of the RED attacking force was to capture DARWIN, thus preventing its use to BLUE forces as a Naval fortified refuelling base, and for its future use by RED forces.

ii. The method, in general, for carrying out this task was:

(a) To capture WYNDHAM, W.A. with one 8-in. Cruiser, landing marines to capture town and aerodrome. This Cruiser to land bombs and aircraft supplies.

(b) Aircraft to leave carrier, which moved out of operations area, and use WYNDHAM as a land base for operations against DARWIN and BLUE Navy and Airforce.

(c) The annihilation of BLUE Naval and Air Forces

(d) After (c) the landing of the Army to capture DARWIN. This was to take two distinct courses:

i. The landing of a Bn. Gp. on the peninsula between KINGS and MICKET CK. with the role of striking through to BLUE L. of C. near KNUCKEY'S LAGOON and then adopt guerilla tactics to the S.E. with the object of drawing the BLUE Field Force away from LEE POINT area.

ii. The landing two hours after the first in the LEE POINT area of the Regt. Gp. (less one Bn. Gp.) with the role of striking through the stop-line and splitting into two - one Bn. Gp. keeping contact with BLUE FIELD Force in vicinity of MARRARA swamp, the other striking land through the NARROWS on to DARWIN.

Coinciding with the second landing, which was within the range of the BLUE East Point Bty. a RED naval

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bombardment of the forts was to take place, and also a naval bombardment of the WINNELLIE concentration area.

4. GENERAL DESCRIPTION OF EVENTS

The exercise opened by N.O.C.D. being informed by telegram from WYNDHAM that an unidentified cruiser was approaching WYNDHAM, no further communication was received from WYNDHAM.

5. A.C.H. was informed and R.A.A.F. sent out an aircraft to reconnoitre. The report submitted showed that a RED Cruiser had captured the town and aerodrome with Marines and that the RED carrier borne aircraft had occupied the 'drome. The RED cruiser was severely damaged whilst leaving WYNDHAM, and BLUE aircraft was subsequently shot down by RED airforce.

6. From thence onward RED aircraft, operating from WYNDHAM bombed the following targets:

R.A.A.F., CIVIL and BATCHELOR Aerodromes.
Naval and Military Headquarters.
COONAWARRA, EAST and WEST Wireless Stations
Post Office.
O.F.I.
WINNELLIE Camp Area
FORTRESS area

7. Shortly afterwards the BLUE Navy sighted the RED Navy off BATHURST IS. Transports accompanied the RED Navy.

8. Throughout Tuesday afternoon the BLUE Navy and Air force attacked the RED Navy, and BLUE Airforce intercepted the RED bombing aircraft.

9. The results of the afternoons fighting was assessed as

RED FORCE

Naval Losses	1 Cruiser (8" Nati Class)	sunk.
	2 Cruiser (" " ")	damaged.
Air Losses	2 Wirraways 1 Hudson shot down.	

BLUE FORCE

Naval Losses	1 cruiser (8" Australian Class)	sunk.
	1 " (6" Sydney or Perth Class)	sunk.

10. The losses shown were minimum confirmed losses. Owing to difficulty in the transmission of full details of each engagement by umpires, and no details coming to hand from A.A. Defences, a ture summary of casualties could not be arrived at. It is reasonable to assume that RED aircraft would have suffered severe losses from ground defences and aircraft action.

The Naval position was hard to assess. The RED force had a superior force, having detached only two of their cruisers, - one for WYNDHAM, the other for protection of transports, but it is considered that the BLUE Navy was completely put out of action.

11. Under cover of darkness the RED transports approached the coast unobserved. If aircraft had been ~~allowed to fly~~ flown at night this could not have happened without observation as it was a clear moonlight night.

12. A.R.P. organisation organised an exercise during the night and various fires and caposious prepared by them took place. Fires, casualties etc. were dealt with and a "black-out" was enforced.

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13. At 0220 hrs I.K. 6 Aug. 41 the first RED landing took place. During the landing the force was judged to have suffered 25% casualties. This would not necessarily have been the case in actual practise as thetwo guns which were sited on the beach would have certainly received considerable attention from RED armoured launches supporting the attack and this fire would have been masked by smoke.

14. This force met with minor opposition and was able to drive through to just N.N.E. of KNUCKEY'S LAGOON. BLUE force organised a counter attack during the monring which was considered highly successful and the RED force were judged to be completely routed. It should be borne in mind however that this RED force could have withdrawn EAST and the BLUE counter-attack would not have completely routed the enemy, and their object may have been fulfilled.

15. The landing at LEE POINT was unobserved, although this was due to the small representation of the RED force. A landing af the size envisaged would certainly have been observed. After landing the RED force moved down the EAST side of LEE POINT peninsula passed through the stop line and penetrated as far as RAPID CK. where it was strongly opposed by 2/21 Bn. One BN RED Force then disengaged and cut through past MARRPRA swamp to WINNELLIE Camp.

23 Aust. Inf. Bde. then decided to take strong offensive action, ordered 2/21 to withdraw towards the narrows keeping the RED Bn, opposing it, in close contact, and ordered 2/40 Bn to attack through WINNELLIE on the LEFT flank of the RED force.

The attack by 2/40 Bn on a two Coy. front supported by carriers on the flanks was carried out most effectively, WINNELLIE being cleared, and the RED force being caught between 2/21 Bn and 2/40 Bn.

The picture on this front was unreal due to the enemy not moving on a frontage commensurate with the force represented.

It is extremely doubtful if this landing would have proceeded, in actual fact beyond the stop line, if the stop line had had more troops on it.

16. The combined effect of these land attacks caused R.A.A.F. to decide to evacuate th aerodrome, but lack of transport made this impracticable, although aircraft were able to get away.

17. Sabotage (for Exercise) by fifth Columnists occurred during the exercise, the Post Officer, Railway Marshalling Yards, Power House, and A.W.A. Wireless station being put out of action, the water pipe line, Jetty, and one ship in at wharf being damaged.

GENERAL COMMENTS.

1. WYNDHAM has no force protecting it and could easily fall into enemy hand. This can be used as a land base for aircraft attacking DARWIN, and also as a base for the despatch of a force to cut the L of C N DALY WATERS, via VICTORIA DOWNS. It has a good harbour and wharf and has supplies of fuel and food.

2. The BLUE Navy was not strong enough to defeat the RED Navy and prevent their approach.

3. The BLUE Airforce was able to carry out its task successfully although for proper recce it was insufficient. There was no army air cooperation squadron available for spotting or close recce.

4. Communication between forward detachments of the Army and their headquarters is inadequate and should be duplicated. Sufficien attention is not paid to beach watching.

5. Once the RED Force had landed, the close scrub prevents adequate artillery support and irrespective of the size of the forces, visibility and intercommunication is so poor, it is considered that the result of land battles would be most obscure.

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6. The stop line should be used as a stop line and should be strengthened.

The stop line should be occupied for its whole length. Furthermore it should be patrolled constantly now to prevent it being cut.

7. The wisdom of leaving small parties of personnel isolated in the scrub about the middle of the peninsula is questionable as, without means of communication, they are apt to be surrounded, and the whole force beaten in detail.

8. The Brigade H.Q., by keeping its reserve Battalion out of action until the position became clarified and stabilised, is to be commended, as the proper use of this reserve saved the situation.

9. The disperaion of troops and vehicles against air observation was on the whole very well carried out.

10. 7M.D. M.T. Coy., being under strength, was not able to function properly although the Coy. carried out its role well despite this.

11. When the RED land forces were approaching BLUE L of C it became obvious that R.A.A.F. should evacuate the aerodrome and move to BATCHELOR.

The transport available to R.A.A.F. was insufficient to evacuate all ground personnel, sick, wounded, stores, ammunition, fuel, and bombs, and H.Q. 7 MD. was approached for M.T. to lift these personnel etc.

As all vehicles of 7 M.D. were working to their full capacity, H.Q. 7 M.D. could not release them, and consequently if RED forces had broken through a large amount of fuel, food, stores, bombs and ammunition would have fallen into their hands.

12. The guarding of vulnerable points such as Post Office, Power House, A.W.A. Wireless Station, Railway Marshalling Yards, points etc., requires some attention. The impracticability of guarding all these points by service personnel calls for action to ensure that the staff at each of these places is formed into a V.D.C. or Home Guard.

It is understood that efforts have been made to produce a V.D.C. from RSSILA Members and Rifle Club without immediate prospects of success, but it is felt that if each organisation responsible for these vulnerable points provided guards for their own establishments the formation of a V.D.C. would not be so difficult.

REMARKS ON CONDUCT OF EXERCISE.

1. Any instructions issued by Directing Staff must not be cancelled or altered without reference to the Director.

2. The lack of separate channels of communication, due to shortage of equipment, caused umpires reports to Director to overload the normal channels and also to arrive too late to be of real value from a directional view point.

3. The total lack of information from umpires of all sources with the exception of those with the Field Force, and covering force.

4. Differences in Services' signal proceedures must be studied by the Headquarters of all three Services.

5. Before future exercises, the umpires for the exercise should be schooled, at a course of instruction, in the full details of the exercise.

6. The signal traffic was particularly heavy and a large number of messages were ambiguous, inaccurate, and did not conform to any service procedure.

Messages must be reduced to essentials.

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7. Only one password should be used in the area at one time and this should not be notified to units over open line in clear.

8. All troops taking part were not fully equipped for action.

9. Iron rations were not issued to individuals.

10. No demands were made by any commander for aircraft for Arty. spotting or observation.

11. All headquarters were not kept informed of actions in sufficient time for the information to be of any value.
Information must be accurate and in time to be of value.

K. E. Mueller.
Major
Assistant to D.O.E.

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SECRET

AUSTRALIAN MILITARY FORCES - 7TH MILITARY DISTRICT.

COMBINED EXERCISES - 5.6.7. AUGUST.

1. OBJECT:- To test the plans for the defence of DARWIN.

2. DURATION OF EXERCISE.

From:- 1200 hrs. Tuesday 5 Aug. 41.
To:- 1800 hrs. Thursday 7 Aug.41.

3. CONTROL AND COMMAND.

(a) Control will be exercised as follows:-

DIRECTOR:- Group Captain C. EATON, A.F.C.,R.A.A.F.
Assistant to Director:- Major K.E. WHEELER, Aust. Staff Corps.
CHIEF UMPIRE:- Lt.Col. A.L. ELLIOTT, General Staff, 7 M.D.

UMPIRES:-

FIXED DEFENCES:-
(a) Hy.Arty. To be nominated by C.F.D.
(b) A./A. " " " " " .

COVERING FORCE:- To be nominated by 23 Aust.Inf.Bde.

FIELD FORCE:-
Bde.H.Q. To be nominated by 23 Aust.Inf.Bde.
2/21 Bn. " " " " " " " "
2/40 Bn. " " " " " " " "
2/3 Pnr.Bn. " " " " " " " "

A.A.M.C. To be nominated by A.D.M.S.

List of Umpires to be forwarded to Director (C.O.R.A.A.F.) with copy to 7 M.D., by 31 Jul.

Umpires will wear 4" WHITE Armbands on each arm.
Special instructions for umpires will be issued separately.

(b) Command will be exercised as under.

A.C.H. at R.A.A.F. will issue directions and information to all services; C.D.H. being the headquarters controlling the Army.

C.D.H. under the Commandant's direct control will exercise command over all units in the District. C.D.H. will issue such orders and directions, as are necessary to meet the situation, through:-

(a) Comd. Fixed Defences.
(b) Comd. Covering Force.
(c) Comd. Field Forces.
(d) Heads of District Services.
(e) A.R.P. representative at C.D.H.

Positions at the outset will be in accordance with the plans contained in "Appreciation and Plan for Defence of Darwin" issued on 10 Jul 41.

4. TROOPS TAKING PART. (BLUE FORCE.)

All units in 7 M.D., Dress:- Fighting Order.

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5. ENEMY. (RED FORCE.)

Will be represented by:-

Comd.:- Lt.Col. W.W. INGRAM, M.C., A.A.M.C.
2 i/c:- Lt. S.L.M. ESKELL, Sta ff Corps.
Six Signallers from 7 M.D., Sigs. with 3 101 W/T. Sets.

In addition not more than two officers and twelve other ranks may be detailed to augment this force.
Umpires may "convert" BLUE casualties into RED tps. if the occasion warrants it.
Enemy Bn. Groups will carry 1 large RED flag. Enemy Coys., will carry large BLUE flags.

DRESS. Suits Khaki W.D., and HELMETS STEEL with WHITE rising sun on front.

6. AMMUNITION AND FIREWORKS.

(a) All .303" S.A.A. BALL will be withdrawn, from personnel participating in exercise and unit Comds. will be personally responsible for seeing that this is effected: a certificate being rendered by each unit, through normal channels, to reach A.C.H. by 1200 hrs 5 Aug. 41.

(b) Troops will be issued with blank ammunition etc., on the following scale:-

RED FORCE, (Enemy.)

Cartridges S.A.Blank 303 L.MK.V.	1,000
" Sig. green 1" MK.VI	10
Candles Smoke ground experimental	6
Thunderflashes (Aldershot grenades)	10
" Brassards.	3
Generators Smoke No.5.MK.I.	1
Cartridges Sig.Red 1" MK.I.	10

BLUE FORCE.	Fixed Defences	Covering Force.	Field Force.
Cartridges S.A.Blank 303 L MK.V.	1,000	3,000	15,000
" Sig.Green.1"MK.VI.	10	10	70
" " Red. 1" MK.I.	10	10	70
Candles Smoke ground experimental	-	4	30
Thunderflashes (Aldershot Grenades)	-	10	40
" Brassards.	-	3	14
Generators Smoke No.5.MK.I.	-	5	19

Copy passed to Q.M. for this Bogan 18/8/41

Units will requisition C.O.O., Urgent, for these stores.

7. MESSAGES.

All messages in connection with the exercise will contain, as the first two words of the text, the words "FOR EXERCISE". CODE names will be used throughout.

8. TIMES.

All timings below C.D.H. will be local times. e.g. 1400 IK, (IK denoting time zone.)

9. BLACKOUT.

(a) In conjunction with the exercise a blackout for a radius of 30 miles from DARWIN P.O. will be held at the following times:-

5 Aug. 41. 2110 IK - 2130 IK.
6 Aug. 41. 0001 IK - 0430 IK.
7 Aug. 41. 0001 IK - 0430 IK.

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(b) Night Discipline will be carried out throughout the whole exercise, the blackout times being given for Civil Population and fixed services only.

(c) ALARMS, for commencement of BLACKOUT:-

(i) DARWIN TOWN and immediate environs:-

(a) Continuous sounding, for 3 minutes, of SIRENS at VICTORIA HOTEL, CIVIL and R.A.A.F. Aerodromes and MYILLY POINT Water tank.

(b) Rapid beating for .3 minutes of GONGS at H.Q., of each senior warden.

(ii) LARRAKEYAH.

Continuous Sounding of SIREN situated on top of Staff Corps Officers' Mess Water Tank, for two minutes.

(iii) MISCELLANEOUS.

OVAL	Sounding of DARWIN Sirens.
OIL TANKS	" " " "
PARAP, VESTEYS, BAGOT	Larrakeyah Switch.
ELLIOTT POINT.	" "
McMILLANS	" "
EAST POINT & FIRE COMD.	C.F.D.'s direct phone.
DUDLEY & EMERY POINTS	On Comd.Line from F.C.
SHELL & PLUME DEPOT.	Road Patrol.
WINNELLIE & NOONAMAH.	By 23 Aust.Inf.Bde.

(d) All clear on Sirens will be two long soundings.

(e) Air Raid Alarms will be as in (c) above except that the soundings will be for periods of ½ a minute with ½ minute intervals.

10. TOWN PICQUET.

The town picquet will be maintained throughout the nights of 5th and 6th August and will maintain a constant watch over all property, in conjunction with the N.T. Police, throughout the blackout hours.

11. TRAFFIC ROUTES to and from DARWIN.

(a) ROUTE IN:- Via DALY ST., BRIDGE - DALY ST., and by either CAVANAGH ST., OR SMITH ST..

ROUTE OUT:- MITCHELL ST., or ESPLANADE - McKAY ST., - LAMBELL TERRACE - GILRUTHS NECK - VESTEYS - MAIN SOUTHERN ROAD.

(b) TRAFFIC CONTROL POSTS will be provided as under:-

R.A.A.F. Corner - Supplied by D.A.P.M., 7 M.D.
DALY ST., BRIDGE - " " " "
Road junc. DALY & MITCHELL STS.
" " PACKARD & MITCHELL STS. " " "
Junc. of road from VESTEYS. " " "
and MAIN SOUTHERN RD. " " "
Junc. of BAGOT And MAIN SOUTHERN ROAD. " " "

23 Inf. Bde., will supply their own Traffic Control Points in their area of operations.

12. REALISM.

All Comds. will strive to make the exercise as realistic as possible, despite the shortage of training, ammunition and fireworks, otherwise the value of the exercise will be negligible

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13. ANTI-MOSQUITO MEASURES.

(a) R.A.F.'s will draw supplies of repellant and curative material for mosquito and sandfly bites.

(b) Troops having long sleeved shirts will wear their sleeves down after sunset and till sunrise. All troops will be warned to keep their knees covered as far as possible against bites. These precautions must be taken to avoid actual casualties from fever at a later date.

14. SUPPLIES.

(a) All bulk DRY RATIONS will NOT be transferred from VESTEYS as shown in A.A.S.C. plan., although vehicles and men, which could normally carry this duty out, will be kept at VESTEYS for the time that it would normally take to clear them. Only DRY RATIONS for the duration of the exercise, will be transferred.

(b) Personnel detailed to requisition private supplies in Civilan establishments, will visit the establishments, that would be required to furnish the supplies in an emergency, and obtain a list of the stocks held, and estimate the total stocks that would be available and the prices to be paid. NO supplies will be requisitioned but the officer concerned will acquaint the shopkeeper etc., with the procedure in an emergency.

(c) Lorries and personnel required for civil rationing in an emergency will carry out this function during the exercise, (without rations.)

(d) Generally speaking only rations, fuel etc., required for the duration of the exercise will be moved and no requisitioning or impressment will take place.

15. VULNERABLE POINT GUARDS.

As far as is possible troops will avoid vulnerable points, but units providing guards for these points will warn the guards that the exercise is in progress, and that any personnel, entering their area for the purpose of the exercise, will carry the usual pass or a certificate signed by the Chief Army Umpire.

16. CASUALTIES.

Special cards have been prepared and Umpires will distribute "Casualties" according to the situation at the time.
Casualties will be dealt with in accordance with the A.A.M.C. Plan.

17. UMPIRES DECISIONS.

Umpires decisions must be abided by in all cases. Umpires will not direct units as to the action they must take but will explain situations and give decisions as to the result of action by both sides. Umpires messages to the Chief Umpire will be treated as "urgent".

29 JUN 41

H. E. Wheeler Major
for Lt.-Col.,
General Staff, 7th Military District.

DISTRIBUTION:-

23 Aust.Inf.Bde.	20	C.F.D.	4	O.C.	
D.I.B.	3	C.R.E.	3	N.O.C.C.D.	2
Comdt.	1	Sig.Offr.	1	D.A.P.M.	1
"G" Branch.	5	A.D.S.&T.	3	R.A.A.F.	2
"A" "	2	A.D.M.S.	1	File.	1
"Q" "	5	S.O.M.E.	1	Spare.	7

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SECRET

COPY NO. 22

OPERATION ORDER NO. I

4 August '41.

I. INFORMATION

A Combined Services Exercise will be carried out between 1200 hrs. 5 Aug. '41 and 1700 hrs. 7 Aug. '41, to test DARWIN DEFENCES.
ENEMY:- RED FORCES operating from TIMOR, intend attack and occupation of PORT DARWIN with view to capture OIL FUEL SUPPLIES, and denial to our FORCES (BLUE FORCES) further use of the BASE during hostilities. Details of ENEMY strength as already stated at C.O.'s Conference.
OWN TROOPS:- DARWIN INFANTRY BATTALION less SECURITY GUARDS.

2. INTENTION

(a) Occupy and defend the NARROWS.
(b) Occupy and defend the CIVIL AERODROME.

3. METHOD

(a) A Coy will man and control all SECURITY GUARDS as laid down, and will have services of UNIVERSAL SERVICE PERSONNEL and existing GUARDS at W/T STATIONS supplied at present by B. Coy.

(b) B and C Coys plus ONE Mortar Detachment each will occupy prepared DEFENCE LINES at the NARROWS, B. Coy on the LEFT and C Coy on the RIGHT.

D Coy will take up DEFENSIVE POSITION at CIVIL AERODROME.
E Coy less ONE L.A. Section will be in reserve at 805120
ONE L.A. Section from E Coy. will be detached and come under the command of C.R.A. LAST POINT.
TROOPS will be in position and COMMUNICATION established by 1200 hrs. 5 Aug. '41 when EXERCISE will commence.
A ECHELON will move to selected BATTALION POSITIONS not later than 1000 hrs. 5 Aug. '41. R.S.M. will supervise move from PARAP and take charge of the BATTALION ORDERLY ROOM at BATTLE H.Q. 806118.
B ECHELON will remain at PARAP under command of MAJOR W.F. MASTER M.C.

4 ADMINISTRATION

See Appendix A.

5 INTERCOMMUNICATION

(a) All MESSAGES will bear the prefix "FOR EXERCISE". Code Names will be used for duration of EXERCISE as follows :-

BN. H.Q.	GEFA
A COY.	HARO
B COY.	GRBO
C COY.	JONO
D COY	CARO
E COY.	FUTO
SIGNALS	FOCO
283 L.A.D.	WODU
B ECHELON	MASO

(b) W/T Sets No.108 will be manned by SIGNAL DETACHMENTS allotted to COMPANYS etc. as follows :-

C COY.	I
E COY (In Reserve)	2
BN. H.Q.	I

(c) LIGHT SIGNALS will be advised to Os.C. Coys.
W/T Frequencies as allotted by CHIEF SIGNAL OFFICER.

(d) TRAFFIC ROUTES TO AND FROM DARWIN
ROUTE IN:- DALY ST. and DALY ST. BRIDGE and thence via CAVANAGH ST. or SMITH ST.
ROUTE OUT:-MITCHELL ST. or ESPLANADE, McKAY ST., LAMBELL TERRACE, GILRUTH NECK, VESTEY'S MAIN SOUTH ROAD.

Acknowledge

Capt. Staff Corps
Adjt. Darwin Inf. Bn.

Method of Issue.
Time of Signature. 14.30 hrs

Commander of Covering Forces	(2)	T.O.	1
Chief Umpire " "	(1)	B Coy	1
C.R.A.	1	C Coy	1
C.O.	1	A Coy	1
2 i/c	1	E Coy	1
Adjt.	1	H.Q. Coy	1
Q.M.	1	283 L.A.D.	1
M.O.	1	W/Diary	1
I.O.	1	File	1
R.S.M.	1		

AUSTRALIAN WAR MEMORIAL AWM2020.71.8842

SECRET

APPENDIX "A"

ADMINISTRATION

(a) Security Guards Guard Commanders at all vulnerable Points are to be warned that this exercise is in progress. As far as possible troops will avoid vulnerable points, and where necessary to enter such areas, will be in possession of a pass signed by CHIEF ARMY UMPIRE.

BALL AMMUNITION will be retained by Guards. U.S.Personnel will not be issued with BALL AMMUNITION.

(b) UMPIRES:- Umpires will be distinguished by a 4in. white armband. CHIEF UMPIRE COVERING FORCES, Major R.A.CAMPBELL, 2/40 Bn.

Allotment of unit Umpires will be as folbows:-

Capt. C.S.Harrison	"B"Coy
Lieut L.J.Jones	"C"Coy
Capt. A.C.Baldwin	Bn.H.Q. and Reserve.

Umpires will be included in ration state by Coys to which allotted.

Umpires' decisions will be final and must be abided by in all cases.

(c) SCREENS

Each Coy will carry one RED and one BLUE screen per platoon, which will be made available to Umpires when asked for/

(d) TRANSPORT

For duration of Exercises, T.O. will make available one 30cwt. lorry per Coy, for rations and baggage. One 30cwt. lorry and one Utility to "A" Echelon. C.O's car at Bn.H.Q. D/R's under command of Signal Officer. Remainder of Bpt. will remain with "B" Echelon at Parap.

(e) RATIONS

Troops will move out of Parap with unconsumed portion of day's rations on the man. Evening meal (hot) will be delivered to Coy Areas at night with dry rations for following day. When submitting ration states to Battle H.Q. for communication t.. "B" Echelon, Coys will include any attached personnel/

(f) AMMUNITION AND FIREWORKS

All .303in. S.A.A. BALL will be withdrawn before moving out of camp, and O's.C.Coys will render a certificate to this Bn.H.Q.(parap) by 0900 hours 5 Aug'41.

Blank Ammunition will be issued at 1600 hours 4 Aug'41 on the following basis:-

"A"Coy	1000 rounds
"B","C","D" Coys	500 rounds each
HQ.Coy	500 rounds

Cartridges Signal Green 1IN. Mk.1 2 per Coy incl. H.Q.Coy
Cartridges Signal Red 1in. Mk.1 2 per Coy incl. H.Q.Coy
Smoke Candles Ground Experimental:-

"B"Coy	2
"C"Coy	2

(Thunderflashes 10, Thunderflashes Brassards 3,) Capt. C.S.
(Generators Smoke No. 5 Mk.1 5.) Harrison

Pistols Signal No. 1 Mk.III. Drawn on signature from H.Q. Coy by "B", "C", & "D" Coys.

OPERATION SIGNALS to be arranged by Coys with Battle H.Q.

(g) BLACKOUTS

In conjunction with the exercise, Blackout tests will be carried out as follows:-

5/6 Aug'41.....	2110 hours	to	2130 hours
"	0001 "		0430 "
6/7 Aug'41.....	0001 "		0430 "

O.C. "B" Echelon will take necessary action on alarm at Parap.

Coy and Detachment Commanders will be responsible for extinguishing and/or screening of lights during exercise. and maintenance of night discipline throughout.

ALARM Alarm Signals at commencement will be a continuous sounding of a siren for three minutes.

ALL CLEAR two long soundings on siren.

AIR RAID ALARMS will be as above except that periods of sounding

AUSTRALIAN WAR MEMORIAL AWM2020.71.8842

of sounding will be for half-minute with half-minute intervals.

SECURITY GUARDS will conform to all the above Signals particular attention being paid to cigarettes.

(h) REPRESENTATIVES (amplifying INTARMATION para)

RED TROOPS (ENEMY) wearing working dress and steel helmets with white rising sun painted on them.

ENEMY AIRCRAFT distinguished by tail unit painted white. Dives on troops by enemy aircraft (not under 500 ft.) represent machine-gunning. Bomb doors open in enemy aircraft ; bombing.

FIRE Artillery umpires will advise.

M.M.G.:- Yellow flag and rattles.
I.M.G.:- White flag and rattles.
Rifle fire:- Red Flag
Grenades:- Thunderflashes.

CASUALTIES

Labels distributed by Umpires.

(i) R.A.P R.A.P. will be maintained at Parap Camp under supervision of Capt. Holt as from 5 Aug'41 to completion of exercise. Detachments of 6 Stretcher Bearers will report to "B" and "C" Coys and will rem in under command as stated, and remainder will report to R.S.M. at Battle H.Q.

For purposes of exercise only, all ranks will carry Field Dressings in top left hand pocket of shirt.

(j) TIME

Watches will be synchronised by Coys at Battle H.Q. at 1200 hours and thereafter daily at 1200 hours. Times will be local times.

(k) DRESS

Dress:- Fighting Order. Long trousers may be worn at night

Water Bottles will be filled before leaving Parap and must be conserved.

Blankets and Mosquito Nets will be moved under Coy Administration.

(l) TERMINATION OF EXERCISE

Exercise will terminate at approx. 1700 hours 7 Aug '41.

AUSTRALIAN WAR MEMORIAL AWM2020.71.8842

SECRET

COPY NO. 21

4 August '41.

OPERATION ORDER NO. I

I. INFORMATION

A Combined Services Exercise will be carried out between 1200 hrs. 5 Aug. '41 and 1700 hrs. 7 Aug. '41, to test DARWIN DEFENCES.

ENEMY:- RED FORCES operating from TIMOR, intend attack and occupation of PORT DARWIN with view to capture OIL FUEL SUPPLIES, and denial to our FORCES (BLUE FORCES) further use of the BASE during hostilities. Details of ENEMY strength as already stated at C.O.'s Conference.

OWN TROOPS:- DARWIN INFANTRY BATTALION less SECURITY GUARDS.

2. INTENTION

(a) Occupy and defend the NARROWS.

(b) Occupy and defend the CIVIL AERODROME.

3. METHOD

(a) A Coy will man and control all SECURITY GUARDS as laid down, and will have services of UNIVERSAL SERVICE PERSONNEL and existing GUARDS at W/T STATIONS supplied at present by B. Coy.

(b) B and C Coys plus ONE Mortar Detachment each will occupy prepared DEFENCE LINES at the NARROWS, B. Coy on the LEFT and C Coy on the RIGHT.

D Coy will take up DEFENSIVE POSITION at CIVIL AERODROME.

E Coy less ONE L.A. Section will be in reserve at 805120

ONE L.A. Section from E Coy. will be detached and come under the command of C.R.A. LAST POINT.

TROOPS will be in position and COMMUNICATION established by 1200 hrs. 5 Aug. '41 when EXERCISE will commence.

A ECHELON will move to selected BATTALION POSITIONS not later than 1000 hrs. 5 Aug. '41. R.S.M. will supervise move from PARAP and take charge of the BATTALION ORDERLY ROOM at BATTLE H.Q. 806118.

B ECHELON will remain at PARAP under command of MAJOR W.F. MASTER M.C.

4 ADMINISTRATION

See Appendix A.

5 INTERCOMMUNICATION

(a) All MESSAGES will bear the prefix "FOR EXERCISE". Code Names will be used for duration of EXERCISE as follows :-

BN. H.Q.	GEFA
A COY.	HARO
B COY.	GREO
C COY.	JONO
D COY	CARO
E COY.	FUTO
SIGNALS	FOCO
283 L.A.D.	WODU
B ECHELON	MASO

(b) W/T Sets No. 108 will be manned by SIGNAL DETACHMENTS allotted to COMPANY&S etc. as follows :-

C COY.	I
E COY (In Reserve)	2
BN. H.Q.	I

(c) LIGHT SIGNALS will be advised to Os. C. Coys.

W/T Frequencies as allotted by CHIEF SIGNAL OFFICER.

(d) TRAFFIC ROUTES TO AND FROM DARWIN

ROUTE IN:- DALY ST. and DALY ST. BRIDGE and thence via CAVANAGH ST. or SMITH ST.

ROUTE OUT:-MITCHELL ST. or ESPLANADE, McKAY ST., LAMBELL TERRACE, GILRUTH NECK, VESTEY'S MAIN SOUTH ROAD.

Acknowledge

[signature] Capt. Staff Corps
Adjt. Darwin Inf. Bn.

Method of Issue.....

Time of Signature.....

Commander of Covering Forces	(2)	T.O.	1
Chief Umpire " "	(1)	B Coy	1
C.R.A.	1	C Coy	1
C.O.	1	D Coy	1
2 i/c	1	E Coy	1
Adjt.	1	H.Q. Coy	1
Q.M.	1	283 L.A.D.	1
M.O.	1	W/Diary	3
I.O.	1	File	1
R.S.M.	1		

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SECRET

APPENDIX "A"

ADMINISTRATION

(a) Security Guards Guard Commanders at all vulnerable Points are to be warned that this exercise is in progress. As far as possible troops will avoid vulnerable points, and where necessary to enter such areas, will be in possession of a pass signed by CHIEF ARMY UMPIRE.

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Allotment of unit Umpires will be as folbows:-

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Capt. A.O. Baldwin	Bn. H.Q. and Reserve.

Umpires will be included in ration state by Coys to which allotted.

Umpires' decisions will be final and must be abided by in all cases.

(c) SCREENS

Each Coy will carry one RED and one BLUE screen per platoon, which will be made available to Umpires when asked for/

(d) TRANSPORT

For duration of Exercises, T.O. will make available one 30cwt. lorry per Coy, for rations and baggage. One 30cwt. lorry and one Utility to "A" Echelon. C.O's car at Bn. H.Q. D/R's under command of Signal Officer. Remainder of Mpt. will remain with "B" Echelon at Parap.

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Troops will move out of Parap with unconsumed portion of day's rations on the man. Evening meal (hot) will be delivered to Coy Areas at night with dry rations for following day. When submitting ration states to Battle H.Q. for communication to "B" Echelon, Coys will include any attached personnel/

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Blank Ammunition will be issued at 1600 hours 4 Aug'41 on the following basis:-

"A" Coy	1000 rounds
"B", "C", "D" Coys	500 rounds each
HQ. Coy	500 rounds

Cartridges Signal Green 1IN. Mk.1 2 per Coy incl. H.Q. Coy
Cartridges Signal Red 1in. Mk.1 2 per Coy incl. H.Q. Coy
Smoke Candles Ground Experimental:-

"B" Coy	2
"C" Coy	2

(Thunderflashes 10, Thunderflashes Brassards 3,) Capt. C.S.
(Generators Smoke No. 5 Mk.1 5.) Harrison

Pistols Signal No. 1 Mk.III. Drawn on signature from H.Q. Coy by "B", "C", & "D" Coys.

OPERATION SIGNALS to be arranged by Coys with Battle H.Q.

(g) BLACKOUTS

In conjunction with the exercise, Blackout tests will be carried out as follows:-

5/6 Aug'41.....2110 hours to 2130 hours
" 0001 " 0430 "
6/7 Aug'41.....0001 " 0430 "

O.C. "B" Echelon will take necessary action on alarm at Parap.

Coy and Detachment Commanders will be responsible for extinguishing and/or screening of lights during exercise. and maintenance of night discipline throughout.

ALARM Alarm Signals at commencement will be a continuous sounding of a siren for three minutes.

ALL CLEAR two long soundings on siren.

AIR RAID ALARMS will be as above except that periods of sounding

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of sounding will be for half-minute with half-minute intervals.
SECURITY GUARDS will conform to all the above Signals particular attention being paid to cigarettes.

(h) REPRESENTATIVES (amplifying INTARMATION para)
RED TROOPS (ENEMY) wearing working dress and steel helmets with white rising sun painted on them.
ENEMY AIRCRAFT distinguished by tail unit painted white. Dives on troops by enemy aircraft (not under 500 ft.) represent machine-gunning. Bomb doors open in enemy aircraft ; bombing.
FIRE Artillery umpires will advise.
M.M.G.:- Yellow flag and rattles.
L.M.G.:- White flag and rattles.
Rifle fire:- Red Flag
Grenades:- Thunderflashes.

CASUALTIES
Labels distributed by Umpires.

(i) R.A.P. R.A.P. will be maintained at Parap Camp under supervision of Capt. Holt as from 5 Aug '41 to completion of exercise. Detachments of 6 Stretcher Bearers will report to "B" and "C" Coys and will form in under command as stated, and remainder will report to R.S.M. at Battle H.Q.
For purposes of exercise only, all ranks will carry Field Dressings in top left hand pocket of shirt.

(j) TIME
Watches will be synchronised by Coys at Battle H.Q. at 1200 hours and thereafter daily at 1200 hours. Times will be local times.

(k) DRESS
Dress:- Fighting Order. Long trousers may be worn at night
Water Bottles will be filled before leaving Parap and must be conserved.
Blankets and Mosquito Nets will be moved under Coy Administration.

(l) TERMINATION OF EXERCISE
Exercise will terminate at approx. 1700 hours 7 Aug '41.

AUSTRALIAN WAR MEMORIAL AWM2020.71.8842

Australian Military Forces—7th Military District.

Please quote this Number when replying.

	S.M.	38

Head-Quarters,
Darwin,

PARAP.
12th. Aug.'41.

DARWIN INFANTRY BATTALLION.

Range Night Firing Demonstration.
Rifle Range DARWIN on night of Wednesday 13th. Aug.'41
between 1930 and 2130 hrs.

Intention of this practice and demonstration is to;
(1) Test Tracer Amm. in 7. M.D.
(2) Experience Marksmen in night Firing.
Demonstration will be under the Supervision of MAJOR R.L. FUTTER and will carried out to the requirements of MAJOR SISSON, AUST. STAFF CORPS, Amm. Officer. A.H.Q.
The results of the demonstration are to be used by Major SISSON to furnish a report as to the effectiveness of Tracer AMM.
The practice will be fired from the 500 Yd. Range.
The practice is to be carried out with the aid of Beach Lights to illuminate the target.

ADMIN. 1/30 Cwt. Vehicle will report to E. Coy. Orderly Room, at 1900 hrs. and the following equipment loaded.

Beach Lights	3
Batteries	5
Red Lights	4

Butt Party of 8 Men will proceed to Range on this Vehicle.
Beach Lights will be Sited one on either side of the Butts to illuminate the Targets and one will be used at the Firing Point.
1 O/R will be attached to each light. Four Red Lights (Hurricane Lamps) will be placed in position to act as Danger Lights, and a Roving Patrol of 4 Men will be on Duty to keep range clear of any interruption.
All duties, that is; Butt Party of 1 N.C.O. & 7 O/R's, Roving Patrol 4 O/R's, and Beach Light Attendants 3 O/R's will be provided by E. Coy.
Four Markemen will be picked from each Coy. to fire Tracer practice and they will report to E. Coy. Orderly Room, at 1845 hrs, and will move off to 500yd. mound at Rifle Range, under Sgt. Price.
Dress will be Shorts, Shirts, Boots. Puttees, Hats, Webbing Equipment and Rifle, and each Coy. will fire as a detail.
Four targets will be in use. MAJOR SISSON will supply necessary Amm.
Officers are asked to attend this demonstration and they will act as Observers. One Officer to each target.
Officers will report to MAJOR R.L. FUTTER and MAJOR SISSON at 1915 hrs, and receive instructions as to information required of them after the close of the demonstration.
Troops desiring to attend the demonstration will Parade on Coy. Parade Gds. at 1845 Hrs., and will move off to Rifle Range under command of Senior N.C.O. per Coy., in the following order.

A. Coy.
H.Q.
B.
C.
D.
E.

Troops must be impressed that absolute quiet must be observed throughout and they will not be permitted under any circumstances to move out of formation on arrival at the Range. Troops must be at the Range not later than 1915 Hrs.

AUSTRALIAN WAR MEMORIAL AWM2020.71.8842

Australian Military Forces—7th Military District.

Please quote this Number when replying.

Head-Quarters,
Darwin,

(2).

After the completion of the demonstration Coys. will be marched back to Parap Camp to Coy. Parade Gd. and dismissed.
Working Parties will remain at the Range to collect Lamps, load Beach Lights, and Stock Targets in Rifle Range Hut, under the supervision of Sgt. Davidson, Range Keeper.
Marksmen will return under command of Sgt. Price, and Officer Observers will submit their reports to MAJOR SISSON on return to Parap Camp.

a C Rigby
.....Lieut.
Adjt. Night Firing Demonstration.

DISTRIBUTION.
C.O.
2i/c
O.C. DEMONSTRATION.
MAJOR SISSON. 2
ADJT.
H.Q. Coy.
A.
B.
C.
D.
E.
I.O.
War Diary.
File.

AUSTRALIAN WAR MEMORIAL AWM2020.71.8842

Australian Military Forces—7th Military District.

Please quote this Number when replying.

	S.M	38

Head-Quarters,
Darwin,

DARWIN INFANTRY BATTALLION. (SECRET.)

PARAP.
12th. Aug'41.

Range Night Firing Demonstration .
Rifle Range DARWIN on night of Wednesday 13th. Aug. '41 between 1930 and 2130 hrs.

Intention of this practice and demonstration is to;
(1) Test Tracer Amm. in 7 M.D.
(2) Experience Marksmen in night Firing.
Demonstration will be under the supervision of MAJOR R.L. FUTTER and will be carried out to the requirements of MAJOR SISSON, AUST. STAFF CORPS. Amm. Officer. A.H.Q.
The results of the demonstration are to be used by MAJOR SISSON to furnish a report as to the effectiveness of the Tracer Amm.
The practice will be fired from the 500 Yd. Range .
The Practice is to be carried out with the aid of Beach Lights to illuminate the targets.

ADMIN. XXXXX 1/30 Cwt. Vehicle will report to E. Coy. Orderly Room, at 1900 hrs, and the following equipment loaded.

Beach Lights	3
Batteries	5
Red Lights	4

Butt Party of 8 Men will proceed to Range on this Vehicle.
Beach Lights will be sited one on either side of the Butts to illiminate the target and one will be used at the Firing Point.
XXXXX 1 O/R will be attached to each Light. Four Red Lights (Hurricane Lamps) will be placed in position to act as Danger Lights and a Roving Patrol of 4 Men will be on Duty to keep Range clear of any interruption. All Duties, that is , Butt Party of 1 N.C.O, and 7 O/R's, Roving Patrol 4 O/Rs , and Beach Light Attendants 30/Rs will be provided by E. Coy.
Four Marksmen will be picked from each Coy. to fire Tracer practice and they will report to E. Coy Orderly Room., at 1845 hrs. and will move off to 5 00 Yd. mound at Rifle Range under Sgt. Price.
Dress will be Shorts Shirts, Boots, Putties, Hats, Webbing Equipment and Rifles, and each Coy. will fire as a detail.
Four Targets will be in use. MAJOR SISSON will supply necessary Amm.
Officers are asked to attend this demonstration and will act as observers . One Officer to each target.
Officers will report to MAJOR R.L. FUTTER and MAJOR SISSON at 1915 hrs and receive instructions as to information required of them after the close of the demonstration.
Troops desiring to attend the demonstration will Parade XXXXXXXX on Coy. Parade Gds. at 1845 hrs.and will move off to Rifle Range under the command of Senior N.C.O. per Coy, in the following order.

A. Coy.
H.Q.
B.
C.
D.
E.

Troops must be impressed that absolute quiet is to be observed throughout and that they will not be permitted under any circumstance to move out of formation on arrival at the Range. Troops must be at the Range not later than 1915 hrs.

AUSTRALIAN WAR MEMORIAL AWM2020.71.8842

Australian Military Forces—7th Military District.

Please quote this Number when replying.

Head-Quarters,
Darwin,

(2)

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Marksmen will return under command of Sgt. Price, and Officer Observers will submit their reports to MAJOR SISSON on return to Parap Camp.

A L Rigby
.....Lieut.
Adjt. Night Firing Demonstration

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C.O.
2 i/c
O.C. DEMONSTRATION.
MAJOR SISSON. 2
ADJT.
H.Q. COY.
A.
B.
C.
D.
E.
I.O.
WAR DIARY.
FILE.

AUSTRALIAN WAR MEMORIAL AWM2020.71.8842

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AUSTRALIAN WAR MEMORIAL AWM2020.71.8842

Australian Military Forces—7th Military District.

Please quote this Number when replying.

Head-Quarters,
Darwin,

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.....Lieut.
Adjt. Night Firing Demonstratio

DISTRIBUTION.
C.O.
2 i/c
O.C. DEMONSTRATION.
MAJOR SISSON. 2
ADJT.
H.Q. COY.
A.
B.
C.
D.
E.
I.O.
WAR DIARY.
FILE.

AUSTRALIAN WAR MEMORIAL AWM2020.71.8842

P.M 39.

S.M 1195

SECRET

Copy No. 47.....

Headquarters,
7 M.D.

14 Aug 41.

CODE NAMES

Further to H.Q. 7 M.D., S.M. 855 of 12 Jun 41.

All previous Code Name lists are cancelled as from 2400 hrs 16 Aug 41.

The following code names will be taken into use as from 0001 hrs 17 Aug 41.

Please acknowledge receipt on attached Form A.57 and return immediately.

ZILI	7 M.D. Int. Sec.
FEJO	DARWIN Inf. Bn.
WODO	283 L.A.D.
GAGI	Comd. Fixed Defences.
VOFO	H.Q. R.A.A. & Fire Comd.
HOJA	EAST PT. Bty.
TIGO	EMERY PT. Bty.
JEFU	DARWIN Frt. Coy.
KIJA	14 A.A. Bty.
PIFU	1/54 A.A.S.L. Coy.
LIFO	9 Wks. & Pk. Coy.
ROGU	H.Q. 7 M.D. A.A.S.C.
MAGI	119 Aust. Gen. Hosp.
BEJA	300 Dental Unit.
ZOGU	7 M.D. Ord. Depot.
DIJI	7 M.D. Wkshp. & Rec. Sec.
YIXO	7 M.D. Provost Coy.
FIGA	14 A/Tk. Bty.
WIXI	75 L.A.D.
GIGU	2/11 Fd. Coy.
VEGA	2/21 Inf. Bn.
HAGU	2/40 Inf. Bn.
TOFO	2/3 Pnr. Bn.
JIGI	2/12 Fd. Amb.
RUGA	2 Comp. Bde. Coy. A.A.S.C.
KEFU	H.Q. 23 Aust. Inf. Bde. Rear.
POFI	H.Q. 23 Aust. Inf. Bde. Adv.
LURA	2/3 Pnr. Bn. SOUTHPORT.
NIXU	"D" Coy. 2/40 Inf. Bn. ADELAIDE RIVER.
BIJI	2/14 A. Fd. Regt. H.Q.
ZIGA	27 Bty. 2/14 A. Fd. Regt.
DINU	28 Bty. 2/14 A. Fd. Regt.
YUGI	Det. 2/3 Pnr. Bn. BYNOE.
FOKO	11 Rec. Sec.
WEFU	83 L.A.D.
KOKI	H.Q. 7 M.D.
ZEFU	9 A. Tps. Coy.
DAJA	7 M.D. M.T. Coy.
YIFI	7 M.D. A.A.O.C. (S.O.M.E.)
FUFO	7 M.D. Works Office.
WUGO	7 M.D. Sigs. Workshops.
GOGO	7 M.D. Sigs. No.1 Mobile.
VUGU	7 M.D. Sigs. No.2 Mobile.
HIGI	7 M.D. R.A.E. H.Q. (G.R.E)
TUGA	22 Mile Sig. Station.
JIXU	7 M.D. Survey Sec.
RAGO	7 M.D. A.A.M.C. H.Q.
LAGA	7 M.D. Sigs. No. 5 COOMALIE CREEK.
NOFU	7 M.D. Sigs. No. 4 WEST POINT.
WAGO	7 M.D. Sigs. H.Q.
JOFO	R.T.O. LARRIMAH.
MIGU	ADELAIDE RIVER.
PAGI	18 Fd. Bty.
MUGO	2/1 Heavy Battery.
DOKA	2/1 Fortress Engineers.
YAGU	2/1 Fortress Signals.
ZAGO	111 Con. Depot.

[signature]

Lt. Col.,

General Staff (Int.), 7 M.D.

DISTRIBUTION./

DISTRIBUTION:

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2/11 Fd. Coy.	4
2/21 Inf. Bn.	5
2/21 Inf. Bn. Sigs.	6
2/40 Inf. Bn.	7 - 8
2/40 Inf. Bn. Sigs.	9
2/3 Pnr. Bn.	10 - 12
75 L.A.D.	13
83 L.A.D.	14
2/12 Fd. Amb.	15
2 Comp. Bde. Coy. A.A.S.C.	16
11 Rec. Sec.	17
H.Q. 23 Aust. Inf. Bde.	18 - 32
H.Q. 7 M.D. "G" Branch	33
H.Q. 7 M.D. "A" "	34
H.Q. 7 M.D. "Q" "	35
H.Q. DARWIN Frt. Coy.	36
H.Q. R.A.A. & F.C.	37 - 38
EAST PT. Bty.	39
EMERY PT. Bty.	40
14 A.A. Bty.	41
DARWIN Frt. Coy.	42 - 44
1/54 A.A.S.L. Coy.	45
9 Wks. & Pk. Coy.	46
DARWIN Inf. Bn.	47 - 49
7 M.D. Int. Sec.	50
7 M.D. Sigs.	51 - 60
283 L.A.D.	61
7 M.D. Wkshp. & Rec. Sec.	62
119 A.G.H.	63
300 Dental Unit	64
H.Q. 7 M.D. A.A.S.C.	65 - 69
7 M.D. Provost Coy.	70
7 M.D. Ord. Depot.	71
7 M.D. M.T. Coy.	72
7 M.D. Petrol Coy.	73
7 M.D. Sec. M.A.C.	74
7 M.D. Records Office	75
7 M.D. Works Office	76
7 M.D. R.A.E. H.Q.	77
7 M.D. Survey Sec.	78
7 M.D. A.A.M.C. H.Q.	79
7 M.D. A.A.O.C. H.Q.	80
9 A. Tps. Coy.	81
11 Sup. Per. Coy.	82
2 Fd. Butchery	83
2 Fd. Bakery	84
14 Fd. Hyg. Sec.	85
18 Fd. Bty.	86
R.T.O. LARRIMAH.	87
H.Q. Cent. Aust. L. of C.	88
2/1 Hy. Bty.	89
2/1 Frt. Eng.	90
2/1 Frt. Sigs.	91
111 Con. Depot.	92
Spare	93 - 95

AUSTRALIAN WAR MEMORIAL AWM2020.71.8842

Copy No. 48

SECRET

Headquarters,
7 M.D.

14 Aug 41.

CODE NAMES

Further to H.Q. 7 M.D., S.M. 855 of 12 Jun 41.

All previous Code Name lists are cancelled as from 2400 hrs 16 Aug 41.

The following code names will be taken into use as from 0001 hrs 17 Aug 41.

Please acknowledge receipt on attached Form A.57 and return immediately.

ZILI	7 M.D. Int. Sec.
FEJO	DARWIN Inf. Bn.
WODO	283 L.A.D.
GAGI	Comd. Fixed Defences.
VOFO	H.Q. R.A.A. & Fire Comd.
HOJA	EAST PT. Bty.
TIGO	EMERY PT. Bty.
JEFU	DARWIN Frt. Coy.
KIJA	14 A.A. Bty.
PIFU	1/54 A.A.S.L. Coy.
LIFO	9 Wks. & Pk. Coy.
ROGU	H.Q. 7 M.D. A.A.S.C.
WAGI	119 Aust. Gen. Hosp.
BEJA	300 Dental Unit.
ZOGU	7 M.D. Ord. Depot.
DIJI	7 M.D. Wkshp. & Rec. Sec.
YIXO	7 M.D. Provost Coy.
FIGA	14 A/Tk. Bty.
WIXI	75 L.A.D.
GIGU	2/11 Fd. Coy.
VEGA	2/21 Inf. Bn.
HAGU	2/40 Inf. Bn.
TOFO	2/3 Pnr. Bn.
JIGI	2/12 Fd. Amb.
RUGA	2 Comp. Bde. Coy. A.A.S.C.
KEFU	H.Q. 23 Aust. Inf. Bde. Rear.
POFI	H.Q. 23 Aust. Inf. Bde. Adv.
LURA	2/3 Pnr. Bn. SOUTHBOURNE
NIXU	"D" Coy. 2/40 Inf. Bn. ADELAIDE RIVER.
BIJI	2/14 A. Fd. Regt. H.Q.
ZIGA	27 Bty. 2/14 A. Fd. Regt.
DINU	28 Bty. 2/14 A. Fd. Regt.
YUGI	Det. 2/3 Pnr. Bn. BYNOE.
FOKO	11 Rec. Sec.
WEFU	83 L.A.D.
KOKI	H.Q. 7 M.D.
ZEFU	9 A. Tpt. Coy.
DAJA	7 M.D. M.T. Coy.
YIFI	7 M.D. A.A.O.C. (S.O.M.E.)
FUFO	7 M.D. Works Office.
WUGO	7 M.D. Sigs. Workshops.
GOGO	7 M.D. Sigs. No.1 Mobile.
VUGU	7 M.D. Sigs. No.2 Mobile.
HIGI	7 M.D. R.A.E. H.Q. (S.M.E.)
TUGA	22 Mile Sig. Station.
JIXU	7 M.D. Survey Sec.
RAGO	7 M.D. A.A.M.C. H.Q.
LAGA	7 M.D. Sigs. No. 5 COOMALIE CREEK.
NOFU	7 M.D. Sigs. No. 4 WEST POINT.
WAGO	7 M.D. Sigs. H.Q.
JOFO	R.T.O. LARRIMAH.
MIGU	ADELAIDE RIVER.
PAGI	18 Fd. Bty.
MUGO	2/1 Heavy Battery.
DOKA	2/1 Fortress Engineers.
YAGU	2/1 Fortress Signals.
ZAGO	111 Con. Depot.

Lt. Col.,
General Staff (Int.), 7 M.D.

DISTRIBUTION./

DISTRIBUTION:

	Copy No.
2/14 A. Fd. Regt.	1 - 3
2/11 Fd. Coy.	4
2/21 Inf. Bn.	5
2/21 Inf. Bn. Sigs.	6
2/40 Inf. Bn.	7 - 8
2/40 Inf. Bn. Sigs.	9
2/3 Pnr. Bn.	10 - 12
75 L.A.D.	13
83 L.A.D.	14
2/12 Fd. Amb.	15
2 Comp. Bde. Coy. A.A.S.C.	16
11 Rec. Sec.	17.
H.Q. 23 Aust. Inf. Bde.	18 - 32
H.Q. 7 M.D. "G" Branch	33
H.Q. 7 M.D. "A" "	34
H.Q. 7 M.D. "Q" "	35
H.Q. DARWIN Frt. Coy.	36
H.Q. R.A.A. & F.C.	37 - 38
EAST PT. Bty.	39
EMERY PT. Bty.	40
14 A.A. Bty.	41
DARWIN Frt. Coy.	42 - 44
1/54 A.A.S.L. Coy.	45
9 Wks. & Pk. Coy.	46
DARWIN Inf. Bn.	47 - 49
7 M.D. Int. Sec.	50
7 M.D. Sigs.	51 - 60
283 L.A.D.	61
7 M.D. Wkshp. & Rec. Sec.	62
119 A.G.H.	63
300 Dental Unit	64
H.Q. 7 M.D. A.A.S.C.	65 - 69
7 M.D. Provost Coy.	70
7 M.D. Ord. Depot.	71
7 M.D. M.T. Coy.	72
7 M.D. Petrol Coy.	73
7 M.D. Sec. M.A.C.	74
7 M.D. Records Office	75
7 M.D. Works Office	76
7 M.D. R.A.E. H.Q.	77
7 M.D. Survey Sec.	78
7 M.D. A.A.M.C. H.Q.	79
7 M.D. A.A.O.C. H.Q.	80
9 A. Tps. Coy.	81
11 Sup. Per. Coy.	82
2 Fd. Butchery	83
2 Fd. Bakery	84
14 Fd. Hyg. Sec.	85
18 Fd. Bty.	86
R.T.O. LARRIMAH.	87
H.Q. Cent. Aust. L. of C.	88
2/1 Hy. Bty.	89
2/1 Frt. Eng.	90
2/1 Frt. Sigs.	91
111 Con. Depot.	92
Spare	93 - 95

AUSTRALIAN WAR MEMORIAL AWM2020.71.8842

Copy No. 49

AM 1145

SECRET

Headquarters,
7 M.D.

14 Aug 41.

CODE NAMES

Further to H.Q. 7 M.D., S.N. 855 of 12 Jun 41.

All previous Code Name lists are cancelled as from 2400 hrs 16 Aug 41.

The following code names will be taken into use as from 0001 hrs 17 Aug 41.

Please acknowledge receipt on attached Form A.57 and return immediately.

ZILI	7 M.D. Int. Sec.
FEJO	DARWIN Inf. Bn.
WODO	283 L.A.D.
GAGI	Comd. Fixed Defences.
VOFO	H.Q. R.A.A. & Fire Comd.
HOJA	EAST PT. Bty.
TIGO	ENERY PT. Bty.
JEFU	DARWIN Frt. Coy.
KIJA	14 A.A. Bty.
PIFU	1/54 A.A.S.L. Coy.
LIFO	9 Wks. & Pk. Coy.
ROGU	H.Q. 7 M.D. A.A.S.C.
MAGI	119 Aust. Gen. Hosp.
BEJA	300 Dental Unit.
ZOGU	7 M.D. Ord. Depot.
DIJI	7 M.D. Wkshp. & Rec. Sec.
YIXO	7 M.D. Provost Coy.
FIGA	14 A/Tk. Bty.
WIXI	75 L.A.D.
GIGU	2/11 Fd. Coy.
VEGA	2/21 Inf. Bn.
HAGU	2/40 Inf. Bn.
TOFO	2/3 Pnr. Bn.
JIGI	2/12 Fd. Amb.
RUGA	2 Comp. Bde. Coy. A.A.S.C.
KEFU	H.Q. 23 Aust. Inf. Bde. Rear.
POFI	H.Q. 23 Aust. Inf. Bde. Adv.
LURA	2/3 Pnr. Bn. SOUTHPORT.
NIXU	"D" Coy. 2/40 Inf. Bn. ADELAIDE RIVER.
BIJI	2/14 A. Fd. Regt. H.Q.
ZIGA	27 Bty. 2/14 A. Fd. Regt.
DINU	28 Bty. 2/14 A. Fd. Regt.
YUGI	Det. 2/3 Pnr. Bn. BYNOE.
FOKO	11 Rec. Sec.
WEFU	83 L.A.D.
KOKI	H.Q. 7 M.D.
ZEFU	9 A. Tpt. Coy.
DAJA	7 M.D. M.T. Coy.
YIFI	7 M.D. A.A.O.C. (S.O.M.E.)
FUFO	7 M.D. Works Office.
WUGO	7 M.D. Sigs. Workshops.
GOGO	7 M.D. Sigs. No.1 Mobile.
VUGU	7 M.D. Sigs. No.2 Mobile.
HIGI	7 M.D. R.A.E. H.Q. (O.S.E.)
TUGA	22 Mile Sig. Station.
JIXU	7 M.D. Survey Sec.
RAGO	7 M.D. A.A.M.C. H.Q.
LAGA	7 M.D. Sigs. No. 5 COOMALIE CREEK.
NOFU	7 M.D. Sigs. No. 4 WEST POINT.
WAGO	7 M.D. Sigs. H.Q.
JOFO	R.T.O. LARRIMAH.
MIGU	ADELAIDE RIVER.
PAGI	18 Fd. Bty.
MUGO	2/1 Heavy Battery.
DOKA	2/1 Fortress Engineers.
YAGU	2/1 Fortress Signals.
ZAGO	111 Con. Depot.

Lt.-Col.,
General Staff (Int.), 7 M.D.

DISTRIBUTION /

AUSTRALIAN WAR MEMORIAL AWM2020.71.8842

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2/11 Fd. Coy.	4
2/21 Inf. Bn.	5
2/21 Inf. Bn. Sigs.	6
2/40 Inf. Bn.	7 - 8
2/40 Inf. Bn. Sigs.	9
2/3 Pnr. Bn.	10 - 12
75 L.A.D.	13
83 L.A.D.	14
2/12 Fd. Amb.	15
2 Comp. Bde. Coy. A.A.S.C.	16
11 Rec. Sec.	17.
H.Q. 23 Aust. Inf. Bde.	18 - 32
H.Q. 7 M.D. "G" Branch	33
H.Q. 7 M.D. "A" "	34
H.Q. 7 M.D. "Q" "	35
H.Q. DARWIN Frt. Coy.	36
H.Q. R.A.A. & F.C.	37 - 38
EAST PT. Bty.	39
EMERY PT. Bty.	40
14 A.A. Bty.	41
DARWIN Frt. Coy.	42 - 44
1/54 A.A.S.L. Coy.	45
9 Wks. & Pk. Coy.	46
DARWIN Inf. Bn.	47 - 49
7 M.D. Int. Sec.	50
7 M.D. Sigs.	51 - 60
283 L.A.D.	61
7 M.D. Wkshp. & Rec. Sec.	62
119 A.G.H.	63
300 Dental Unit	64
H.Q. 7 M.D. A.A.S.C.	65 - 69
7 M.D. Provost Coy.	70
7 M.D. Ord. Depot.	71
7 M.D. M.T. Coy.	72
7 M.D. Petrol Coy.	73
7 M.D. Sec. M.A.C.	74
7 M.D. Records Office	75
7 M.D. Works Office	76
7 M.D. R.A.E. H.Q.	77
7 M.D. Survey Sec.	78
7 M.D. A.A.M.C. H.Q.	79
7 M.D. A.A.O.C. H.Q.	80
9 A. Tps. Coy.	81
11 Sup. Per. Coy.	82
2 Fd. Butchery	83
2 Fd. Bakery	84
14 Fd. Hyg. Sec.	85
18 Fd. Bty.	86
R.T.O. LARRIMAH.	87
H.Q. Cent. Aust. L. of C.	88
2/1 Hy. Bty.	89
2/1 Frt. Eng.	90
2/1 Frt. Sigs.	91
111 Con. Depot.	92
Spare	93 - 95

AUSTRALIAN WAR MEMORIAL AWM2020.71.8842

S.M.1240

S.M.742.

52.

H.Q. 7 M.D.,
August, 1941.

We SECRET

CODE NAMES.

Further to H.Q. 7 M.D. S.M.1195 of 14th August, 1941.

All previous code names will be cancelled as from 2400 hrs 24th August, 1941.

Please acknowledge receipt on attached Form A57 and return immediately.

BAKU	H.Q. 7 M.D.
ZUKI	Dar. Inf. Bn.
DALA	283 L.A.D.
YULO	Comd. Fixed Def.
FEGU	H.Q. R.A.A. & Fire Comd.
WINA	East Battery
CATI	Emery Battery
VOLU	Dar. Fort. Coy.
HAKO	14 A.A. Bty.
TUNA	1/54 A.A.S.L. Coy.
JAJU	9 Works & Parks Coy.
RONI	H.Q. 7 M.D. A.A.S.C.
KALA	119 Aust. Gen. Hosp.
PEXO	300 Dental Unit
LIJU	7 M.D. Ordnance Depot
NIRI	7 M.D. Workshop & Rec.Sec.
MILO	7 M.D. Provost Coy.
BAXA	14 A/TK Battery
ZOLU	75 L.A.D.
DATO	2/11 Fd. Coy.
YELI	2/21 Inf. Bn.
FAJA	2/40 Inf. Bn.
WUNU	2/5 Pioneer Bn.
GEJO	2/12 Fd. Amb.
VUXA	2 Comp. Bde. Coy. A.A.S.C.
HARI	H.Q. 23 Aust. Inf.Bde.Rear
TINU	H.Q. 23 Aust. Inf.Bde. Adv.
JEKO	2/5 Pioneers. Southport
RIKA	"D" Coy. 2/40 Bn. Adelaide
KAMI	2/14 Fd. Regt. Riv.
PIKU	27 Bty. 2/14 Fd. Regt.
LUZO	28 Bty. 2/14 Fd. Regt.
NUGU	Det. 2/3 Pioneers Bynoe
NOKA	11 Rec. Sec.
YIMU	83 L.A.D.
DILI	2/4 Pioneer Bn.
FIKI	18 Fd. Battery
VAJU	9 Army troops Coy.
GOJA	7 M.D. M.T. Coy.
TELO	7 M.D. A.A.O.C. H.Q. (S.O.M.E.)
HUKI	7 M.D. Works Office
RUJU	7 M.D. Sig. Workshop
KILO	7 M.D. Sigs. No.1 Mobile
POJA	7 M.D. Sigs. No.2 Mobile
LALI	7 M.D. R.A.E. H.Q. C.R.E.
NEKU	22 Mile Signals
MALA	7 M.D. Survey Coy.
BIDO	7 M.D. A.A.M.C. H.Q.
ZAJI	7 M.D. Sigs. Coonallie Ck.
DEMU	7 M.D. Sigs. West Point
YAXO	2/1 Heavy Battery
PUKA	2/1 Fortress Engineers.
WELI	2/1 Fortress Sigs.
GAKU	111 Convalescent Depot
VIJO	7 M.D. Sigs H.Q.
HILA	R.T.O. Larrimah
TAJA	Adelaide River Camp
JANI	7 M.D. Intell. Sec.
LEJA	D.A. & Q.M.G. 7 M.D.

A. L. Elliott

Lt.-Col.,
General Staff (Int.) 7th Military District.

AUSTRALIAN WAR MEMORIAL AWM2020.71.8842

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2/11 Fd. Coy	4
2/21 Inf. Bn.	5
2/21 Inf. Bn. Sigs	6
2/40 Inf. Bn.	7 - 8
2/40 Inf. Bn. Sigs.	9
2/3 Pioneer Bn.	10 -12
2/4 Pioneer Bn.	13
75 L.A.D.	14
83 L.A.D.	15
2/12 Fd. Amb.	16
2 Comp.Bde.Coy.A.A.S.C.	17
11 Rec. Sec.	18
H.Q. 23 Aust. Inf.Bde.	19 -38
H.Q. 7 M.D.	
"G" Branch	39
"Q" "	40 -41
"A" "	42
Darwin Fortress Coy.	43 -45
H.Q. R.A.A. & Fire Command	46
East Battery	47
Emory Battery	48
14 A.A. Battery	49
1/54 A.A.S.L. Coy	50
9 Works & Parks Coy.	51
Darwin Inf. Bn.	52 -54
7 M.D. Intell. Sec.	55
" Sigs.	56 -65
283 L.A.D.	66
7 M.D. W/shop & Rec.Sec.	67
119 Aust. Gen. Hosp.	68
300 Dental Unit	69
H.Q. 7 M.D. A.A.S.C.	70 -74.
7 M.D. Provost Coy.	75
" Ordnance Depot	76
" M.T. Coy	77
" Petrol Coy	78
" Sec. M.A.C.	79
" Records Office	80
" Works Office	81
" R.A.E. H.Q. C.R.E.	82 - 84
" Survey Sec.	85
" A.A.M.C. H.Q.	86
9 Army Troop Coy.	87
11 Sup. Rer. Coy.	88
2 Fd. Butchery	89
2 Fd. Bakery	90
14 Fd. Hygiene Sec.	91
18 Fd. Battery	92
R.T.O. Larrimah	93
2/1 Heavy Battery	94
2/1 Fortress Engineers	95
2/1 Fortress Signals	96
111 Convalescent Depot	97
H.Q. Cent. of Aust. L. of C.	98
Spare	99-100.

AUSTRALIAN WAR MEMORIAL AWM2020.71.8842

S.M. 1240

53

H.Q. 7 M.D.,
August, 1941.

CODE NAMES.

Further to H.Q. 7 M.D. S.M.1195 of 14th August, 1941.

All previous code names will be cancelled as from 2400 hrs 24th August, 1941.

Please acknowledge receipt on attached Form A57 and return immediately.

BAKU	H.Q. 7 M.D.
ZUKI	Dar. Inf. Bn.
DALA	283 L.A.D.
YULO	Comd. Fixed Def.
FEGU	H.Q. R.A.A. & Fire Comd.
WINA	East Battery
GATI	Emery Battery
VOLU	Dar. Fort. Coy.
HAKO	14 A.A. Bty.
TUNA	1/54 A.A.S.L. Coy.
JAJU	9 Works & Parks Coy.
RONI	H.Q. 7 M.D. A.A.S.C.
KALA	119 Aust. Gen. Hosp.
PEXO	300 Dental Unit
LIJU	7 M.D. Ordnance Depot
NIRI	7 M.D. Workshop & Rec.Sec.
MILO	7 M.D. Provost Coy.
BAXA	14 A/TK Battery
ZOLU	75 L.A.D.
DATO	2/11 Fd. Coy.
YELI	2/31 Inf. Bn.
FAJA	2/40 Inf. Bn.
WUNU	2/3 Pioneer Bn.
GEJO	2/12 Fd. Amb.
VUXA	2 Comp. Bde. Coy. A.A.S.C.
HARI	H.Q. 23 Aust. Inf.Bde.Rear
TINU	H.Q. 23 Aust. Inf.Bde. Adv.
JEKO	2/3 Pioneers Southport
RIKA	"D" Coy. 2/40 Bn. Adelaide
KAMI	2/14 Fd. Regt. Riv.
PIKU	27 Bty. 2/14 Fd. Regt.
LUZO	28 Bty. 2/14 Fd. Regt.
NUGU	Det. 2/3 Pioneers Bynoe
MOKA	11 Rec. Sec.
YIMU	83 L.A.D.
DILI	2/4 Pioneer Bn.
FIKI	18 Fd. Battery
VAJU	9 Army troops Coy.
GOJA	7 M.D. M.T. Coy.
TELO	7 M.D. A.A.O.C. H.Q. (S.O.M.E.)
HUKI	7 M.D. Works Office
RUJU	7 M.D. Sig. Workshop
KILO	7 M.D. Sigs. No.1 Mobile
POJA	7 M.D. Sigs. No.2 Mobile
LALI	7 M.D. R.A.E. H.Q. C.R.E.
NEKU	22 Mile Signals
MALA	7 M.D. Survey Coy.
BIDO	7 M.D. A.A.M.C. H.Q.
ZAJI	7 M.D. Sigs. Coonallie Ck.
DEMU	7 M.D. Sigs. West Point
YAXO	2/1 Heavy Battery
FUNA	2/1 Fortress Engineers.
WELI	2/1 Fortress Sigs.
GAKU	111 Convalescent Depot
VIJO	7 M.D. Sigs H.Q.
HILA	R.T.O. Larramah
TAJA	Adelaide River Camp
JANI	7 M.D. Intell. Sec.
LEJA	D.A. & Q.M.G. 7 M.D.

A. L. Elliott

Lt.-Col.,
General Staff (Int.) 7th Military District.

AUSTRALIAN WAR MEMORIAL AWM2020.71.8842

DISTRIBUTION.

2/14 Fd. Regt.	1 - 3
2/11 Fd. Coy	4
2/21 Inf. Bn.	5
2/21 Inf. Bn. Sigs	6
2/40 Inf. Bn.	7 - 8
2/40 Inf. Bn. Sigs.	9
2/3 Pioneer Bn.	10 -12
2/4 Pioneer Bn.	13
75 L.A.D.	14
83 L.A.D.	15
2/12 Fd. Amb.	16
2 Comp.Bde.Coy.A.A.S.C.	17
11 Rec. Sec.	18
H.Q. 23 Aust. Inf.Bde.	19 -38
H.Q. 7 M.D.	
"G" Branch	39
"Q" "	40 -41
"A" "	42
Darwin Fortress Coy.	43 -45
H.Q. R.A.A. & Fire Command	46
East Battery	47
Emery Battery	48
14 A.A. Battery	49
1/54 A.A.S.L. Coy	50
9 Works & Parks Coy.	51
Darwin Inf. Bn.	52 -54
7 M.D. Intell. Sec.	55
" Sigs.	56 -65
283 L.A.D.	66
7 M.D. W/shop & Rec.Sec.	67
119 Aust. Gen. Hosp.	68
300 Dental Unit	69
H.Q. 7 M.D. A.A.S.C.	70 -74.
7 M.D. Provost Coy.	75
" Ordnance Depot	76
" M.T. Coy	77
" Petrol Coy	78
" Sec. M.A.C.	79
" Records Office	80
" Works Office	81
" R.A.E. H.Q. C.R.E.	82 - 84
" Survey Sec.	85
" A.A.H.C. H.Q.	86
9 Army Troop Coy.	87
1st Sup. Rer. Coy.	88
2 Fd. Butchery	89
2 Fd. Bakery	90
14 Fd. Hygiene Sec.	91
18 Fd. Battery	92
R.T.O. Larramah	93
2/1 Heavy Battery	94
2/1 Fortress Engineers	95
2/1 Fortress Signals	96
111 Convalescent Depot	97
H.Q. Cent. of Aust. L. of C.	98
Spare	99-100.

AUSTRALIAN WAR MEMORIAL AWM2020.71.8842

S.M.1240

54

H.Q. 7 M.D.,
August, 1941.

CODE NAMES.

Further to H.Q. 7 M.D. S.M.1195 of 14th August, 1941.

All previous code names will be cancelled as from 2400 hrs 24th August, 1941.

Please acknowledge receipt on attached Form A57 and return immediately.

BAKU	H.Q. 7 M.D.	PIKU	27 Bty. 2/14 Fd. Regt.
ZUKI	Dar. Inf. Bn.	LUZO	28 Bty. 2/14 Fd. Regt.
DALA	283 L.A.D.	NUGU	Det. 2/3 Pioneers Bynoe
YULO	Comd. Fixed Def.	MOKA	11 Rec. Sec.
FEGU	H.Q. R.A.A. & Fire Comd.	YIMU	83 L.A.D.
WINA	East Battery	DILI	2/4 Pioneer Bn.
GATI	Emery Battery	FIKI	18 Fd. Battery
VOLU	Dar. Fort. Coy.	VAJU	9 Army troops Coy.
HAKO	14 A.A. Bty.	GOJA	7 M.D. M.T. Coy.
TUNA	1/54 A.A.S.L. Coy.	TELO	7 M.D. A.A.O.C. H.Q. (S.O.M.E.)
JAJU	9 Works & Parks Coy.		
RONI	H.Q. 7 M.D. A.A.S.C.	HUKI	7 M.D. Works Office
KALA	119 Aust. Gen. Hosp.	RUJU	7 M.D. Sig. Workshop
PEXO	300 Dental Unit	KILO	7 M.D. Sigs. No.1 Mobile
LIJU	7 M.D. Ordnance Depot	POJA	7 M.D. Sigs. No.2 Mobile
NIRI	7 M.D. Workshop & Rec.Sec.	LALI	7 M.D. R.A.E. H.Q. C.R.E.
MILO	7 M.D. Provost Coy.	NEKU	22 Mile Signals
BAXA	14 A/TK Battery	MALA	7 M.D. Survey Coy.
ZOLU	75 L.A.D.	BIDO	7 M.D. A.A.M.C. H.Q.
DATO	2/11 Fd. Coy.	ZAJI	7 M.D. Sigs. Coonallie Ck.
YELI	2/21 Inf. Bn.	DEMU	7 M.D. Sigs. West Point
FAJA	2/40 Inf. Bn.	YAKO	2/1 Heavy Battery
WUNU	2/3 Pioneer Bn.	FUKA	2/1 Fortress Engineers.
GEJO	2/12 Fd. Amb.	WELI	2/1 Fortress Sigs.
VUZA	2 Comp. Bde. Coy. A.A.S.C.	GAKU	111 Convalescent Depot
BARI	H.Q. 23 Aust. Inf.Bde.Rear	VIJO	7 M.D. Sigs H.Q.
TINU	H.Q. 23 Aust. Inf.Bde. Adv.	HILA	R.T.O. Larramah
JEKO	2/3 Pioneers Southport	TAJA	Adelaide River Camp
RIKA	"D" Coy. 2/40 Bn. Adelaide Riv.	JANI	7 M.D. Intell. Sec.
KAMI	2/14 Fd. Regt.	LEJA	D.A. & Q.M.G. 7 M.D.

A. L. Elliott

Lt.-Col.,
General Staff (Int.) 7th Military District.

AUSTRALIAN WAR MEMORIAL AWM2020.71.8842

DISTRIBUTION.

2/14 Fd. Regt.	1 - 3
2/11 Fd. Coy	4
2/21 Inf. Bn.	5
2/21 Inf. Bn. Sigs	6
2/40 Inf. Bn.	7 - 8
2/40 Inf. Bn. Sigs.	9
2/3 Pioneer Bn.	10 -12
2/4 Pioneer Bn.	13
75 L.A.D.	14
83 L.A.D.	15
2/12 Fd. Amb.	16
2 Comp.Bde.Coy.A.A.S.C.	17
11 Rec. Sec.	18
H.Q. 23 Aust. Inf.Bde.	19 -38
H.Q. 7 M.D.	
"G" Branch	39
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111 Convalescent Depot	97
H.Q. Cent. of Aust. L. of C.	98
Spare	99-100.

AUSTRALIAN WAR MEMORIAL AWM2020.71.8842

Australian Military Forces—7th Military District

Please quote this Number when replying.

Int	1202	

JB/JA

S.H. 30.

Head-Quarters,
Darwin,

15 Aug 41

C.O.,
D.I.B.

GENERAL NOTES

ON

"I" DUTIES IN THE DIVISION

Herewith please find Copies Nos. 14 - 15 of the above document.

Please acknowledge receipt on the attached Form.

A. L. Elliott

Lt.-Col.,
G.S. (Int.), 7 M.D.

AUSTRALIAN WAR MEMORIAL AWM2020.71.8842

MT/21/8/p.

Australian Military Forces—7th Military District.

Please quote this Number when replying.

SM	1226	

Head-Quarters,
Darwin,

21 Aug 41

SECRET.

23 Aust. Inf. Bde.
D.I.B.
18 Bd. Bty.
C.F.D.
C.R.E.
Sig. Offr. 7 M.D.
A.D.S. & I.

Copies:- G.S.O. I. (for information)
A.A. & Q.M.G. for information.

COMBINED DEFENCE EXERCISE 5/6 AUGUST, 1941.
INTER SERVICE CONFERENCE.

An Inter-Service conference will be held in the Commandant's Office, New Administrative Block, LARRAKEYAH, at 0900 hrs. Thursday 28th August, 1941 to discuss the abovementioned exercise.

2. Commanders, Fixed Defences, Covering Force and Field Force will attend and will bring such staff as they consider essential. Umpires will attend.

3. Personnel attending will be given the opportunity of submitting and discussing points arising from the exercise and therefore should bring with them relative narratives and logs.

[signature]

for Lt.-Col., Major
General Staff, 7th Military District.

22/8.

file
SECRET

JB/MT/26/p.

S.M. 60.

26 Aug. 1941.

"G" Branch,
C.S.O.II "I".
C.R.E.
C/O. D.I.B.
O/C. 18 Fd. Battery.

NOTES ON AERIAL PHOTOGRAPHY

Herewith one copy of above document for perusal and retention.

Please acknowledge on attached Form A.58.

J. Bryant

(J.W. Bryant), Lieut.,
General Staff I(a), 7 M.D..

AUSTRALIAN WAR MEMORIAL AWM2020.71.8842

MT/28/8/a.

Australian Military Forces—7th Military District.

Please quote this Number when replying.

SM. 1285

Head-Quarters,
Darwin,

SECRET. 28 Aug. 1941.

C.O.,
D.I.B.

PTE. W. ODGERS Q.70627.

The attached copy of a written statement made by the above to the Leader of the Opposition in the Queensland Parliament is forwarded for your information.

It is requested that the personnel under your command be warned of the seriousness of making such statements, particularly when they are on leave in other Commands.

K.E. Wheeler

(K.E. Wheeler) Major,
General Staff (Int.) 7 M. D..

Encl.

Trans. 19/5/41 to Northern Command.

PA. A35 2/8

COPY.

M.I. 25/1/361.

DARWIN - AN INVESTIGATION SUGGESTED.

During my stay of five months in Darwin many irregularities in the administration, and in the prosecution of the war defence effort generally were brought to my notice. I am passing on these observations with the hope that the cases mentioned will be the subject of searching inquiry by some responsible and unprejudiced officer; unescorted and unannounced.

The particulars are as follows:-

(1) The employment, at excessive rates of pay, of aliens of doubtful origin to supply labour for defence work, viz, barracks hospitals, etc.

Suggested that the possibility of utilising the skilled labour known to exist in the ranks of Garrison Bn. at present doing practically nothing. These men could be pd. at army specialists' rates.

(2) Conditions existing on Darwin's waterfront. Waterside workers indulge in all manner of delaying activities without penalty. Much valuable sailing time being lost in this way. Supplies, too, are often lost in the harbour as the result of careless handling.

(3) Apparent neglect to appreciate fully the possibility of sabotage by resident subversive element, when constructing water main from Manton Gap. This new main for many miles is layed above the ground where it is open to unlimited attacks. This main, apart from the totally inadequate supply from Howard Spring where the pumps need attention, is the only water available to meet all requirements.

THIS LIFELINE REMAINS TOTALLY UNGUARDED.
The only measure to afford any protection is in the hands of the Army Chiefs.

(4) The absence of a substantial, all-weather route, South from Darwin by which supplies could reach those whose duty would compel them to remain in this area in all circumstances, creates for the very unpleasant possibility, that men stationed here would be caught in a trap, if a determined attempt were made to invade this area at the height of the wet season. During the recent movements of large convoys over the present road only a few miles per day were covered for days in succession, many lorries being bogged, some damaged.

(5) The liquid fuel supplies, on which so much may depend in the near future are guarded in a manner suggesting no thought of possible attempts at their destruction. The railway line runs beside the tankage area, and this is a real menace as Darwin's most undesirables inhabit this region.

(6) While steps have been taken to eliminate the subversive element from the southern Press the Darwin Standard continues to publish matter of such a nature, that its circulation has been restricted in one camp. It is noted for its Communistic support.

Without wishing to make any ambiguous statements, I have no hesitation in suggesting that it would be possible for three skilled sabatuers to completely cripple the essential services at Darwin at any suitable moment.

AUSTRALIAN WAR MEMORIAL AWM2020.71.8842