

S E C R E T

D. Chemical and Metallurgical Laboratory

1. 8 to 10 bursts are seen in the immediate vicinity of these two related buildings, including one or two direct hits or near misses. Later strike photographs show two large holes in the roof of one of these buildings, at least slight damage to the other, and in addition another long shed type building, probably related and thought to be new, is seen to have been almost completely destroyed.

E. Machine Shop.

1. In later strike photographs a very large hole and other related damage are seen in the roof of a large machine shop. Two bursts seen in early photos are seen to have damaged a small shed probably related to the machine shop.

F. Other Significant Damage.

1. One burst is seen at approach to bridge overpassing the Dairen-Mukden Railroad.
2. Approximately eight bursts are seen in area of barracks or workmen's quarters.
3. Numerous bursts on right-of-way of Dairen-Mukden Railroad.

Prepared by:  
TARGET SECTION, A-2  
XX BOMBER COMMAND

*John H. Craig Lt. Col. AC*  
JAMES D. GARCIA  
Colonel, G.S.C.  
AC of S, A-2

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HEADQUARTERS  
XX BOMBER COMMAND  
Office of the Assistant Chief of Staff, A-2  
APO 493

PHOTOGRAPHIC SUPPLEMENT TO PROVISIONAL D. A. REPORT NO. 3

The photographs provided in this supplement illustrate various stages of the attack. Selection was based on the desire to show some of the more significant bursts. This photographic supplement includes: An approximate bomb plot accounting for all known bursts or bomb craters; an annotated mosaic with reference key relating the details of important hits (this mosaic also shows the appearance of the target at the moment of attack); a series of 10 prints, No. 10 of which, in four successive exposures, reveals the early history of a great explosion originating in the coke by-products plant.

I. Key To Mosaic.

1. At least one and probably two direct hits on the south coke battery.
2. Near miss on coaling tower probably damaged pusher for south battery.
3. Direct hit on coaling tower of central battery.
4. One direct hit and near miss or direct hit on central coke oven battery near coaling tower.
5. Two direct hits at northeast end of building housing cleaning, crushing, and screening facilities for central coke battery.
6. Two very near misses and three additional misses on north coke battery.
7. Probable origin of great fire and explosion.
8. One of first bursts was seen among six unidentified tanks in by-products plant.
9. Direct hit or near-miss on heating stoves and stack.
10. Near miss on Number 4 blast furnace.
11. Direct hits or near misses on small shed at base of above incline carrying skip car to top of No. 4 furnace.
12. One or two direct hits on correlative installation of No. 2 Blast Furnace (see 11).
13. Damage to large machine shop.
14. Damage to chemical and metallurgical laboratory.
15. Damage to approach of bridge overpassing Dairen-Mukden Railroad.

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II. Key To Prints Nos. 1, 2, 3.

(NOTE: These prints may be used for stereoscopic examination).

1. South coke battery, showing plumed light colored smoke with southern quarter of battery apparently afire. Evidence of direct hit on roof of battery is seen.
2. Crater marks near miss on coaling tower and pusher.
3. Tanks in which one of first bombs fell.
4. Damage to chemical and metallurgical laboratory.
5. Damage to large machine shop.

III. Key To Prints Nos. 4 and 5.

(NOTE: These prints may be used for stereoscopic examination).

1. Shows direct hit and near miss, together with other near bursts, on south coke battery.
2. Base of great fire in By-Products Plant.
3. Burst on approach to bridge overpassing Dairen-Mukden Rail line.

IV. Key To Prints Nos. 6, 7, 8, 9.

(NOTE: These prints may be used for stereoscopic examination).

1. One hit and near miss on central coke battery.
2. Two direct hits on building housing cleaning, crushing, and screening facilities for coal.
3. Direct hit on coaling tower.
4. Direct hit or near miss on blast furnace blowers.
5. Near miss on No. 4 Blast Furnace.
6. Direct hits or near misses on shed related to No. 4 Blast Furnace.
7. One or two direct hits on shed related to No. 2 Blast Furnace.
8. Burst near chemical and metallurgical laboratory.

S E C R E T



SECRET  
ANSHAN, MANGHURIA  
SHOWA STEEL WORKS  
(D.A. REPORT NO. 3)  
29-7-44  
SCALE: 1:13,000  
41°08'N; 122°57'E  
XX BOMBER COMMAND



ANSHAN, MANCHURIA  
SHOWA STEEL WORKS

D. A. REPORT NO.3, BOMB PLOT  
29 JULY 1944

SCALE-APPROX. 1-23,000

SECRET

SECRET

SECRET

DECLASSIFIED  
Authority 760063  
By NARA Date 10/14



DECLASSIFIED  
Authority 760063  
By NARA Date 10/4



DECLASSIFIED  
Authority 760063  
By NARA Date 10/4



6.22

DECLASSIFIED  
Authority 760063  
By NARA Date 10/4





(S-572-891-4-14)

ANSHAN, MANCHURIA  
PRINT 4

6.23

DECLASSIFIED  
Authority 760063  
By NARA Date 10/4





ANSHAN, MANCHURIA  
PRINT 5

DECLASSIFIED  
Authority 760063  
By NARA Date 10/4



(6-2911-537-4-4)

ANSHAN MANCHURIA  
PRINT 6

6.25

DECLASSIFIED  
Authority 760063  
By NARA Date 10/4



DECLASSIFIED  
Authority 760063  
By NARA Date 10/4



(S-9) (10-17-40)

ANSHAN, MANCHURIA  
PRINT B

6.19

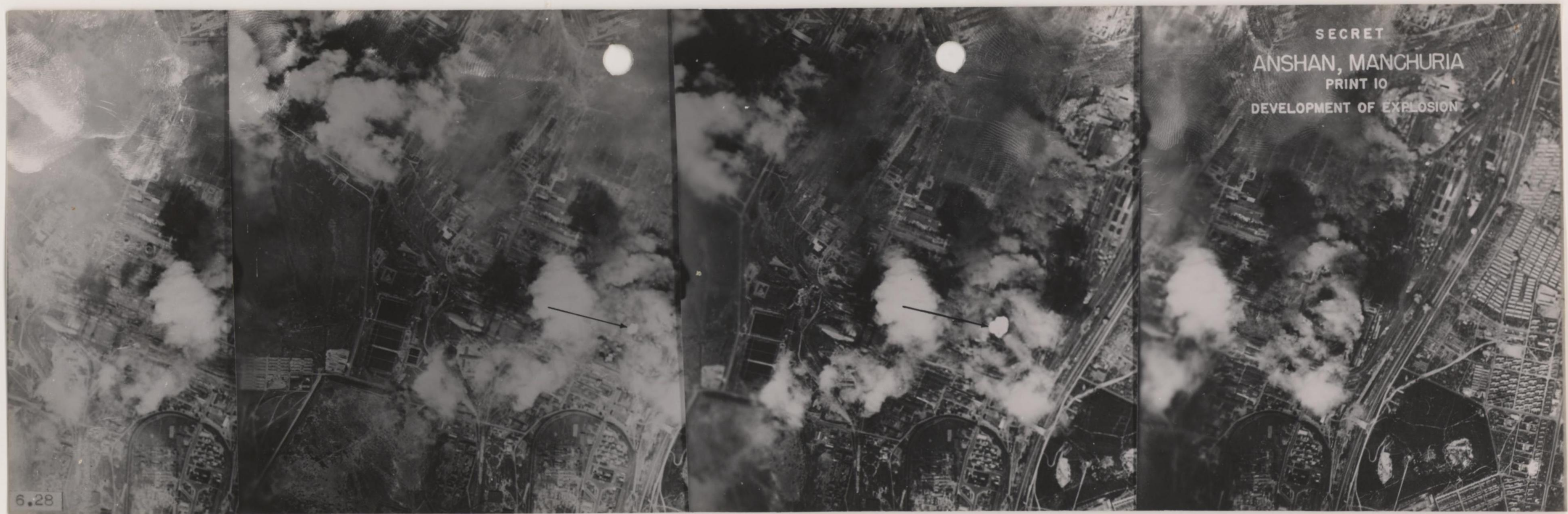
DECLASSIFIED  
Authority 760063  
By NARA Date 10/4



ANSHAN, MANCHURIA  
PRINT 9

6.26

DECLASSIFIED  
Authority 760063  
By NARA Date 10/4



DECLASSIFIED  
Authority 760063  
By NARA Date 10/14



S E C R E T

HEADQUARTERS  
XX BOMBER COMMAND  
Office of the Assistant Chief of Staff, A-2

S E C R E T

Auth CG XX BC

3 Aug 44 JMC

Date Initials

PROVISIONAL DAMAGE ASSESSMENT REPORT NO. 4

TARGET: Taku - Tangku Harbor Area, China; 39° 00' N; 117° 40' E.

GENERAL STATEMENT:

This report deals with damage sustained by the Taku - Tangku Harbor area as a result of attack by 17 B-29 aircraft of XX Bomber Command on 29 July 1944.

Assessment herein is based on variable quality strike photography and should be considered provisional.

Damage has been inflicted on 2 large godowns and associated wharves near the center of the target area. A direct hit is seen on a 150/200' collier-type vessel and a near miss on a similar vessel. Rail lines and sidings are seen to have been damaged in a number of places. Direct hits were scored on several buildings of the Yung Li Alkali Plant. In addition approximately 25-30 business/residential buildings appear to be damaged or destroyed.

REMARKS:

Numbers in parentheses under "Details of Damage" refer to corresponding numbers on Appendix 1, Annotated Print.

REFERENCES:

1. Air Objective Folder No. 83.12.
2. AAF Target Chart, China No. 4.

WEIGHT OF ATTACK:

136 GP 500# AN-M-64 Bombs (Composition B) fused 0.1 nose and 0.025 tail.

PHOTOGRAPHS:

Scale: Approximately 1/35,000 and 1/9,000.  
Quality: Good to poor.

PREVIOUS PHOTO COVER: None.

AIMING POINT:

Target No. 7 (Objective Folder 83.12), General Wharf Area approximately 6000' x 800', along east bank of the Hai River.

APPENDICES:

One Annotated Print.

DETAILS OF DAMAGE:

- (1). A large 500' x 120' godown approximately in the center of the target area is seen to have been severely damaged by a direct hit near the center of the building and further severely damaged by at least 3 and probably 4 bombs that fell immediately to the west, the latter also destroying or damaging about 450' of the wharf.

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Authority 760063

By NARA Date 10/4



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- (2) At least one and probably two bombs are seen bursting just off the west edge of a 350' x 120' godown south of item (1) probably causing severe damage.
- (3) A direct hit is seen to have been scored on a 150'/200' collier-type vessel at the wharf just west of the godown mentioned in item (2) and another bomb is seen bursting approximately 100' west of the vessel in the Hai River.
- (4) Approximately 500' south of the main wharf area 3-4 bombs are seen to be bursting near the edge of the river probably damaging a small wharf and 3-4 small barracks type buildings nearby.
- (5) Just south of item (4) one bomb burst is observed on the bank of the Hai River probably damaging a small wharf. Two or three bombs are seen to be bursting in the river itself. One of these, about 40'-50' off the stern of a 150' x 200' collier type vessel, probably caused some damage thereto.
- (6) Directly across the Hai River from the mouth of the Chang Canal a string of 6-7 bombs is noted, mostly in open ground, possibly damaging several small buildings and a railroad siding.
- (7) Approximately 600' NNE of item (6) at least 2, probably 3 bombs, are seen bursting in the west edge of a triangular shaped barracks area probably effecting damage or destruction to 5 or 6 of the buildings.
- (8) Approximately 4 bombs are seen to have fallen just SE of the locomotive repair shed probably damaging several rail sidings and several small houses.
- (9) Just north of the locomotive repair shop concentrated bombs are seen to have fallen in a SSW - NNE direction across a business/residential area of Tangku. At least 17 bursts can be counted, damaging a railroad line and affecting approximately 20-25 business/residential buildings including probable direct hits on 3 unidentified two-story buildings.
- (10) A string of 8 bombs is noted bursting at the north end of the marshalling yard across a business area and into the Yung Li Alkali Plant probably severely damaging 2 or 3 two-story buildings, damaging rail lines in several places, and damaging or destroying one 250' x 75' shed type building and 5 or 6 smaller buildings in the Alkali Plant.
- (11) A concentration of approximately 24 bombs is seen to have fallen across the Hai River from the main wharf area in open ground with several in the river itself. Possibly damaged is what appears to be a semi-drydock excavated out of the bank but without concrete surfacing.

Prepared by:  
TARGET SECTION, A-2  
XX BOMBER COMMAND

*John H. Crago Lt. Col. A.C.*  
for JAMES D. GARCIA  
Colonel, G.S.C.  
AC of S, A-2

S E C R E T



HAI RIVER

N (APPROX)

APPENDIX I  
DAMAGE ASSESSMENT REPORT NO. 4  
(PROVISIONAL)  
SCALE 1:11,000  
SECRET

CHANG CANAL

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HEADQUARTERS  
XX BOMBER COMMAND  
Office of the Assistant Chief of Staff, A-2  
APO 493

S E C R E T  
Auth CG XX BC  
7 Aug 44  
Date Initials

6 August 1944

PROVISIONAL DAMAGE ASSESSMENT REPORT NO. 5

TARGET: Chenghsien Railroad Yards; China (34° 43' N; 113° 41' E)

GENERAL STATEMENT:

This report deals with damage sustained by the Chenghsien Railroad Yards as a result of attack by 6 B-29 aircraft on 29 July 1944. The assessment of damage derives exclusively from interpretation of strike photographs and, pending accomplishment of reconnaissance flight over this target, should be considered provisional.

Damage is seen to have been inflicted in the NE end of the yards probably breaking the Peking-Hankow line in several places, which would halt rail traffic temporarily. Further to the N another break, possibly two, appears to have occurred on several of the lines of the rail complex. In addition direct hits appear to have been scored on a 150' x 40' building, reported to be a school and possibly used as a barracks, probably destroying the building as well as damaging several smaller nearby buildings.

REMARKS:

Only 1 set of photographs were secured on this attack showing the results of 3 aircraft. Three more aircraft are known to have attacked subsequent to this cover.

REFERENCES: Third Phase P. I. Report No. 98, 18th P.I.D.

WEIGHT OF ATTACK: 48 GP 500# AN-M-64 Bombs (Composition B) fused 0.1 secs. nose, 0.025 secs. tail.

PHOTOGRAPHS: 1 set of strike photographs, poor quality, scale approximately 1/27,000.

PREVIOUS PHOTO COVER: Third Phase P.I. Report No. 98, 18th P.I.D.

AIMING POINT: Railroad Yards on W side of town of Chenghsien.

DETAILS OF DAMAGE:

- (1) A string of eight bombs is seen bursting across the NE end of the RR yards approximately at the "choke-point". Smoke obscures the area but it appears that the tracks have been broken in 2 or 3 places and that traffic on the Peking-Hankow Railroad has been interrupted at this point.

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- (2) Just W of the Railroad several of the bomb bursts indicated in item (1) are seen to completely obscure (indicating direct hits) a 150' x 40' building, part of a complex of 14 buildings reported to be a school, possibly used as a barracks. Several small buildings nearby may have received blast damage.
- (3) Approximately 1500 feet N of item (1) and immediately W of the Yard are what appear to be six bomb craters running generally in a NW-SE direction. In addition one or two possible breaks in rail lines are indicated along the same axis of fall as the bombs mentioned in the previous sentence.
- (4) Also damaged in several places is a narrow defense system of walls and trenches which more or less surrounds the city.

Prepared by:  
TARGET SECTION, A-2  
XX BOMBER COMMAND

*James D. Garcia*  
JAMES D. GARCIA  
Colonel, G.S.C.  
AC of S, A-2

S E C R E T

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ANNEX

L

CONSOLIDATED MISSION STATISTICAL SUMMARY

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*****  
** Prepared by: **  
** STATISTICAL SECTION **  
** XX BOMBER COMMAND **  
*****
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DECLASSIFIED  
Authority 760063  
By ND NARA Date 10/4

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XX BOMBER COMMAND  
 CONSOLIDATED MISSION STATISTICAL SUMMARY  
 Mission Number Four Against Anshan  
 29 July 1944

By Authority of the  
 Commanding General:

3 18  
 Date Initials

Table I - Aircraft Participating

Group	F.O. No.	Mission No.	Primary Target	A/C Airborne in Rear Area	% Airborne A/C Aborting between Rear & Fwd. Area	A/C In Fwd Area for Mission	A/C Taking off from Fwd. Area	Airborne A/C Failing to Bomb Designated Target				% of Airborne A/C Failing to Bomb Designated Target	Target Bombed			
								Mech Fail	Pers Fail	Weather	Not in Formation		Anshan	Cheng-sien	Taku	Other
40th	4	4	Showa Steel Works Anshan	28	3.5	27	24	4	0	0	0	16.7	20 **	1		1
444th	4	4	Anshan *	30	6.7	28	24	5	1	0	2	33.3		3	16	
462nd	4	4	Anshan	25	8.0	23	21	6	0	0	0	28.6	15			4
468th	4	4	Anshan	28	0	29	27	2	1	0	0	11.1	24	1		
TOTAL				111	4.5	107	96	17	2	0	2	21.9	59 **	5	16	5

\* The field order specified Anshan as the 444th Group's primary target, but due to late take-offs in this group all planes were directed to bomb the tertiary target of the field order, Taku.

\*\* One aircraft, 42-6288, is included in this total, went over the primary target to take photographs but did not bomb.

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XX BOMBER COMMAND  
 CONSOLIDATED MISSION STATISTICAL SUMMARY  
 Mission Number Four Against Anshan  
 29 July 1944

By Authority of the  
 Commanding General:

Date        Initials       

Table II - Bombing Runs

Group	No. of A/C Bomb- ing	Target Bombed	Time of Release		Altitude of Release		Visual Bombing A/C Sighting For		Radar Bombing A/C Sighting For		A/C Dropping On	
			Earliest	Latest	Highest	Lowest	R & D	Range	R & D	Range	AFCE	Manual
40th	19	Anshan	0357	0441	25,500	19,000						
	1	Chengsien	0351	0351	13,500	13,500					3	18
	1	Other	0140	0140	5,425	5,425	10	11				
444th	16	Taku	0658	0817	21,000	17,225						
	3	Chengsien	0643	0745	25,000	22,900	6	13			3	16
462nd	15	Anshan	0407	0455	26,100	19,000						
	4	Other	0203	0517	20,600	15,500	7 *	11 *			7 *	11 *
468th	1	Chengsien	0219	0219	20,000	20,000						
	24	Anshan	0401	0455	25,300	20,000	12	13			12	13
TOTAL	84											
							35 *	48 *			25 *	58 *

\* Unknown for 42-6256 which is unreported.

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XX BOMBER COMMAND  
 CONSOLIDATED MISSION STATISTICAL SUMMARY  
 Mission Number Four Against Anshan

By Authority of the  
 Commanding General:

T-2 744  
 Date Initials

Table III - Bomb Loading and Disposal

Group	Bomb Loading						Disposal of Bombs							
	High Explosives			Incendiary			On Target		Jettisoned		Returned		Unknown	
	No. & Wgt. of Bombs	Nose	Tail	No. & Wgt. of Bombs	Nose	Tail	H. E.	Incend.	H.E.	Incend.	H. E.	Incend.	H. E.	Incend.
40th	184-500# G.P.	.10	.025				164		20		0		0	
444th	192-500# G.P.	.10	.025				141		24		27		0	
462nd	168-500# G.P.	.10	.025				152		8		8		0	
468th	216-500# G.P.	.10	.025				196		20		0		0	
TOTAL	760-500# G.P.						653*		45		35		0	

\* These 653 bombs were dropped on targets as follows: Anshan - 448, Chongsien - 44, Taku - 114, and other targets - 47.

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XX BOMBER COMMAND  
 CONSOLIDATED MISSION STATISTICAL SUMMARY  
 Mission Number Four Against Anshan

By Authority of the  
 Commanding General:

Table IV - Aircraft Losses and Claims

Group	Total Lost	Aircraft Lost				Total	Aircraft Damaged					Not Repairable	Claims Against Enemy				
		Cause of Loss					Primary Cause of Damage				To be Repaired by			Destroyed	Probably Destroyed	Damaged	
		Flak	E A/C	Accident	Other		E/A	Flak	Own Guns	Accident	Tact Gp		Sv Gp				Dep Gp
40th	1 *	0	0	1	0	2	2	0	0	0	2	0	0	0	0	2	3
444th	0 **	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
462nd	1	0	0	0	1	1	0	1	0	0	1	0	0	0	0	0	0
468th	1	0	1	0	0	4	0	4	0	0	4	0	0	0	0	1	1
TOTAL	3	0	1	1	1	7	2	5	0	0	7	0	0	0	0	3	4

\* Does not include the loss of 42-6291 which crashed between rear and forward area on first leg of mission.  
 \*\* Does not include the loss of 42-6223 which crashed between forward and rear area returning from mission.

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XX BOMBER COMMAND  
 CONSOLIDATED MISSION STATISTICAL SUMMARY  
 Mission Number Four Against Anshan

By Authority of the  
 Commanding General:

Table V - Encounters with Enemy Aircraft

Date Initials

DIRECTION	ALTITUDE															
	HIGH				LOW				LEVEL				TOTAL			
	40th	444th	462nd	468th	40th	444th	462nd	468th	40th	444th	462nd	468th	40th	444th	462nd	468th
1200	1	0	0	0	0	0	0	0	2	0	1	0	3	0	1	0
0130	1	0	0	0	0	2	1	1	1	1	4	0	2	3	5	1
0300	3	0	0	0	0	0	0	0	2	0	1	0	5	0	1	0
0430	0	0	0	0	1	0	0	0	3	0	0	0	4	0	0	0
0600	0	0	0	0	1	0	0	0	0	0	1	1	1	0	1	1
0730	1	0	0	0	3	0	1	0	2	0	0	0	6	0	1	0
0900	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
1030	0	0	0	0	0	1	0	0	0	0	0	1	0	1	0	1
TOTAL	7	0	0	0	5	3	2	1	10	1	7	2	22	4	9	3

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XX BOMBER COMMAND  
 CONSOLIDATED MISSION STATISTICAL SUMMARY  
 Mission Number Four Against Anshan

By Authority of the  
 Commanding General:

Table VI - Personnel Losses

Date Initials

Crew Position	Killed				Missing				Seriously Injured				Slightly Injured				Total Casualties				Total Participating**			
	40th	444th	462nd	468th	40th	444th	462nd	468th	40th	444th	462nd	468th	40th	444th	462nd	468th	40th	444th	462nd	468th	40th	444th	462nd	468th
Pilot	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	24	24	21	27
Co-Pilot	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	24	24	21	27
Navigator	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	24	24	21	27
Bombardier	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	24	24	21	27
Flt. Engr.	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	24	24	21	27
Radar	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	26	24	21	27
Radio	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	24	24	21	27
C.F.C. Spec	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	24	24	21	27
Right Gnr.	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	24	24	21	27
Left Gnr.	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	24	24	21	27
Tail Gnr.	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	24	24	21	27
Pos Unknown	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0
Others	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	9	8	9
TOTAL	* 8	* 0	0	0	0	0	0	3	0	0	0	0	3	0	0	0	11	0	0	3	276	273	239	306

\* These figures do not include 8 men killed on first leg of mission in crash of 42-6291, 40th Group, and 6 men killed in crash of 42-6228, 444th, which crashed on return trip between forward and rear areas.  
 \*\* Includes only those who took off on mission from forward area.

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XX BOMBER COMMAND  
 CONSOLIDATED MISSION STATISTICAL SUMMARY  
 Mission Number Four Against Anshan

S E C R E T

By Authority of the  
 Commanding General:

Table VII - Expenditures of Gasoline and Ammunition \*

Date Initials

Group	Gallons Gasoline Expended Per Plane **					Ammunition Expended Per Plane					
	Minimum	Maximum	Median	Average Consumption	Aver Burnable Gas Left in Tanks Upon Return	Upper Front	Lower Front	Upper Rear	Lower Rear	.50 Cal Tail	20 MM Tail
40th	5300	7080	6420	6243	1021	274	314	295	365	344	100
444th	4100	5590	4600	4763	2501	97	105	84	115	121	26
462nd	5735	7000	6170	6270	994	87	87	87	114	114	0
468th	5530	5890	5710	5688	1576	73	74	71	83	66	12

\* Includes only expenditures between the forward area and the target and return to the forward area.  
 \*\* Includes for the 40th, 462nd, and 468th only aircraft bombing Anshan and for the 444th includes only aircraft bombing Taku.

S E C R E T

SECRET

ANNEX

M

FIELD ORDERS

\* \* \* \* \*  
\* All Field Order material in the \*  
\* following Annex, originally class- \*  
\* ified TOP SECRET, is hereby re- \*  
\* classified to SECRET . . . . . \*  
\* By authority CG, XX Bomber Command \*  
\* 12 SEPTEMBER 1944 gdg \*  
\* Date Initials \*  
\* \* \* \* \*

SECRET

DECLASSIFIED  
Authority 760063  
By ND NARA Date 10/4

Reclassified SECRET  
Auth: CG, XX BC  
Initials: JDG  
Date: 12-9-44

S E C R E T

TOP SECRET  
Auth: CG, XX BC  
Initials: ECT  
Date: 18 July 44

NOT TO BE TAKEN INTO THE AIR

XX Bomber Command  
APO 493  
18 July 1944

FIELD ORDER )  
:  
NUMBER 4 )

MAPS: AAF Aeronautical Charts 1:1,000,000 #289, 381, 382, 384, 385, 436, 495, 496, 552, 553, 554, 555, 556, 557, 558, 559.

(or) International Map of the World 1:1,000,000 Chungking; Changsha; Nanking, Peiping, Kyuzyun, Jehol, Shenyang, Murden, Kunming, Tali, Assam, Bihar, Mandalay, Aratan, Calcutta.

AAF Aeronautical Charts 1:500,000 289C, 381A, B, C, D.

AAF Long Range Air Navigation Charts, 1:3,000,000 #17 and #26.

Naval Aviation Charts V-30 Series, 1:2,188,880 #16, #17, and #41.

1. a. (1) Hostile Ground Situation: See Intelligence Annex No. 1.  
(2) Hostile Air Situation: See Intelligence Annex No. 1.  
b. (1) Omitted.  
(2) Friendly Air Situation:
  - (a) Friendly Airfields: See Intelligence Annex No. 1.
  - (b) The 312th Fighter Wing will provide fighter cover for VLR bases in the CHENGTU area.
2. a. Staging from bases in the Chengtu Area, the XX Bomber Command conducts a maximum effort daylight attack on D-Day against the coke-steel target at SHOWA STEEL WORKS, ANSHAN, MANCHURIA (93.3-29, see Annexes No. 3 and 4).  
b. SECONDARY TARGET will be CHINWANGTAO port facilities and shipping (83.12-202, see Annexes No. 3 and 4).  
c. TERTIARY TARGET will be TAKU port facilities and shipping (83.12-201, see Annexes No. 3 and 4).  
d. LAST RESORT TARGET will be ~~CHENGCHOW~~ CHENGCHOW (34°43'N - 113°41'E) railroad yards. (See Annex No. 3)  
e. ROUTE OUT will be BASE AREA - 32°35'N 111°29'E - 37°32'N 118°55'E - 40°25'N 121°00'E - 41°01'N, 121°48'E. (IP #1) or 40°33'N, 122°14'E. (IP #2) --- TARGET.  
Formations will reach an altitude of 15,000 feet or 500 feet under overcast but in no case under 10,000 feet before crossing over enemy held territory.  
f. ROUTE BACK will be TARGET -- 32°35'N 111°29'E -- BASE AREA.  
Formations will remain above 20,000 feet until clearing enemy held territory.

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3. a. 468th Bombardment Group, dispatching its aircraft as rapidly as possible from its forward base beginning at 2223Z on D-1, will bomb the SHOWA STEEL WORKS at ANSHAN, MANCHURIA as follows:

IP will be  $41^{\circ}01'N$   $121^{\circ}48'E$ .

AXIS OF ATTACK will be  $85^{\circ}$  Mag (visual)  
 $90^{\circ}$  Mag (Radar)

AIMING POINT will be such that the center of impact is on the middle coke oven. See point A on Target Chart 93.3-29. Annex No. 3.

METHOD OF BOMBING will be by flights of four (4) aircraft from 25,000 feet. If overcast prevents visual bombing from 25,000 feet, visual bombing will be accomplished from an altitude not more than 2,000 feet under the overcast, but in no case below 15,000 feet. Intervalometer setting for bombing will be 50 feet.

- b. 444th Bombardment Group, dispatching its aircraft as rapidly as possible from its forward base beginning at 2232Z on D-1, will bomb the SHOWA STEEL WORKS at ANSHAN, MANCHURIA, as follows:

IP will be  $40^{\circ}33'N$   $122^{\circ}14'E$ .

AXIS OF ATTACK will be  $10^{\circ}$  Mag (Visual)  
 $49^{\circ}$  Mag (Radar)

AIMING POINT will be such that the center of impact is on the middle coke oven. See Point B on Target Chart 93.3-29, Annex No. 3.

METHOD OF BOMBING will be by flights of four (4) aircraft from 26,000 feet. If overcast prevents visual bombing from 26,000 feet, visual bombing will be accomplished from an altitude not more than 2,000 feet under overcast, but in no case below 15,000 feet. Intervalometer setting for bombing will be 300 feet.

- c. 40th Bombardment Group, dispatching its aircraft as rapidly as possible from its forward base beginning at 2221Z on D-1, will:

- (1) Bomb the SHOWA STEEL WORKS at ANSHAN, MANCHURIA, as follows:

IP will be  $41^{\circ}01'N$   $121^{\circ}48'E$ .

AXIS OF ATTACK will be  $85^{\circ}$  Mag (Visual)  
 $90^{\circ}$  Mag (Radar)

AIMING POINT will be such that the center of impact will be on the middle coke oven. See Point A on Target Chart 93.3-29, Annex No. 3.

METHOD OF BOMBING will be by flights of four (4) aircraft from 25,000 feet. If overcast prevents visual bombing from 25,000 feet, visual bombing will be accomplished from an altitude not more than 2,000 feet under the overcast, but in no case below 15,000 feet. Intervalometer setting for bombing will be 50 feet.

- (2) With one B-29 aircraft equipped with special cameras, obtain photo coverage of the following:

TAKU (83.12-201, See Annex No. 3)  
CHINWANGTAO (83.12-202, See Annex No. 3)  
ANSHAN (93.3-29, See Annex No. 3)  
PENSIHU ( $93.5-30$ ,  $41^{\circ}20'N$ ,  $123^{\circ}40'E$ )  
DARIEN ( $93.5-2$ ,  $38^{\circ}55'N$ ,  $121^{\circ}40'E$ )  
See Annex No. 1 to Photographic Annex No. 5.

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This aircraft will proceed in formation to a point 40 miles beyond turning point at  $37^{\circ}32'N$   $118^{\circ}55'E$ , at which time it will detach itself from the formation and proceed to TAKU, climbing to 26,000 feet. After photographing TAKU, the plane will climb to 30,000 feet and proceed to photograph the other targets in order. After photographing DARIEN, this aircraft will return to CHENGTU base via turning point  $32^{\circ}35'N$   $111^{\circ}29'E$ , maintaining a minimum of 20,000 feet while over enemy territory. This aircraft will rejoin formation enroute back if returning bomber formations are sighted.

No bombardier will be carried in this airplane, but the crew will be augmented by two (2) aerial photographers.

- d. 462nd Bombardment Group, dispatching its aircraft as rapidly as possible from its forward base beginning at 2215Z on D-1, will bomb the SHOWA STEEL WORKS at ANSHAN, MANCHURIA as follows:

IP will be  $41^{\circ}01'N$   $121^{\circ}48'E$ .

AXIS OF ATTACK will be  $85^{\circ}$  Mag (Visual)  
 $90^{\circ}$  Mag (Radar)

AIMING POINT will be such that the center of impact will be on the middle coke oven. See Point A on Target Chart 93.3-29, Annex No. 3

METHOD OF BOMBING will be by flights of four (4) aircraft from 25,000 feet. If overcast prevents visual bombing from 25,000 feet, visual bombing will be accomplished from an altitude not more than 2,000 feet under the overcast but in no case under 15,000 feet. Intervalometer setting for bombing will be 50 feet.

- e. (1) On D-5 to D-2 inclusive each group will move all available combat operational aircraft to the CHENGTU Area, prepared for the combat mission.
- (2) Three auxiliary fuel tanks will be carried by each aircraft. All aircraft, upon departure from the Rear Base Area will be fully serviced with POL and oxygen to minimize servicing requirements in the Forward Area, where they will be topped-off to same loading.
- (3) Each group will load eight (8) GP 500# AN-M-64 (Composition B) bombs per airplane to be fused one-tenth (.1) second nose and twenty-five thousandths (.025) second tail. Fuses will be carried in each aircraft but bombs will not be fused until after reaching CHENGTU bases. A full load of .50 cal. and 20 mm. ammunition will be loaded prior to departure from the Rear Base Area.
- (4) Designated bombing altitudes will be true altitudes.
- (5) Fuel will be transferred from auxiliary tanks to wing tanks prior to time the primary target is reached.
- (6) Aircraft will not be in lead positions over the target unless their radar sets are operative.
- (7) Aircraft failing to join a formation of at least three planes before penetrating enemy territory will bomb the LAST RESORT TARGET and return to proper CHENGTU base. Formations reduced to a strength of less than three aircraft after having



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penetrated enemy territory will join a formation in the vicinity, if possible. Otherwise, they will bomb the nearest designated target from an altitude not less than 25,000 feet.

- (8) No more than one (1) Staff Observer will be carried in each aircraft on the bombing mission.
  - (9) After landing at CHENGTU area bases upon completion of the mission aircraft will be reserviced to a total of 3200 gallons of burnable fuel and necessary engine oil and will be kept on the alert during the remainder of the day. On D plus 1 they will return to their INDIA bases.
4. Administrative and Supply Details: See Administrative Order No. 3, to accompany Field Order No. 4.
5. a. (1) Signal Communications: See Signal Orders, Annex No. 6.  
(2) RCM: See RCM Orders, Annex No. 2.
- b. Command Posts:  
(1) Advance Headquarters, XX Bomber Command, APO 210.

L. G. SAUNDERS,  
Brigadier General, U. S. A.  
Commanding,

OFFICIAL:

JOHN E. UPSTON,  
Brigadier General, U. S. A.  
A/C of S, A-3

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HEADQUARTERS  
XX BOMBER COMMAND  
AFO 493

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ADMINISTRATIVE ORDER No. 3

1. SUPPLY

a. Air Bases:

(1) Rear Area

B-1	Kharagpur	468th Bomb Gp.
B-2	Kalaikunda	1st, 2nd & 3rd Air Transport Sq.
B-3	Dudhundi	444th Bomb Gp.
B-4	Charulia	40th Bomb Gp.
B-6	Pardoba	462nd Bomb Gp.

(2) Forward Area

A-1	Hsinching	40th Bomb Gp.
A-3	Kwanghan	444th Bomb Gp.
A-5	Kunglai	462nd Bomb Gp.
A-7	Pengshan	468th Bomb Gp.

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*Ray Baker*  
Capt. A. C.

b. Class I Supply: (Rations and daily supplies)

(1) Rear Area

Unit distribution daily. (SOP)

(2) Forward Area

- (a) Advance echelon personnel supplied by 315th Service Group.
- (b) Sufficient "K" and "C" rations for combat crew personnel will be available at rear bases.

c. Class II and III Supply: (Individual and organizational equipment)

(1) Rear Area

Unit distribution daily. (SOP)

(2) Forward Area

Emergency distribution through 315th Service Group.

d. Class III A Supply: (Aviation fuel and lubricants)

(1) Rear Area

Unit distribution daily. (SOP)

(2) Forward Area

Unit distribution by prior logistical plan.

e. Class IV Supply: (Construction equipment and materials)

(1) Rear Area

Branch Hq. No. 2, General Depot No. 2, Services of Supply, Kalaikunda.

(2) Forward Area

Sector No. 2, 5308th ASAC, Hsinching.

f. Class IV E Supply. (Aircraft, aircraft spares and maintenance materials)

(1) Rear Area

(a) Aircraft: 22nd Air Depot Group, Kharagpur.

(b) Other: 25th Service Group at B-1.

28th Service Group at B-4.

86th Service Group at B-6.

87th Service Group at B-3.

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(2) Forward Area

- (a) Aircraft: No distribution
- (b) Other: 315th Service Group at bases A-1, A-3, A-5 and A-7.

g. Class V Supply: (Ammunition, bombs, pyrotechnics, oxygen and chemicals)

- (1) Rear Area  
Unit distribution daily. (SOP)
- (2) Forward area  
Ammunition in emergency quantities through 315th Service Group.

h. Water:

- (1) Distribution at forward and rear bases.
- (2) All drinking water will be chlorinated or boiled.

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~~SECRET~~ C. G. AAF, by

*Ray G. Baker*  
Ray G. Baker, Capt. A. C.

2. EVACUATION

a. Casualties:

- (1) Ambulances will be available and will be requested by the airplane commander. Memorandum 35-40, Hq XX Bomber Command, dated 12 May 1944, will be complied with.
- (2) Rear Area
  - (a) The group surgeon will supervise the evacuation of all casualties.
  - (b) Evacuation from station hospitals to general hospitals will be determined by the type of injury and the station hospital facilities, and the evacuation will be effected by the Services of Supply.

(3) Forward Area

- (a) The senior tactical flight surgeon at each field in the forward area will supervise the evacuation of casualties. Evacuation of casualties will be coordinated with the Command Surgeon.
- (b) Evacuation from forward bases to rear bases will be effected by VLR aircraft or C-46 cargo aircraft. All material necessary to effect this evacuation is available at the forward bases.
- (c) Units will evacuate casualties to the following hospitals in the rear area:

40th Bomb Gp, to 98th Station Hospital, Chakulia.  
44th Bomb Gp, to 259th Sta. Hospital, Kalaikunda.  
462nd Bomb Gp, to Provisional Hospital, Piardoba.  
468th Bomb Gp, to 94th Station Hospital, Kharagpur.  
1st, 2nd and 3rd Air Transport Sq, to 259th Station Hospital, Kalaikunda.

b. Burial:

- (1) Rear Area
  - (a) Place - Local United States Army Cemetery.
  - (b) Procedure - See Memorandum 35-39, Hq, XX Bomber Command, dated 12 May 1944.
- (2) Forward Area
  - (a) Place - Local United States Army Cemetery.
  - (b) Procedure - See Memorandum 35-39, Hq, XX Bomber Command, dated 12 May 1944.

c. Salvage:

- (1) Aircraft - VLR.
  - (a) In all cases of major damage to VLR aircraft, the procedure below will be followed:
    - 1. The damaged aircraft immediately becomes the property of the attached service group.

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2. The aircraft will be immediately placed under armed guard to preserve security and to prevent stripping or pilfering of parts or equipment.
  3. The A-4 Section, XX Bomber Command, will be notified immediately of the serial number, location and general condition of the aircraft. It will be the sole responsibility of the Salvage Officer, A-4 Section, XX Bomber Command, to determine whether the aircraft is repairable, salvageable, or junk.
  4. It will be the responsibility of the attached service group to repair, salvage, reclaim or dispose of the aircraft.
- (2) Aircraft -- Other than VLR.  
Same as above, except that sub-paragraph 3 does not apply.
- (3) Other supplies.  
SOP through distributing agency.

### 3. TRAFFIC

- a. Circulation:  
Subject to local regulations of the Provost Marshal of each base area. See Memorandum No. 20-1, Hq, XX Bomber Command, dated 8 May 1944.
- b. Construction and Maintenance:  
Area Engineer, Services of Supply.

### 4. TRANSPORTATION

- a. Air
  - (1) By VLR aircraft of this command.
  - (2) By aircraft of the 1st, 2nd and 3rd Air Transport Squadrons, (Mobile), ATC, attached to this command.
- b. Ground
  - (1) Base areas -- Organizational motor pool.
  - (2) Cross country or rail -- Branch Hq. No. 2, General Depot No. 2, Services of Supply, Kalaikunda.

### 5. AIRDROMES

- a. Construction -- Area Engineer, Services of Supply.
- b. Maintenance -- Area Engineer, Services of Supply.

### 6. PERSONNEL

- a. Mail
  - (1) Collection daily at 0800.
  - (2) Official mail dispatched daily in accordance with Memorandum No. 80-11A, Hq, XX Bomber Command, dated 1 June 1944.
- b. Shelter  
Shelter for troops will be assigned locally under direction of unit commanders. Requests for new construction will be coordinated through Staff Engineer, XX Bomber Command.
- c. Strength Reports  
Consolidated strength reports will be submitted by all units, both assigned and attached, on the 15th and 30th of each month to the Statistical Section, XX Bomber Command.

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*Ray Baker*  
Capt. AAF

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d. Replacements

By requisition through A-1 Section, XX Bomber Command.

7. MISCELLANEOUS

- a. Sanitation - See Memorandum No. 25-7 Hq, XX Bomber Command, 21 Mar 1944.
- b. Malaria Control
  - (1) Mosquito nets will be used by all personnel.
  - (2) Provisions of Circular 42, Rear Echelon Headquarters, USAF, CBI Theater, dated 7 August 1943 and Memorandum No. 25-6, Hq, XX Bomber Command, dated 10 April 1944, will be observed.
- c. Police - The Provost Marshal will provide military police for the base areas as directed by the Group Commanders and as provided in Memorandum No. 20-1, Hq, XX Bomber Command, dated 8 May 1944.
- d. No change in other administrative details.

L. G. SAUNDERS  
Brigadier General, U.S.A.  
Commanding

OFFICIAL:

*P. H. Robey*  
P. H. ROBNEY  
Colonel, G.S.C.  
Asst. C/S, A-4

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C. G. AAR, by

*Kay Baker*  
Kay u. Baker, Capt. A. Co

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XX Bomber Command  
18 July 1944  
L.C.

NOT TO BE TAKEN INTO THE AIR

ANNEX NO. 1 TO FIELD ORDER NO. 4, XX BOMBER COMMAND

INTELLIGENCE

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C. G. AAF, by

*Ray Baker*  
Asst. Dir.

- SECTION I - Enemy Ground Situation
- SECTION II - Enemy Order of Battle ----- Sea
- SECTION III - Enemy Order of Battle ----- Air
- SECTION IV - Navigator's Aid Chart
- SECTION V - Enemy Airfields
- SECTION VI - Enemy Antiaircraft, Radar and Warning Nets
- SECTION VII - Enemy Aircraft (Characteristics and Performance)
- SECTION VIII - Enemy Fighter Tactics
- SECTION IX - Friendly Information

Maps and Supporting Documents

- Navigator's Aid Chart (including Battle Line and Troop Concentrations, Friendly Landing Fields) . . . . . Exhibit "A"
- Enemy Order of Battle, Air, Fighter Aircraft . . . . . Exhibit "B"
- Enemy Airfields . . . . . Exhibit "B - 1"
- Enemy Antiaircraft Defenses . . . . . Exhibit "C"

NOTE: Changes in operational intelligence data occurring after issuance of this annex will be reported to Wing and Groups by Radio or Courier.

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*Ray G. Baker*  
Ray G. Baker, Capt. A. C.

SECTION I: ENEMY GROUND SITUATION

A. The withdrawal of units from the YELLOW RIVER area combined with the current defensive preparations of Japanese forces deployed along the LINGPAO - LUSHAN - SAIPING front, strongly suggest that the enemy's immediate intentions do not include a drive westward towards SIAN and its adjacent airfields.

B. The Japanese capabilities for offensive action on the other fronts in CHINA, however, remain substantial, although the necessity for regrouping and strengthening Lines of Communications will naturally result in temporary periods of inactivity.

SECTION II: ENEMY ORDER OF BATTLE, SEA

A. Enemy Naval Order of Battle pertinent to the mission will be furnished immediately prior to the final mission briefing.

SECTION III: ENEMY ORDER OF BATTLE, AIR

A. The movement of first-line Japanese aircraft in MANCHURIA, KOREA, and North CHINA has not been as rapid and fluctuating as in other sectors of the Japanese theater of War. The organization and structure of the enemy Air Forces still lend themselves to continual movement of aircraft but in view of the past record of air units in these areas, it can safely be assumed that dispositions of aircraft and enemy capabilities as stated in the following tables and paragraphs will not vary widely within the next few days.

B. Order of Battle by Types of Aircraft:

1. Estimated enemy fighter strength as of 18 July 1944 in the target and adjacent areas is given in the following table:

Area	S/E Fighters and Floatplanes	Type of A/C
ANKING	28 S/E fighters	Tojo, Oscar - Mk II
CHIAMUSSU	32 S/E fighters	Oscars - Mk I and II
CHINKAI	8 Floatplanes	
HANKOW	47 S/E fighters	Oscars - Mk II
MANCHURIA (unlocated)	64 S/E fighters	Oscars - Mk I and II
MUTANKIANG	32 S/E fighters	Oscars - Mk I and II
NUNKIANG	32 S/E fighters	Oscars - Mk II
NANYUAN	32 S/E fighters	Oscars - Mk I and II, Zeke, possibly Hamp

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Area	S/E Fighters and Floatplanes	Type of A/C
TAIYUAN	11 S/E fighters	Oscars - Mk II
TSINAN	32 S/E fighters	Oscars - Mk I and II, Zeke, possibly Hamp
YANGTZE Area	32 S/E fighters	Oscars - Mk II, possibly Tojo
	16 Floatplanes	Rufe
YENKI	32 S/E fighters	Oscars - Mk II
Totals:	<sup>374 DSS</sup> <del>344</del> S/E fighters; 24 Floatplanes.	

2. For a map representation of the above data, see Exhibit "B".

C. Target Area:

1. There is no known disposition of first-line enemy fighters in the vicinity of ANSHAN, MUKDEN or CHINWANGTAO; however, there are 32 single-engined Naval fighters at MANYUAN, near TAKU. Most of these Naval fighters are believed to be trainers.

2. The following trainers are believed based at MUKDEN airfields and at CHINCHOW:

Area	Aircraft and Disposition
MUKDEN	221 S/E fighters - believed to be obsolescent fighters - possibly Claude. 90% believed in storage in the MUKDEN DEFOT.
CHINCHOW	58 S/E fighters - obsolescent fighters - possibly Claude. Not over 20 available for any operations.
Totals	279 S/E fighters; only 40 or less presumed operational and these not suitable for combat.

D. Proficiency of fighter units:

Area	Proficiency
North CHINA	Fair with slight to average experience
MANCHURIA	Average to fair
KOREA	Average with a few better than average

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E. The following table shows the disposition of enemy aircraft other than fighters in Central and Northern CHINA, MANCHURIA, and KOREA as of 18 July 1944:

Area	Light Bombers	Recce	Unidentified	Total
CHINKAI	12	12		24
KUNSAN	12			12
YANGTZE Area	8			8
MANCHURIA & KOREA (unlocated)	31	15	18	64
TUNGHO			32	32
HAILUN/MUTANKIANG	31			31
MUTANKIANG	31			31
HSINKING		9		9
HAILUN		18		18
HANKOW	62	9		71
SUCHOW	31			31
NANKING		9		9
TAIYUAN		9		9
CHINA (unlocated)		9		9
Total	218	90	50	358

F. An analysis of Enemy Air Order of Battle data together with a study of Exhibit "B" reveals the following facts:

1. That the enemy does not have strong fighter strength at any of the specified targets.
2. That twin-engined fighters are not known to be based in the area.
3. That many of the enemy fighters are trainers and obsolescent models.
4. That outstanding pilots are not generally sent to or kept in these northern areas.

In summation of this analysis, enemy fighter interception on the assigned mission may be expected to range from weak to moderate.

#### SECTION IV: NAVIGATOR'S AID CHART

A. A Navigator's Aid Chart (see Exhibit "A") has been provided; it is intended that one of these will be carried in each aircraft flying the mis-

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Ray *Lay Baker* Capt. A. G.

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sion. The Chart shows the Battle Line as of 18 July, areas of heavy enemy troop and fighter aircraft concentrations, plus locations by coordinates and names of Friendly Landing Fields. In addition, a symbol has been placed beside the names of those airfields which have radio facilities; in this way, the facilities available at any particular field can be quickly referred to in the XX Bomber Command and ATC Radio Facilities Listings, both of which are to be carried in each aircraft flying the mission.

SECTION V: ENEMY AIRFIELDS

A. Construction of enemy airfields in North CHINA, MANCHURIA, and KOREA has not been as great as in Central and South CHINA, BURMA, and the PACIFIC AREAS. Much data regarding enemy airfields in these Northern sectors is outdated but information as to airfield construction in these areas is deemed accurate.

B. The following table shows the disposition of known enemy airfields in North CHINA, KOREA, and MANCHURIA.

Area	1st Class	2nd Class	3rd Class	Status unknown	Total
North CHINA	13	21	50	14	98
MANCHURIA	19	11	18	40	88
KOREA	5	8	10	--	23
Totals.....	37	40	78	54	209

C. For detailed information of enemy airfields in the Target Areas, see Exhibit "B-1".

SECTION VI: ENEMY ANTI-AIRCRAFT, RADAR, AND WARNING NETS

A. General Area:

1. Antiaircraft Guns:

a. The Japanese have approximately one hundred and twenty-five (125) heavy guns in occupied CHINA, located as shown on the attached map, Exhibit "C".

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2. Radar and Warning Nets:

a. Through intercept data obtained from Mission Number 2, it has been established that the enemy has a radar warning net in Occupied CHINA, but indications have been that its operation is inefficient.

3. Balloon Barrages and Smoke Screens:

a. Negative information.

B. Target Area:

1. Concerning the primary (ANSHAN), secondary (CHINWANGTAO), and last resort (TAKU) targets, no information is available, but antiaircraft fire should be expected; definitely from automatic weapons if the altitude is low enough, and possibly from heavy antiaircraft guns.

SECTION VII: ENEMY AIRCRAFT (Characteristics and Performance)

A. See XX Bomber Command "Characteristics and Performance -- Japanese Aircraft", previously distributed.

SECTION VIII: ENEMY FIGHTER TACTICS

A. See XX Bomber Command "Tactics Bulletin No. 1."

SECTION IX: FRIENDLY INFORMATION

A. See Section IX, Annex No. 1 to Field Order No. 3, XX Bomber Command, dated 3 July 1944.

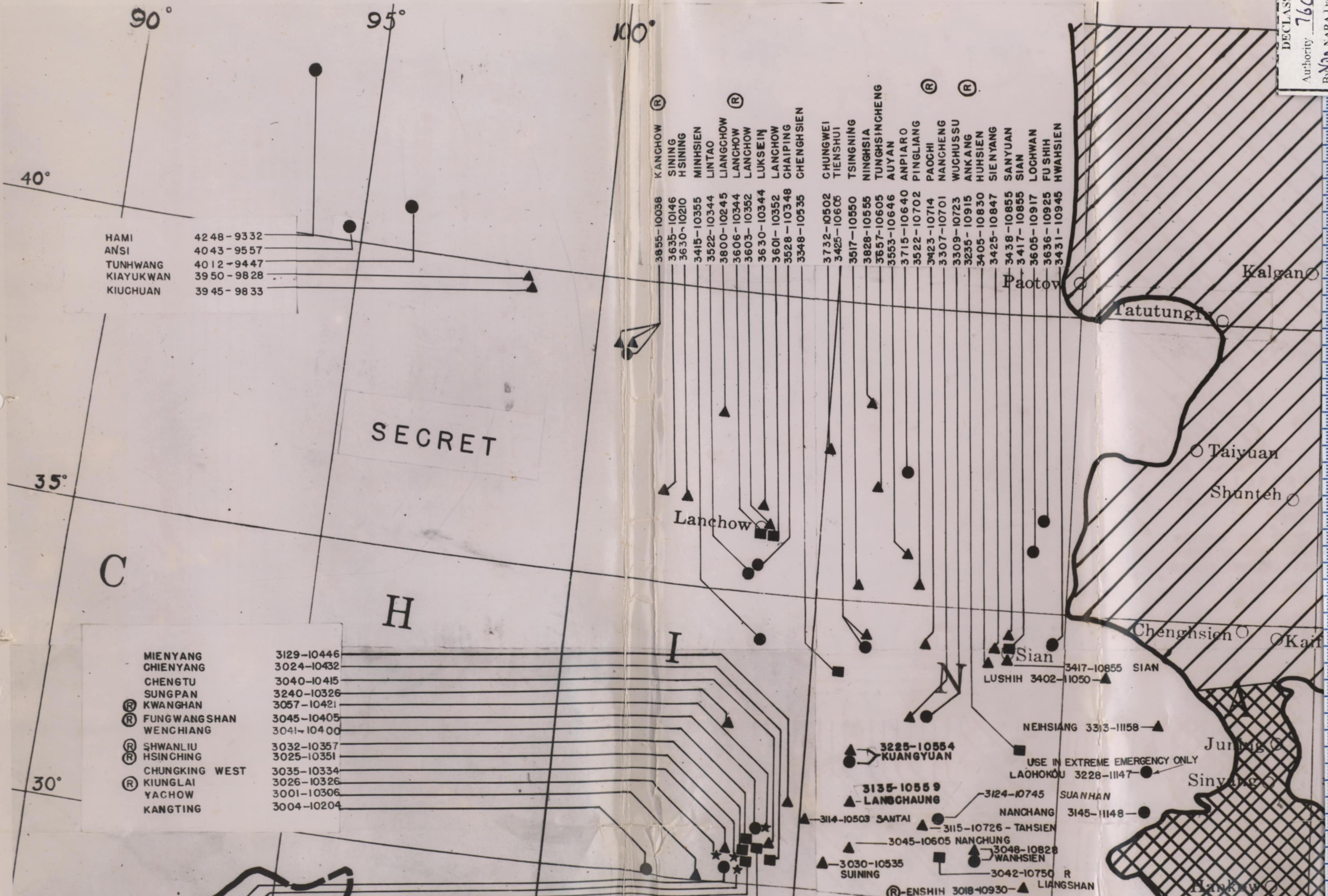
*F. J. Saunders*  
F. J. SAUNDERS  
Brigadier General, U.S.A.  
Commanding

OFFICIAL:

*James D. Garcia*  
JAMES D. GARCIA  
Colonel, G.S.C.  
AC of S, A-2

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Ray L. Baker  
S. A. C.

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 ANSI 40 43 - 9557  
 TUNHWANG 40 12 - 9447  
 KIAYUKWAN 39 50 - 9828  
 KIUCHUAN 39 45 - 9833

KANCHOW (R) 3855-10038  
 SINING 3635-10146  
 HSINING 3630-10210  
 MINHSIEN 3415-10355  
 LINTAO 3522-10344  
 LIANGCHOW (R) 3800-10245  
 LANCHOW 3606-10344  
 LANCHOW 3603-10352  
 LUKSEIN 3630-10344  
 LANCHOW 3601-10352  
 CHAIPING 3528-10348  
 CHENGHSIEN 3348-10535  
 CHUNGWEI 3732-10502  
 TIENSHUI 3425-10605  
 TSINGNING 3517-10550  
 NINGHSIA 3828-10555  
 TUNGHSINCHENG 3657-10605  
 AUYAN 3553-10646  
 ANPIARO 3715-10640  
 PINGLIANG 3522-10702  
 PAOCHI 3423-10714  
 NANCHENG (R) 3307-10701  
 WUCHUSSU 3309-10723  
 ANKANG 3235-10915  
 HUHSIEN 3405-10830  
 SIENYANG 3425-10847  
 SANYUAN 3438-10855  
 SIAN (R) 3417-10855  
 LOCHWAN 3605-10917  
 FU SHIH 3636-10925  
 HWAHSIEN 3431-10945

MIENYANG 3129-10446  
 CHIENYANG 3024-10432  
 CHENG TU 3040-10415  
 SUNGPAN 3240-10326  
 (R) KWANGHAN 3057-10421  
 (R) FUNGWANGSHAN 3045-10405  
 WENCHIANG 3041-10400  
 (R) SHWANLIU 3032-10357  
 (R) HSINCHING 3025-10351  
 CHUNGKING WEST 3035-10334  
 KIUNGLAI 3026-10326  
 YACHOW 3001-10306  
 KANGTING 3004-10204

SECRET

LUSHIH 3402-11050  
 SIAN 3417-10855

3225-10554  
 KUANGYUAN

3135-10559  
 LANGCHAUNG

NEHSIANG 3313-11158

USE IN EXTREME EMERGENCY ONLY  
 LAOHOKOU 3228-11147

3114-10503 SANTAI

3124-10745 SUANHAN  
 NANCHANG 3145-11148

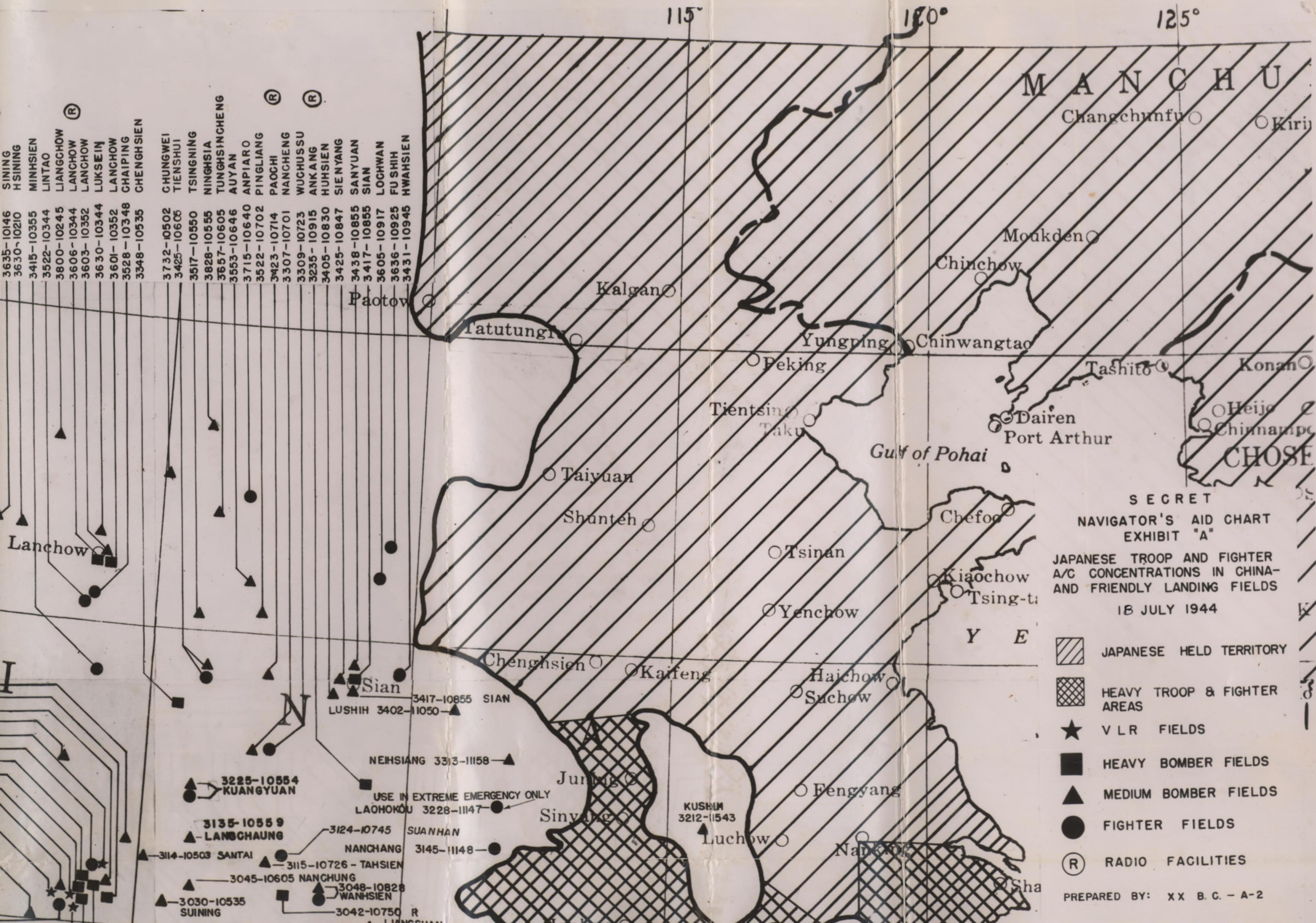
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3045-10605 NANCHUNG  
 3048-10828 WANHSIEN

3030-10535 SUINING

3042-10750 R LIANGSHAN

(R)-ENSHIH 3018-10930



- 3635-10146 Sining
- 3630-10210 H Sining
- 3415-10355 Minhsien
- 3522-10344 Lintao
- 3800-10245 Liangchow
- 3606-10344 Lanchow
- 3603-10352 Lanchow
- 3630-10344 Luksein
- 3601-10352 Lanchow
- 3528-10348 Chaiping
- 3348-10535 Chenghsien
- 3732-10502 Chungwei
- 3425-10606 Tienshui
- 3517-10550 Tsingning
- 3828-10555 Ninghsia
- 3657-10605 Tunghsincheng
- 3553-10646 Auyan
- 3715-10640 Anpiaro
- 3522-10702 Pingliang
- 3423-10714 Paochi
- 3307-10701 Nancheng
- 3309-10723 Wuchussu
- 3235-10915 Ankang
- 3405-10830 Huhsien
- 3425-10847 Sienyang
- 3438-10855 Sanyuan
- 3417-10855 Sian
- 3605-10917 Lochwan
- 3636-10925 Fushih
- 3431-10945 Hwahsien

SECRET  
 NAVIGATOR'S AID CHART  
 EXHIBIT "A"  
 JAPANESE TROOP AND FIGHTER  
 A/C CONCENTRATIONS IN CHINA-  
 AND FRIENDLY LANDING FIELDS  
 15 JULY 1944

Y E

- JAPANESE HELD TERRITORY
- HEAVY TROOP & FIGHTER AREAS
- V L R FIELDS
- HEAVY BOMBER FIELDS
- MEDIUM BOMBER FIELDS
- FIGHTER FIELDS
- RADIO FACILITIES

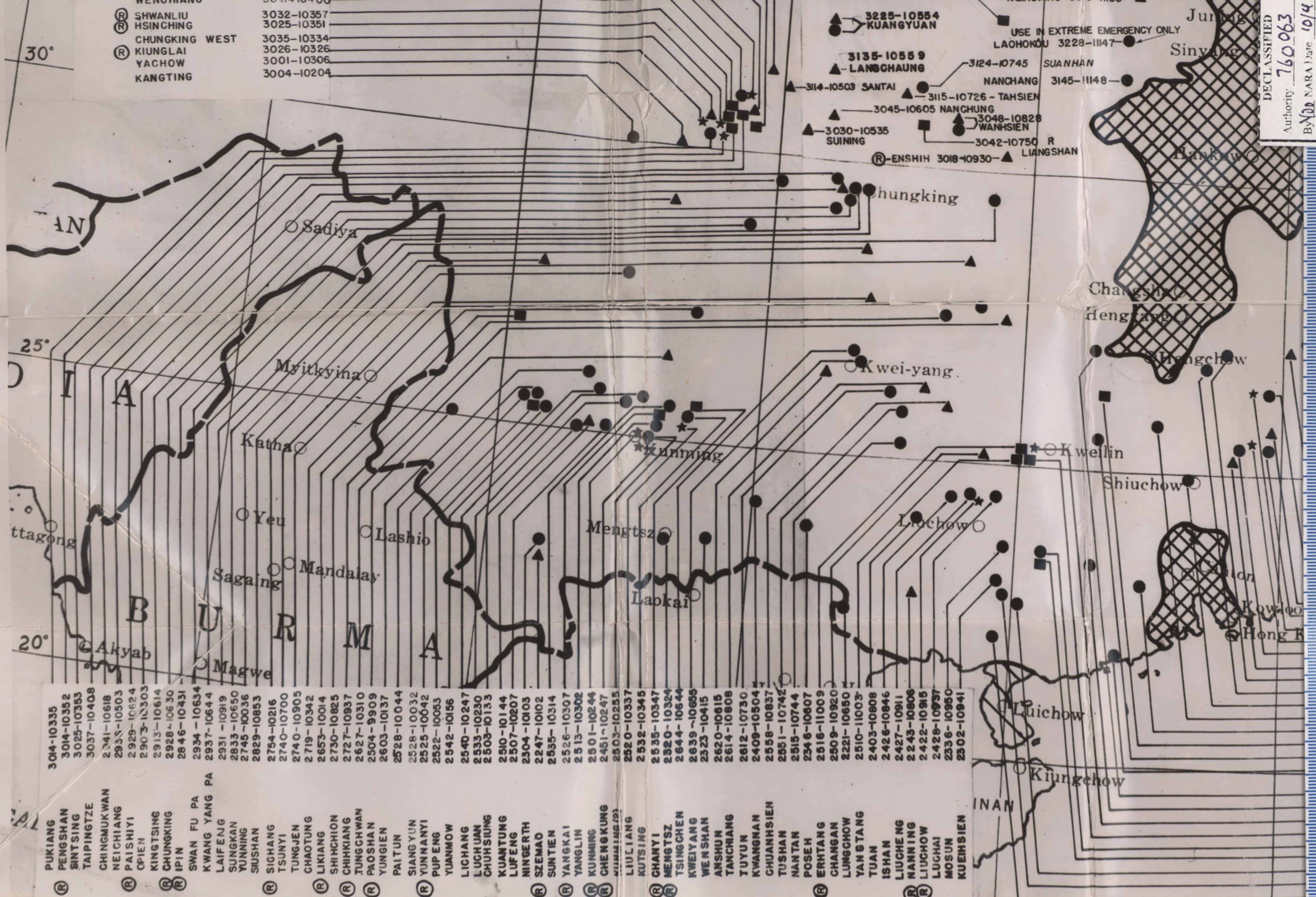
PREPARED BY: XX B. C. - A-2

(R) SHWANLIU 3032-10357  
 (R) HSINCHING 3025-10351  
 CHUNGKING WEST 3035-10334  
 (R) KIUNGLAI 3026-10326  
 YACHOW 3001-10306  
 KANGTING 3004-10204

3225-10554 KUANGYUAN  
 3135-10559 LANGSHAUNG  
 3124-10745 SUANHAN  
 3145-11148 NANCHANG  
 3114-10503 SANTAI  
 3115-10726 TAHSIEN  
 3045-10605 NANCHUNG  
 3048-10828 WANHSIEN  
 3030-10535 SUINING  
 3042-10750 R LIANGSHAN  
 (R) ENSHIH 3018-10930

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LAOHOKOU 3228-11147

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- |                           |                           |
|---------------------------|---------------------------|
| (R) PUKIANG 3014-10335    | (R) SHWANLIU 3032-10357   |
| (R) PENGSHAN 3014-10352   | (R) HSINCHING 3025-10351  |
| (R) SINTSING 3025-10353   | CHUNGKING WEST 3035-10334 |
| (R) TAIPINGTZE 3037-10408 | (R) KIUNGLAI 3026-10326   |
| CHINGMUKWAN 2241-10618    | YACHOW 3001-10306         |
| NEICHIANG 2935-10503      | KANGTING 3004-10204       |
| (R) PAISHIYI 2929-10624   |                           |
| OPIEN 2903-10303          |                           |
| (R) KINGTSING 2913-10614  |                           |
| (R) CHUNGKING 2928-10630  |                           |
| (R) IPIN 2846-10431       |                           |
| SWAN FU PA 2934-10634     |                           |
| KWANG YANG PA 2937-10644  |                           |
| LAIFENG 2931-10919        |                           |
| SUNGKAN 2833-10650        |                           |
| YUNNING 2745-10036        |                           |
| SHUSHAN 2829-10853        |                           |
| (R) SICHANG 2754-10216    |                           |
| TSUNYI 2740-10700         |                           |
| TUNGJEN 2740-10905        |                           |
| CHAOTUNG 2719-10342       |                           |
| (R) LIKIANG 2653-10014    |                           |
| (R) SHIHCION 2730-10825   |                           |
| (R) CHIKIANG 2727-10937   |                           |
| (R) TUNGCHWAN 2627-10310  |                           |
| (R) PAOSHAN 2504-9909     |                           |
| YUNGJEN 2603-10137        |                           |
| PALTUN 2528-10044         |                           |
| SIANGYUN 2528-10032       |                           |
| (R) YUNNANYI 2525-10042   |                           |
| PUPENG 2522-10053         |                           |
| YUANMOW 2542-10156        |                           |
| LICHANG 2540-10247        |                           |
| LUCHUAN 2533-10230        |                           |
| CHUHSIUNG 2503-10133      |                           |
| KUANTUNG 2510-10144       |                           |
| LUFENG 2507-10207         |                           |
| NINGERTH 2304-10103       |                           |
| (R) SZEMAO 2247-10102     |                           |
| (R) SUNTIEN 2535-10314    |                           |
| (R) YANGKAI 2526-10307    |                           |
| (R) YANGLIN 2513-10302    |                           |
| (R) KUNMING 2501-10244    |                           |
| (R) CHENGKUNG 2451-10247  |                           |
| LIULIANG 2503-10255       |                           |
| KUTSING 2520-10337        |                           |
| (R) CHANGYI 2532-10345    |                           |
| (R) MENGTSZ 2535-10347    |                           |
| (R) TSINGCHEN 2320-10324  |                           |
| KWEIYANG 2644-10644       |                           |
| WENSHAN 2639-10655        |                           |
| ANSHUN 2323-10415         |                           |
| TANCHIANG 2620-10615      |                           |
| TUYUN 2614-10808          |                           |
| KWANGNAN 2612-10730       |                           |
| CHUANHSIEN 2409-10504     |                           |
| TUSHAN 2558-10837         |                           |
| NANTAN 2551-10742         |                           |
| POSEH 2515-10744          |                           |
| (R) ERHTANG 2346-10607    |                           |
| CHANGAN 2516-11009        |                           |
| LUNGCHOW 2509-10920       |                           |
| YANGTANG 2221-10650       |                           |
| TUAN 2510-11003           |                           |
| ISHAN 2403-10808          |                           |
| LIUCHEUNG 2426-10846      |                           |
| (R) NANNING 2427-10911    |                           |
| (R) LIUGHOW 2243-10806    |                           |
| LUGHAI 2422-10915         |                           |
| MOSUN 2428-10937          |                           |
| (R) KUEHSIEN 2336-10950   |                           |
| 2302-10941                |                           |



▲ MEDIUM BOMBER FIELDS  
 ● FIGHTER FIELDS  
 (R) RADIO FACILITIES  
 PREPARED BY: XX B. C. - A-2

EAST C.

- 3225-10554 KUANGYUAN
- 3135-10559 LANGCHAUNG
- 3114-10503 SANTAI
- 3045-10605 NANCHUNG
- 3030-10535 SUINING
- (R)-ENSHIH 3018-10930
- 3124-10745 SUANHAN
- 3145-11148 NANCHANG
- 3115-10726 TAHSIEN
- 3048-10828 WANHSIEN
- 3042-10750 R LIANGSHAN
- 2320-10324
- 2644-10644
- 2639-10655
- 2323-10415
- 2620-10615
- 2614-10808
- 2612-10730
- 2409-10504
- 2558-10837
- 2551-10742
- 2515-10744
- 2346-10607
- 2516-11009
- 2509-10920
- 2221-10650
- 2510-11003
- 2403-10908
- 2426-10846
- 2427-10911
- 2243-10806
- 2422-10915
- 2428-10937
- 2336-10950
- 2302-10941
- CHANGTUNG
- CHANGCHOW
- YANGTANG
- TUAN
- ISHAN
- LIUCHE NG
- NANNING
- LIUCHOW
- LUGHAI
- MOSUN
- KUEHSIEN
- (R)
- (R)
- (R)

- 2948-11756 IHSIEN
- 2827-11957 LISHUI
- 2758-11827 PUCHENG
- 2828-11803 SHANGJAO
- 2856-11717 LOPING
- 2735-11636 NANCHANG
- 2709-11817 KIENOW
- 2654-12001 FUNING
- 2638-11840 KUTIEN
- 2645-11730 CHIANGLO
- 2714-11630 NANFENG
- 2604-11917 FOOCHOW
- 2756-11618 LINCHWAN
- 2551-11620 CHANGTING
- 2528-11907 PUTIEN
- 2504-11814 ANCHI
- 2455-11855 TSINKIANG
- 2459-11830 NANTAN
- 2511-11702 LUNGYEN
- 2646-11608 KWANGCHANG
- 2416-11610 MEHSIEN
- 2718-11527 YUNGFENG
- 2710-11506 KIAN
- 2627-11446 WANAN
- 2547-11451 KANCHOW
- 2522-11447 SINFENG
- 2625-11430 SUICHWAN (R)
- 2530-11433 SINCHENG
- 2525-11416 NANAN
- 2512-11408 NAMYUNG (R)
- 2707-11358 LIENHWA
- 2656-11335 CHALING
- 2453-11314 KUKONG
- 2548-11239 CHENCHOW
- 2303-11228 CHAOCHING
- 2617-11134 LINGLING R
- 2533-11132 TAOHSEIN
- 2150-11200 YANGCHIANG
- 2706-11128 PAOKING
- 2323-11129 TSANGWU
- 2514-11013 LIA CHIA CHEN
- 2507-11008 LIANGFENG
- 2331-11031 PINGNAM
- 2325-11032 TANCHUK (R)
- 2238-11008 YULIN
- 2247-10954 HINGYEH
- 2200-10840 CHINHSIEN

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TOP SECRET

TOP SECRET

SECRET

CLASSIFIED SECRET 5-12-46  
YUKYU RETT  
Ray J. Baker  
1st Lt. USAF  
10/11



TOP SECRET

EXHIBIT "B-1" 18 JULY 1944  
KNOWN MAJOR ENEMY AIRFIELDS IN THE  
IMMEDIATE TARGET AREAS

LEGEND:

- 1ST CLASS FIELDS
- ▲ 2ND CLASS FIELDS
- 3RD CLASS FIELDS
- CLASSIFICATION UNKNOWN
- ▨ CITY



TOP SECRET

PREPARED BY: OPERATIONAL INTELLIGENCE SECTION, H-2, XX BOMBER COMMAND

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Authority 760063  
By NARA Date 10/4

**TOP SECRET**

**HEAVY ANTI-AIRCRAFT GUNS IN OCCUPIED CHINA**

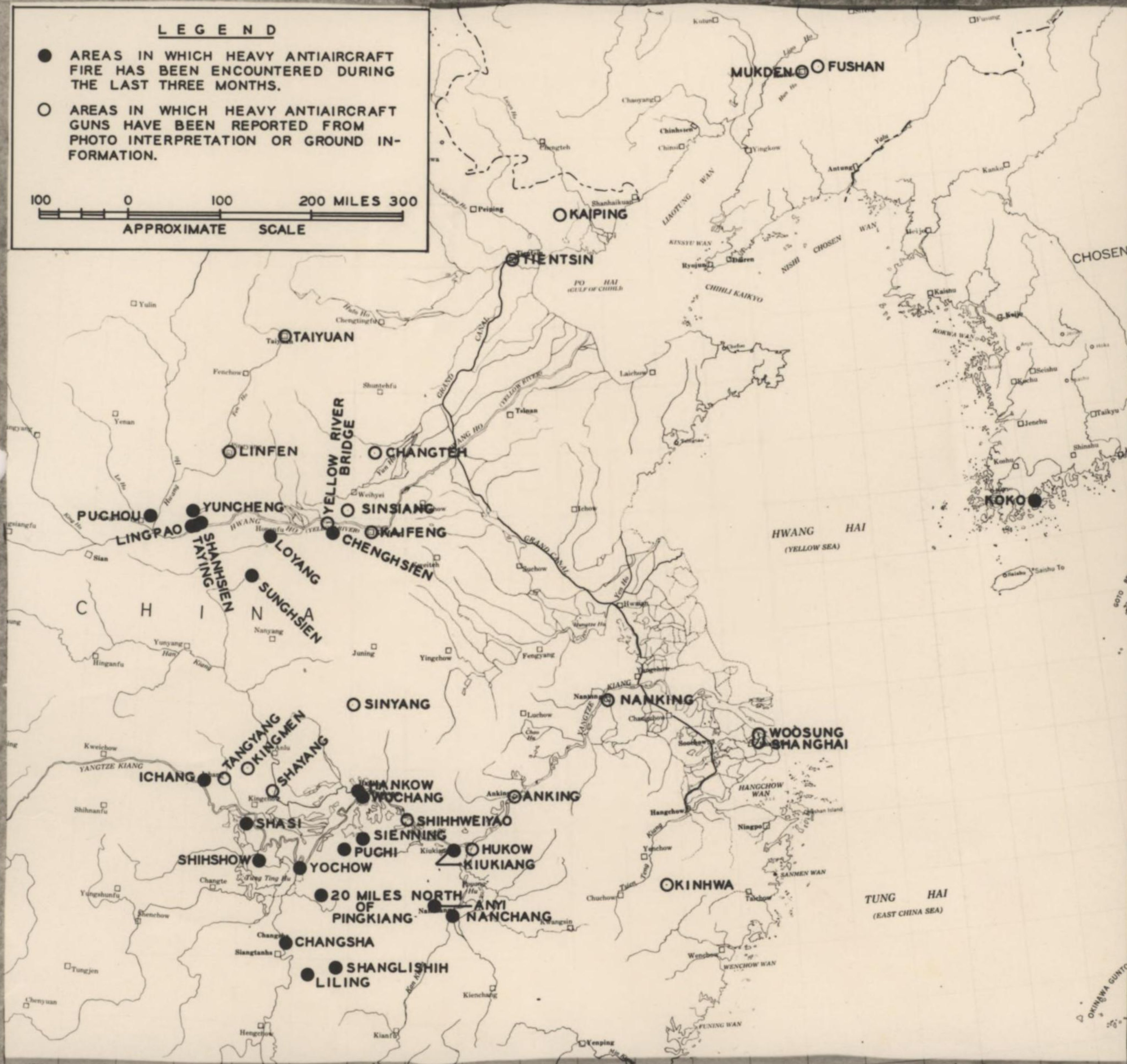
**EXHIBIT-C**

BASED ON INFORMATION RECEIVED UP TO 18 JULY 1944  
ANTI-AIRCRAFT OFFICER, OPERATIONAL INTELLIGENCE, A-2, HQS. XX B.C.

**LEGEND**

- AREAS IN WHICH HEAVY ANTI-AIRCRAFT FIRE HAS BEEN ENCOUNTERED DURING THE LAST THREE MONTHS.
- AREAS IN WHICH HEAVY ANTI-AIRCRAFT GUNS HAVE BEEN REPORTED FROM PHOTO INTERPRETATION OR GROUND INFORMATION.

100 0 100 200 MILES 300  
APPROXIMATE SCALE



**TOP SECRET**

Classification Changed to  
**SECRET** 5-4-46  
By Authority of  
S. G. A.  
*L. Baker*  
Capt. A. G.

~~TOP SECRET~~

~~SECRET~~

Copy #53

~~TOP SECRET~~  
AUTH: OG, XX BC  
INITIALS 1144  
DATE 18 JULY 44

ANNEX 2 TO FO 4

RCM ORDERS

HQ, XX BOMBER COMMAND  
APO 493, NEW YORK, N.Y.  
18 JULY 1944

1. A. (1) ENEMY GROUND RADAR STATIONS ARE IN OPERATION IN OCCUPIED CHINA.
- (2) FREQUENCIES OF TRANSMISSIONS IN THE FOLLOWING RANGES ARE KNOWN TO BE USED BY THE ENEMY:

150 MEGACYCLES  
175-220 MEGACYCLES

2. THE FOLLOWING DATA ON ENEMY RADAR TRANSMISSIONS ENROUTE TO AND AT THE TARGET AREA, ARE TO BE SECURED:

FREQUENCY  
PRF  
PULSE LENGTH  
LOCATION OF INTERCEPTION (LATITUDE, LONGITUDE)  
ADDITIONAL PERTINENT INFORMATION

3. A. 40TH BOMB GROUP: PROVIDE FOUR (4) AIRCRAFT WITH RCM SEARCH RECEIVERS AND WITH ONE (1) RADAR OBSERVER RCM PER AIRCRAFT. THE FOUR AIRCRAFT WILL SEARCH IN THE 140-300 MEGACYCLE RANGE, FROM TAKE OFF TO TARGET AND RETURN TO THE PARALLEL OF LATITUDE 33° NORTH.
- B. 444TH BOMB GROUP: PROVIDE FOUR (4) AIRCRAFT WITH RCM SEARCH RECEIVERS AND WITH ONE (1) RADAR OBSERVER RCM PER AIRCRAFT. THE FOUR AIRCRAFT WILL SEARCH IN THE 140-300 MEGACYCLE RANGE, FROM TAKE OFF TO TARGET AND RETURN TO THE PARALLEL OF LATITUDE 33° NORTH.
- C. 462ND BOMB GROUP: PROVIDE FOUR AIRCRAFT WITH RCM SEARCH RECEIVERS AND WITH ONE (1) RADAR OBSERVER RCM PER AIRCRAFT. THE FOUR AIRCRAFT WILL SEARCH IN THE 300-1000 MEGACYCLE RANGE FROM TAKE OFF TO TARGET AND RETURN TO THE PARALLEL OF LATITUDE 33° NORTH.
- D. 468TH BOMB GROUP: PROVIDE FOUR AIRCRAFT WITH RCM SEARCH RECEIVERS AND WITH ONE (1) RADAR OBSERVER RCM PER AIRCRAFT. TWO AIRCRAFT WILL SEARCH IN THE 300-1000 MEGACYCLE RANGE AND TWO AIRCRAFT IN THE 1000-3000 MEGACYCLE RANGE FROM TAKE OFF TO TARGET AND RETURN TO THE PARALLEL OF LATITUDE 33° NORTH.

4. PROVIDE EACH OF THE FOUR (4) RCM AIRCRAFTS PER GROUP WITH:

1 - AN/APR-4  
1 - AN/APA-6  
1 JACKSON OSCILLATOR

-1-

~~TOP SECRET~~

Classification Changed to

~~SECRET~~ 5-2-46

By Authority of

C. G. AAF, by

*C. Baker*  
Capt. A. C.

DECLASSIFIED

Authority 760063

By NARA Date 10/4

~~TOP SECRET~~

BY COMMAND OF BRIGADIER GENERAL SAUNDERS:

JOHN E. UPSTON  
BRIGADIER GENERAL, USA  
ASST. CHIEF OF STAFF, A-3

OFFICIAL:

*Roy M. Lynn*  
ROY M. LYNN  
COLONEL, AIR CORPS  
COMMUNICATIONS OFFICER

Classification Changed to  
~~SECRET~~ 5-2-46  
By Authority of  
C. G. AAF, by *Roy M. Baker*  
Capt. A. C.

-2-

~~TOP SECRET~~

NOT TO BE TAKEN INTO THE AIR

TOP SECRET

ANNEX NO. 3

FIELD ORDER NO. 4

PRIMARY TARGET:

Showa Steel Works, Anshan, Manchuria 93.3-29

SECONDARY TARGET:

Chinwangtao Harbor, China 83.12-24

TERTIARY TARGET:

Taku Harbor, China 83.12-7

LAST RESORT TARGET:

Chenghsien RR Yards, China 83.10-A

L. G. SAUNDERS  
Brigadier General, U. S. A.  
Commanding

OFFICIAL:

*James D. Garcia*

JAMES D. GARCIA  
Colonel, G.S.C.  
A. C. of S., A-2

Classification Changed to  
**SECRET** 5-2-48  
By Authority of  
C. G. AAF, Lt. *Ray G. Baker*  
Ray G. Baker, Capt. A. C.

TOP SECRET

NOT TO BE TAKEN INTO THE AIR

C O N F I D E N T I A L

TARGET NO. 29

OBJECTIVE FOLDER NO. 93.3

TARGET DATA

1. OBJECTIVE:

Showa Steel Works, ANSHAN, MANCHURIA.

2. COORDINATES AND ELEVATION:

Latitude: 41° 08' N  
Longitude: 122° 57' 45" E.  
Elevation: 130 feet.

3. LOCATION AND IDENTIFIABLE FEATURES:

a. Natural Features:

Anshan lies 48 miles southwest of MUKDEN on the southeastern edge of the great central rolling plain of MANCHURIA. This plain reaches from LIAOTUNG BAY--gateway to the YELLOW SEA--on the south to the AMUR River valley on the north. On the east it is bounded by the CHANGPAI Mountains similar in height and vegetation to the APPALACHIANS. On the west the great HSINGAN Mountains extend from the AMUR River south to the GREAT WALL where their peaks occasionally approach 7,000 feet. The Central Plain is drained in the north by the SUNGARI River system and in the south by LIAO River and its many tributaries.

To the north, west and southwest of ANSHAN the country is lowlying and featureless. The elevation of the target is only 130 feet but immediately to the east and southeast the terrain becomes hilly with the highest elevation (2949 feet) about 12 miles southeast of town.

Three large rivers, the TAI-TSE, HUN and LIAO flow southward by ANSHAN to LIAO BAY 55 miles away. The TAI-TSE River flows in from the east and circles ANSHAN about 16 miles to the north and west. Swamp and lakes prevail in the low river country. There are two prominent lakes that make excellent check points. One is at the village of KAI-HO-CHEMG 18 miles west-southwest and the other is a long narrow lake 32 miles northwest. There are numerous smaller ones including one four miles northeast of the steel works that ought to stand out prominently.

b. Man-made Features:

There are numerous roads in the area and they ought to be distinct since the country is mostly open grass land. The main highway parallels the DAIREN and MUKDEN South MANCHURIA main railroad line that runs southwest-northeast thru ANSHAN. This railroad is the only double track line in the vicinity. The railroad station is located about half way through town on the east side of the tracks. The town east of the tracks is JAPANESE, the one west of the tracks is CHINESE. The SHOWA STEEL WORKS is on the north edge of ANSHAN and the railroad extends along its eastern boundary. Four large settling ponds--over 1500 feet long--are located in the center of the western area of the Steel Works. At least four large open-pit mines are located in the low hills six to eight miles east and southeast of the target. The target area itself is interspersed by a maze of railroad tracks and is densely crowded with the furnaces and chimnies, and mill buildings of the works.

C O N F I D E N T I A L

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C O N F I D E N T I A L

4. IMPORTANCE:

The ANSHAN Coke Plant of the SHOWA STEEL WORKS is a target of vital importance. Dependent upon it are SHOWA'S iron and steel furnaces which rank second in the Empire's production of pig iron and third in the production of both steel ingot and rolled steel products. The ANSHAN COKE PLANT annually produces 3,793,000 metric tons of metallurgical coke. Prior to the expansion of the coke plant at YAWATA this represented 34.4% of the Empire's total output. Preliminary examination suggests that the capacity at YAWATA, formerly 1,784,000 metric tons, has been slightly more than doubled. Japan's total production of metallurgical coke therefore approximates 13,000,000 metric tons a year, of which ANSHAN'S output represents about 29%, and YAWATA'S current output about 28%. Thus the ANSHAN plant is probably still Japan's largest.

Of its annual production, a maximum of 1,875,000 metric tons is consumed at the SHOWA STEEL WORKS which yield the following output annually:

<u>Product</u>	<u>Metric Tons</u>	<u>% of Japanese Total*</u>
Pig Iron	1,875,000	15.2
Steel Ingot	1,050,000	8.1
Rolled Steel	635,000	6.7

\*These percentages are somewhat too high, due to new construction at YAWATA.

The remaining 1,918,000 metric tons of coke are partly employed in the manufacture of hydrogen, producer gas, and synthetic oil in MANCHURIA; the rest is transported to KOREA and JAPAN and is principally used in pig iron production. In addition to its main product, the ANSHAN COKE PLANT manufactures substantial quantities of benzene, toluene, phenol, and cresols, estimated as follows:

<u>Product</u>	<u>Metric Tons</u>	<u>% of Japanese Total*</u>
Benzene	35,570	29
Toluene	10,070	19
Phenol	2,360	16
Cresols	4,150	10

\*These percentages are somewhat too high, due to new construction at YAWATA.

These products are used in the manufacture of explosives, dyestuffs, pharmaceuticals, and plastics.

The destruction of the ANSHAN COKE PLANT would bring the great Showa Steel Works to a standstill, decrease the output of iron and steel in KOREA and JAPAN, and bring about adverse and complicated effects to the metallurgical and chemical production throughout the Empire. The loss of the coke oven by-products listed above, while causing a lowered output of certain commodities, would not seriously affect the manufacture of explosives.

It is possible that the SHOWA STEEL WORKS might be kept in partial operation by hauling in coke by rail from PENHSIHU. However, since total coke production is probably only sufficient to meet requirements this procedure would simply result in a decrease of coke-dependent production elsewhere.

The ANSHAN COKE PLANT could not be rebuilt within a year, and then only at considerable expense of manpower and material. In the meantime the entire Japanese war economy would suffer, particularly in the vital shipbuilding and railway transportation categories.

C O N F I D E N T I A L

C O N F I D E N T I A L

5. AIMING POINTS AND BOMB REQUIREMENTS:

- a. The aiming point should be the center of the coke oven area which is approximately 800' x 2300' covering 1,840,000 sq ft of space.
- b. The 500# bomb filled with Comp. "B" and fused 0.10 second nose and 0.025 second tail should be adequate in size.
- c. On the basis of one hit every 10,000 sq ft 184 hits would be required.
- d. The number of bombs that must be sighted and released on the AP in order to obtain an 85% assurance of success are as follows:

1000' Cep = 800 bombs  
1500' Cep = 1320 bombs

July 1944

TARGET SECTION, A-2  
XX BOMBER COMMAND

C O N F I D E N T I A L

-3-



NOT TO BE TAKEN INTO THE AIR

C O N F I D E N T I A L

TARGET NUMBER 24  
OBJECTIVE FOLDER NUMBER 83.12

TARGET DATA

1. OBJECTIVE:

Chinwangtao Harbor, CHINA.

2. COORDINATES AND ELEVATION:

Latitude: 39° 55' N  
Longitude: 119° 37' E.  
Elevation: 10 feet.

3. LOCATION AND IDENTIFIABLE FEATURES:

The port of CHINWANGTAO lies on the western shore of the GULF OF LIAOTUNG and is the terminus of the rail line coming from the KAILAN coal mines. The harbor is formed by a breakwater and a pier which bracket an area 1500' x 1050'. The breakwater, usable as a pier, is 2400' long and is made of steel piling and sand fill with concrete surface rock reveted on the outer side. There is berthing space for five ships only within the breakwater. Rail lines run the length of the piers from which coal is loaded by coolie labor. No mechanical devices are known to exist.

4. GENERAL STATEMENT:

CHINWANGTAO is the port thru which flows the coking coal from the great KAILAN Mines en route to Japan. It is estimated that a minimum of 3,600,000 metric tons, and as much as 5,600,000 metric tons, a year are loaded into ships at this harbor. The movement of these tonnages will require the presence at CHINWANGTAO of between 6 and 8 large vessels (4700 - 7000 tons) at any one time.

The sinking of 6 ships of 7,000 tons or a total of 42,000 tons, for example, represents the destruction of 1% of the entire Japanese merchant fleet. Because Japan's ability to wage war is absolutely dependent upon ocean transport, the loss of the vessels to be found at any time in CHINWANGTAO Harbor is a very considerable blow. This is particularly true since Japan's shipping requirements are already in excess of the total tonnage available to her.

Incidental destruction of wharves and facilities will increase the loading time of vessels and the length of the period they remain in port.

5. AIMING POINTS AND BOMB REQUIREMENTS:

- a. Since shipping is the desired objective maximum possible results would be obtained by an approach of approximately true north heading selecting as the A.P. the center of three ships which may be expected will be berthed along the inside of the breakwater.
- b. The 500# GP bomb would be adequate against the type of colliers found at CHINWANGTAO.

JULY 1944

TARGET SECTION, A-2  
XX BOMBER COMMAND

C O N F I D E N T I A L

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5. AIMING POINTS AND BOMB REQUIREMENTS:

- a. The general wharf area on the East bank of the river between TAKU and TANGKU should present a vulnerable target. It is quite possible that other facilities have been developed since the Japanese occupation and a greater ship concentration may be found at these points. Under such circumstances it would be desirable to concentrate the effort on the greatest point of activity.
- b. The 500# GP bomb should be adequate for any targets located in or along the river.

JULY 1944

TARGET SECTION, A-2  
XX BOMBER COMMAND

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C O N F I D E N T I A L

TARGET NO. 7  
OBJECTIVE FOLDER NO. 83.12

TARGET DATA

1. OBJECTIVE:

TAKU HARBOR.

2. COORDINATES AND ELEVATION:

Latitude: 39° 00' N  
Longitude: 117° 40' E.  
Elevation: Approximately sea level.

3. LOCATION AND IDENTIFIABLE FEATURES:

TAKU Harbor, the port for TIENSIN, is located just within the mouth of the HAI River and about 25 miles ESE of TIENSIN itself. The port facilities are largely concentrated along a great U-shaped bend in the river, about 4 miles in length, the open end of the "U" facing north. Target #7, the General Wharf area is the aiming point. This area, approximately 6000' x 800', lies on the East bank of the river between TAKU and TANGKU. It contains wharves with warehouses and rail connections. About a mile to the NW of the northern end of the target area and on the left bank of the river lies the New Japanese Coal and Ore Wharf.

The terrain at the objective and in the surrounding countryside is close to sea level elevation and near the HAI River mouth is composed of a mud plain. Surrounding the target, particularly to the north and northeast and along the coast to the SE are salt pans and salt heaps intersected by broad ditches.

4. IMPORTANCE:

It is estimated that the Japanese export from this harbor annually the following commodities:

<u>Commodity</u>	<u>Metric Tons</u>
Non-coking coal	350,000
Cotton	150,000
Iron Ore	200,000
Pig Iron	100,000
Salt	600,000
Total	1,400,000

In addition it is possible that, due to congestion in the port of CHINWANGTAO, a part of the coking coals from KAILAN are now being exported thru TAKU. In order to export these commodities it is probable that a minimum of 3 to 5 ocean-going vessels of from 3000 to 5000 tons will be in port at any one time. The ships, upon which Japan's military and economic position depends, are target-worthy objectives. Destruction of docks and facilities would increase loading time and the period during which ships are in port thus delaying the flow of supplies to Japan.

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C O N F I D E N T I A L

TARGET NUMBER A  
OBJECTIVE FOLDER NO. 83.10

1. OBJECTIVE:

CHENGHSIEN RR YARDS, CHINA

2. COORDINATES AND ELEVATION:

Latitude: 34°43' N  
Longitude: 113°41' E  
Elevation: Approximately 300'

3. LOCATION AND IDENTIFIABLE FEATURES

The Chenghsien RR Yards are located on the W side of the city, on the Peking-Hankow RR line. The RR tracks at this point run approximately NNW-SSE. The dimensions of the target area are 3400' X 850'. The yards contain six tracks at their widest point. There are six small buildings and a turning "Y".

4. IMPORTANCE:

One hundred forty (140) cars have been recently observed in these yards, which have assumed increased importance with the Japanese occupation and reconstruction of the Peking-Hankow RR. This line provides the enemy with an alternative supply route, relieving Yangtze River traffic of part of the burden. The Chenghsien Yards form one of the possible bottlenecks on the railroad, and air attack against them would temporarily impede the flow of Japanese military traffic along the line.

July 1944

Target Section  
A - 2  
IX Bomber Command

C O N F I D E N T I A L

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AUTH: CG, XX BC  
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ANNEX 4 TO FO 4  
RADAR BRIEFING FOLDER

HQ, XX BOMBER COMMAND  
APO 493, NEW YORK CITY  
18 JULY 1944

INDEX

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By Authority of  
C. G. AAF, by [Signature]  
St. A. Co

RADAR COMMITTEE  
JULY 1944

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AUTH: CG, XX BC

INITIALS NH

DATE 18 JULY 44

ANNEX 4 TO FO 4  
RADAR BRIEFING FOLDER

HQ, XX BOMBER COMMAND  
APO 493, NEW YORK CITY  
18 JULY 1944

GENERAL

A. USE OF AN/APQ-13

1. SINCE THIS IS A DAYLIGHT MISSION AND BOMBERS WILL FLY IN A FORMATION OF FOUR (4) AIRCRAFT, RADAR OPERATORS WILL USE THE INDIVIDUAL RANGE METHOD OF BOMBING AS FOLLOWS:

A. THE LEAD RADAR OPERATOR WILL USE THE RADAR EQUIPMENT IN THE NORMAL MANNER AND WILL SIGHT FOR RANGE AND AZIMUTH THUS KEEPING HIS AIRCRAFT ON THE BRIEFED GROUND TRACK.

B. OTHER AIRCRAFT IN THE FORMATION WILL FLY ON THE FORMATION LEADER, THEREFORE ALL OTHER OPERATORS IN THIS FORMATION WILL SIGHT FOR RANGE ONLY. THEY WILL MAKE NO ATTEMPT TO CORRECT FOR DRIFT.

C. IN THE EVENT OF THE FAILURE OF THE RADAR EQUIPMENT IN THE LEAD AIRPLANE, THE RADAR OPERATOR WILL IMMEDIATELY NOTIFY THE PILOT AND THE BOMBARDIER. THE PILOT OF THE LEAD AIRPLANE WILL THEN CHANGE HIS POSITION IN THE FORMATION, WITH THE DEPUTY LEADER TAKING HIS PLACE.

D. IN THE EVENT OF THE FAILURE OF THE RADAR EQUIPMENT OR A DEFINITE LOSS OF TARGET IN OTHER AIRPLANES IN THE FORMATION, THE RADAR OPERATOR CONCERNED WILL IMMEDIATELY NOTIFY HIS PILOT AND BOMBARDIER. THE BOMBARDIER WILL THEN COMPLETELY TAKE OVER THE RELEASE OF BOMBS. THE BOMBARDIER WILL DROP HIS BOMBS BY VISUAL OBSERVATION AT THE SAME TIME AS THE LEAD AIRPLANE.

2. THIS IS ESSENTIALLY A PRECISION BOMBING MISSION. AIRCRAFT WILL FLY BELOW THE OVERCAST UNLESS IT IS AT 7,000 FEET OR LESS. IF THIS OVERCAST IS LESS THAN AT 7,000 FEET ALTITUDE AIRPLANES WILL FLY ABOVE IT AND RADAR BOMBING WILL BE EMPLOYED. SINCE THE ALTITUDE FACTOR IS THEREFORE INDEFINITE NO FIXED RULE WILL BE APPLIED TOWARD THE USE OF THE ALTITUDE CIRCLE. IF BELOW 15,000 FEET THE ALTITUDE CIRCLE WILL BE OPEN AT ALL TIMES. IF ABOVE 15,000 FEET THE ALTITUDE CIRCLE WILL BE CLOSED FOR NAVIGATION PURPOSES AND OPEN DURING THE BOMBING RUN.

3. THERE ARE SEVERAL EXCELLENT CHECK POINTS ON THE ROUTE FROM THE BASE TO THE TURNING POINT AT THE ISLAND IN THE MOUTH OF THE HUANG RIVER. THE COORDINATES OF THIS ISLAND ARE  $37^{\circ} 32' N$  AND  $118^{\circ} 55' E$ . THESE CHECK POINTS ARE AS FOLLOWS:

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By Authority of

C. G. AAF, by

*Ray Baker*  
Ray G. Baker, Capt. USAF

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By NARA Date 10/4

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A. THE JOINING OF THE TAN AND HAN RIVERS AT SHATOYING (COORDINATES 32° 35' N AND 111° 29' E). THIS IS THE FIRST TURNING POINT. AT THIS POINT A COURSE CORRECTION IS MADE TO 72° T (74° M) WHICH IS THE COURSE TO THE ISLAND IN THE MOUTH OF THE HUANG RIVER.

B. THE PRACTICALLY RIGHT ANGLE BEND OF THE HUANG RIVER WHERE ITS COURSE CHANGES FROM SOUTHWEST TO WEST. THIS POINT IS DIRECTLY ON TRACK AND IS LOCATED AT 34° 54' N AND 114° 47' E.

C. LAKE SHUSAH, WHOSE CENTER IS AT 35° 32' N AND 116° 22' E, IS LOCATED 19 NAUTICAL MILES (22 STATUTE MILES) TO THE RIGHT OF THE TRACK. WHEN THIS OCCURS THE AIRCRAFT WILL BE PASSING OVER A LARGE LAKE AT 35° 52' N AND 116° 15' E.

4. THE BOMB RELEASE CIRCLE WILL BE SET ACCORDING TO THE STANDARD FLOURESCENT SLANT RANGE TABLES PREVIOUSLY PROVIDED FOR THE AN-M64 BOMB. THE VALUE OBTAINED FROM THESE TABLES WILL BE SET UNDER THE VERTICAL CROSS HAIR ON THE COMPUTOR. THIS VALUE WILL BE READ AT THE BOTTOM OF THE COMPUTOR DRUM.

5. THE PROBABLE APPEARANCE OF THE SCOPE AT VARIOUS POINTS ALONG THE COURSE AND THE FINAL APPROACH ARE SKETCHED. IT IS TO BE CLEARLY UNDERSTOOD THAT THESE ARE ESTIMATED AND PREDICTED APPEARANCES BASED UPON MAPS, CALCULATED DISTORTIONS, AND EXPECTED ECHOES. THE SCOPE DRAWINGS ALSO INCLUDE THE COURSE OF SOME RIVERS THAT MAY OR MAY NOT APPEAR ON THE ACTUAL SCOPE. THESE RIVERS HAVE BEEN INDICATED BY DOTTED LINES ON THE SCOPE DRAWINGS.

B. USE OF THE SCR-729

1. THE SCR-729, INTERROGATOR RESPONDOR, WILL BE OPERATED BY THE RADIO OPERATOR. THE SCR-729 WILL NOT BE USED ON THE FLIGHT TO THE TARGET, EXCEPT FOR RENDEVOUS AND HOMING ON FRIENDLY AIRCRAFT IF NECESSARY. THIS WILL BE DONE ONLY OVER FRIENDLY TERRITORY. THE SCR-729 WILL BE TURNED ON AT 109 DEGREES EAST LONGITUDE ON THE RETURN FLIGHT AND EVERY EFFORT WILL BE MADE TO ASSIST IN NAVIGATION THROUGH THE USE OF YJ RACONS INSTALLED AT A-1, A-3, A-5, A-7, PAONING AND PAISHIYI. RADAR OPERATORS WILL ASSURE THEMSELVES THAT RADIO OPERATORS ARE AWARE OF THE PROPER OPERATION OF THIS SET.

C. USE OF THE SCR-718

THE SCR-718 WILL NOT BE TURNED ON DURING THE MISSION. THE DETERMINATION OF ALTITUDE WILL BE MADE THROUGH THE USE OF THE AN/APQ-13 AND THE BAROMETRIC ALTIMETER.

OFFICIAL:

*Roy H. Lynn*  
ROY H. LYNN  
COLONEL, AIR CORPS  
COMMUNICATIONS OFFICER

~~TOP SECRET~~

LAVERNE G. SAUNDERS  
BRIGADIER GENERAL USA  
~~TOP SECRET~~ COMMANDING  
By Authority of  
C. G. AAF, by *Ray G. Baker*  
Ray G. Baker, Capt. A. C.

~~TOP SECRET~~

TOP SECRET

AUTH: CG, XX BC

INITIALS *RAK*

DATE 18 JULY 44

ANNEX 4 TO FO 4  
RADAR BRIEFING FOLDER

HQ, XX BOMBER COMMAND  
APO 403, NEW YORK CITY  
18 JULY 1944

EXHIBIT "A"

SPECIALIZED RADAR SUMMARY NO. 7

A. GENERAL - ATTACK AGAINST THE SHOWA STEEL WORKS, ANSHAN, MAN-  
CHURIA.

1. AIRCRAFT WILL PASS OVER THE ISLAND WHOSE COORDINATES ARE  $37^{\circ} 32'$  N AND  $118^{\circ} 55'$  E, AT THE MOUTH OF THE HUANG RIVER, AND PROCEED ON A TRACK OF  $29^{\circ}$  T ( $35^{\circ}$  M) TO A POINT 10 NAUTICAL MILES FROM CHUHWA ISLAND. GROUND SPEED AND DRIFT WILL BE DETERMINED ON THIS LEG OF THE FLIGHT AND FROM THIS DATA THE NAVIGATOR WILL COMPUTE THE GROUND SPEED AND DRIFT TO BE USED ON THE FINAL BOMBING APPROACH.

2. THE COORDINATES OF THIS POINT ARE  $40^{\circ} 25'$  N AND  $121^{\circ} 00'$  E. AT THIS POINT THE ISLAND WILL BE 10 NAUTICAL MILES FROM THE AIRPLANE AND  $90^{\circ}$  LEFT OF THE AIRPLANE'S TRACK.

3. SADDLE ISLAND, ALTHOUGH NOT SHOWN ON THE MAP, WILL PROBABLY APPEAR AS A SMALL BRIGHT SPOT ABOUT TWO MILES SOUTH OF CHUHWA ISLAND (COORDINATES  $40^{\circ} 28'$  N AND  $120^{\circ} 46'$  E).

B. SPECIFIC INFORMATION PERTINENT TO THE MISSION TO BE CARRIED OUT ON THE BRIEFED GROUND TRACK OF  $83^{\circ}$  T ( $90^{\circ}$  M).

1. FROM THE POINT PREVIOUSLY DESCRIBED WHICH IS 10 NAUTICAL MILES FROM CHUHWA ISLAND, IT IS 50.5 NAUTICAL MILES (58 STATUTE MILES) ON A COURSE OF  $45^{\circ}$  T ( $51^{\circ}$  M) TO THE I.P.

2. THE INITIAL POINT IS A POINT LOCATED AT THE HEAD OF THE ESTUARY FORMED AT THE MOUTH OF THE TALING RIVER, WHOSE COORDINATES ARE  $41^{\circ} 01'$  N AND  $121^{\circ} 48'$  E. THE I.P. IS 53.5 NAUTICAL MILES (61.5 STATUTE MILES) FROM THE TARGET. NOTE THAT POINT "X" WHERE A SCOPE PICTURE IS CENTERED IS NOT QUITE ON THE BRIEFED COURSE.

3. WHEN THE AIRPLANE IS APPROXIMATELY 15 NAUTICAL MILES BEYOND THE INITIAL POINT A JOINING OF THREE RIVERS SHOULD BE SEEN. THE POINT WHERE THESE RIVERS JOIN IS ABOUT 5 NAUTICAL MILES SOUTH OF THE BRIEFED GROUND TRACK OF  $83^{\circ}$  T. THE COORDINATES OF THIS POINT ARE  $41^{\circ} 00'$  N AND  $122^{\circ} 22'$  E. AT ABOUT THE SAME TIME A SMALL LAKE, DIRECTLY ON TRACK, SHOULD APPEAR ON THE SCOPE AT A RANGE OF APPROXIMATELY 15 NAUTICAL MILES. THE COORDINATES OF THIS LAKE ARE  $41^{\circ} 05'$  N AND  $122^{\circ} 26'$  E. THIS LAKE SHOULD BE TRACKED UNDER THE MASTER DRIFT LINE ACROSS THE REAR OF THE SCOPE.

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By Authority of

C. G. AAF, by

*Ray Baker*  
Capt. A. C.

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THE NEXT GOOD CHECK POINT ON THE BRIEFED GROUND TRACK IS ANOTHER SLIGHTLY LARGER LAKE, WHICH EXTENDS NORTH AND SOUTH, AND ITS NORTHERN OR NEARER EDGE IS APPROXIMATELY 2.5 NAUTICAL MILES TO THE RIGHT OF THE GROUND TRACK. THE COORDINATES OF THIS LAKE ARE  $41^{\circ} 04' N$  AND  $122^{\circ} 38' E$ . THIS LAKE SHOULD BE IDENTIFIABLE AT ABOUT THE TIME THE AIRCRAFT IS OVER THE SMALL LAKE LOCATED DIRECTLY ON THE GROUND TRACK.

4. THE MAIN TARGET SHOULD BE IDENTIFIED ON THE SCOPE AT A RANGE OF 25 TO 30 NAUTICAL MILES, THAT IS AT ABOUT THE SAME TIME THAT THE LAKE IS IDENTIFIED TO THE RIGHT OF THE GROUND TRACK. THE TARGET SHOULD APPEAR AT FIRST AS A VERY BRIGHT SIGNAL, BUT PROBABLY VERY NARROW IN RANGE BECAUSE OF THE CONCENTRATION OF GOOD REFLECTING SURFACES IN THE TARGET AREA. AS THE AIRCRAFT APPROACHES THE TARGET, THE SIGNAL WILL BEGIN TO GROW LARGER IN RANGE AND AZIMUTH, SINCE THE BUILT UP AREA WHICH LIES ADJACENT TO THE TARGET WILL BEGIN TO REFLECT SIGNALS.

5. AS THE SIGNALS EXPAND AND NEW SIGNALS APPEAR ON THE SCOPE, THE GAIN MUST BE REDUCED UNTIL ONLY THE VERY BRIGHTEST APPEARS ON THE SCOPE. THE REMAINING BRIGHT SIGNAL WILL BE THE ECHO FROM THE STEEL MILL. PAST EXPERIENCE HAS SHOWN THAT GAIN SETTINGS HAVE BEEN DEFINITELY TOO HIGH. YOU ARE THEREFORE INSTRUCTED TO ADHERE TO THE FOLLOWING PROCEDURE: AS SOON AS THE TARGET IS DEFINITELY IDENTIFIED, REDUCE THE GAIN UNTIL NO SIGNALS APPEAR ON THE SCOPE. WHEN THIS HAS BEEN DONE, INCREASE THE GAIN VERY SLOWLY UNTIL THE FIRST, AND ONLY THE FIRST SIGNAL FROM THE TARGET AREA APPEARS ON THE SCOPE. THIS APPEARANCE OF THE SCOPE SHOULD BE MAINTAINED, BY CONTINUOUS REDUCTION OF THE GAIN AS THE AIRCRAFT CLOSES ON THE TARGET, UNTIL BOMBS ARE AWAY. WITH ONLY THE BRIGHTEST SIGNAL APPEARING ON THE SCOPE, THE BOMBS WILL BE RELEASED WHEN THE INNER EDGE OF THE BOMB RELEASE CIRCLE CROSSES THE CENTER OF THE SIGNAL.

C - SPECIFIC INFORMATION PERTINENT TO THE MISSION TO BE CARRIED OUT ON THE BRIEFED GROUND TRACK OF  $43^{\circ} T$  ( $49^{\circ} M$ ).

1. FROM THE POINT PREVIOUSLY DESCRIBED, WHICH IS 10 NAUTICAL MILES FROM CHUHWA ISLAND, IT IS 56.5 NAUTICAL MILES (65 STATUTE MILES) ON A COURSE OF  $82^{\circ} T$  ( $88^{\circ} M$ ) TO THE I.P.

2. THE INITIAL POINT IS A POINT ON THE COASTLINE WHERE ITS DIRECTION CHANGES FROM NORTHEAST TO NORTHWEST, JUST NORTH OF THE TOWN OF LANKICHANG. THE COORDINATES OF THIS POINT ON THE COASTLINE ARE  $40^{\circ} 33' N$  AND  $122^{\circ} 14' E$ . UPON CROSSING THE INITIAL POINT THE AIRCRAFT WILL FLY A DISTANCE OF 42.2 NAUTICAL MILES (55.5 STATUTE MILES) ON THE BRIEFED GROUND TRACK OF  $43^{\circ} T$  ( $49^{\circ} M$ ) TO THE TARGET.

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By Authority of  
G. G. AAF, by  
*Ray G. Baker*  
Ray G. Baker, Capt. A. C.

~~TOP SECRET~~

3. CHARACTERISTIC BENDS AND MEANDERS IN THE RIVER WILL APPEAR ON THE SCOPE AT ABOUT THE TIME THE AIRCRAFT CROSSES THE COASTLINE, BUT THE BEST CHECK POINT TO THE LEFT OF THE BRIEFED GROUND TRACK IS THE LAKE WHOSE CENTER IS AT  $40^{\circ} 47' N$  AND  $122^{\circ} 20' E$ , A DISTANCE OF 6.1 NAUTICAL MILES (7 STATUTE MILES) TO THE LEFT OF THE TRACK. THE ON-TRACK CHECK POINT IS THE WESTERN END OF THE LAKE WHOSE COORDINATES ARE  $40^{\circ} 52' N$  AND  $122^{\circ} 37' E$ . THIS IS 21.8 NAUTICAL MILES (25 STATUTE MILES) FROM THE TARGET. THE CITY OF HAICHENG LIES IMMEDIATELY NORTH OF THIS LAKE BUT IS 2.8 NAUTICAL MILES (3.3 STATUTE MILES) TO THE RIGHT OF THE GROUND TRACK.

4. THE TARGET SHOULD APPEAR AT FIRST AS A VERY BRIGHT SIGNAL IN THE FORM OF A NARROW ARC AS A RESULT OF THE CONCENTRATION OF GOOD REFLECTING SURFACES IN THE STEEL MILLS. WHEN THE TARGET IS 15 OR 20 NAUTICAL MILES (17 OR 23 STATUTE MILES) AWAY, THE TOWN OF ANSHAN SHOULD BEGIN TO REFLECT SIGNALS WHICH WILL CAUSE THE TARGET TO EXPAND CONSIDERABLY IN RANGE.

5. AS SOON AS THE TOWN OF ANSHAN BEGINS TO APPEAR, THE GAIN SHOULD BE REDUCED UNTIL ONLY THE BRIGHTEST SIGNAL REMAINS ON THE SCOPE.

6. WHEN THE TARGET HAS BEEN DEFINITELY IDENTIFIED, AND THE AIRCRAFT IS ON THE BRIEFED GROUND TRACK, THE GAIN SHOULD BE REDUCED UNTIL THE SIGNAL DISAPPEARS FROM THE SCOPE. THEN THE GAIN WILL BE INCREASED SLOWLY UNTIL THE FIRST AND ONLY THE FIRST SIGNAL APPEARS UNDER THE MASTER DRIFT LINE. (DURING THE PROCESS THE LUBBER LINE WILL BE TURNED OFF, IN ORDER THAT THE SIGNALS MAY BE AT LOW GAIN SETTINGS). THIS FIRST SIGNAL WILL BE MAINTAINED AS THE TARGET ON THE SCOPE BY CONTINUAL REDUCTION OF THE GAIN WHEN OTHER SIGNALS GET STRONGER AT CLOSER RANGES. BOMBS WILL BE RELEASED WHEN THE INSIDE EDGE OF THE BOMB RELEASE CIRCLE INTERSECTS THE CENTER OF THE SIGNAL FROM THE TARGET.

LAVERNE G. SAUNDERS  
BRIGADIER GENERAL, USA  
COMMANDING

OFFICIAL:

*Roy H. Lynn*  
ROY H. LYNN  
COLONEL, AIR CORPS  
COMMUNICATIONS OFFICER

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C. G. AAF, by *Ray G. Baker*  
Ray G. Baker, Capt. A. C.

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By NARA Date 10/4

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AUTH: CG, XX BC  
INITIALS: *WHE*  
DATE 18 JULY 44

ANNEX 4 TO FO 4  
RADAR BRIEFING FOLDER

HQ, XX BOMBER COMMAND  
APO 408, NEW YORK CITY  
18 JULY 1944

EXHIBIT "B"

SPECIALIZED RADAR SUMMARY NO. 7A

A. ATTACK AGAINST THE SECONDARY TARGET, CHINWANGTAO HARBOR, CHINA.

1. THE COORDINATES OF THE SECONDARY TARGET, CHINWANGTAO HARBOR, CHINA, ARE  $39^{\circ} 55'$  N AND  $119^{\circ} 36'$  E.
2. THE RADAR SCOPE PICTURE HAS BEEN PREPARED FOR AN APPROACH OF  $264^{\circ}$  T ( $270^{\circ}$  M) BUT AN APPROACH FROM A SOUTHERLY DIRECTION TOWARDS  $0^{\circ}$  T ( $6^{\circ}$  M) ALSO HAS ITS ADVANTAGES.
3. THE PRINCIPAL OBJECTIVES AT THIS TARGET ARE THE PORT AREA AND THE SHIPS WHICH ARE USUALLY FOUND LYING ALONG THE INNER SIDE OF BOTH JETTIES. THESE JETTIES EXTEND FROM THE ADJACENT LAND AREA LIKE THE MAIN CLAWS OF A LOBSTER OR IN THE FORM OF A PINCER. IT IS BELIEVED THAT THE LONGER OR EASTERN JETTY WILL APPEAR AS A FINE LINE SIGNAL ON THE SCOPE OF A RANGE OF 8 TO 10 NAUTICAL MILES.

LAVERNE G. SANDERS  
BRIGADIER GENERAL, USA  
COMMANDING

OFFICIAL:

*Roy H. Lynn*  
ROY H. LYNN  
COLONEL, AIR CORPS  
COMMUNICATIONS OFFICER

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**SECRET** 5-2-46

By Authority of

G. G. AAF, by

*Ray G. Baker*  
Ray G. Baker, Capt. A. C.

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By NARA Date 10/4

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AUTH: CG, XX BO

INITIALS *RLR*

DATE 18 JULY 44

ANNEX 4 TO FO 4  
RADAR BRIEFING FOLDER

HQ, XX BOMBER COMMAND  
APO 483, NEW YORK CITY  
18 JULY 1944

EXHIBIT "C"

RADAR BRIEFING SUMMARY NO. 78

A. ATTACK AGAINST THE TERTIARY TARGET, TAKU/TANGKU HARBOR, CHINA.

1. THE COORDINATES OF THE TERTIARY TARGET ARE  $39^{\circ} 00' N$  AND  $117^{\circ} 41' E$ .

2. A SKETCH OF THE RADAR SCOPE ON AN APPROACH OF  $315^{\circ} T$  ( $320^{\circ} M$ ) HAS BEEN PREPARED FOR FAMILIARIZATION WITH THE GENERAL AREA SURROUNDING THE TARGET.

3. THE MOST IMPORTANT TARGETS IN THE TAKU/TANGKU AREA ARE THE WHARVES AND SHIPPING FACILITIES LOCATED ON THE NORTHEASTERN SIDE OF A BEND IN THE HAI RIVER, ABOUT FIVE (5) MILES FROM THE RIVER'S MOUTH. ANY CONCENTRATION OF SHIPPING, OIL STORAGE, OR OF INDUSTRY, WHICH PRODUCES BRIGHT SIGNALS ON THE SCOPE MAY BE ATTACKED.

LAVERNE G. SAUNDERS  
BRIGADIER GENERAL, USA  
COMMANDING

OFFICIAL:

*Roy M. Lynn*  
ROY M. LYNN  
COLONEL, AIR CORPS  
COMMUNICATIONS OFFICER

Classification Changed to  
~~SECRET~~ 5-2-46 By Authority of

C. G. AAF, by

*Ray G. Baker*  
Ray G. Baker, Capt. A. C.

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Authority 760063

By 100 NARA Date 10/4

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ANNEX NO. 5  
FIELD ORDER NO. 4  
PHOTOGRAPHIC

Classification changed to  
**SECRET** 5-2-76  
 By Authority of  
 C. G. AAF, by *Ray L Baker*  
 Ray L Baker, Capt. A. C.

TOP SECRET

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PHOTOGRAPHIC

1. The photographic responsibility that will be necessary to be fulfilled on targets as outlined in Field Order No. 4 are as follows:

A. BOMBARDMENT GROUP COMMANDERS

1. The Bombardment Group Commanders will be responsible for the installation of a K-20 aerial camera in each operational airplane and the installation of their quota of K-18, K-17b and C-3 cameras.
2. The 444th and 462nd Bombardment Groups will process all their film at their individual forward bases. Such processing equipment, materials, and men necessary to accomplish the above, will be transported to their forward base prior to the mission. The 40th and 468th Bombardment Groups will use the facilities of the Laboratory already at A-1, furnishing additional personnel and material necessary.
3. The Bombardment Group Commanders will insure that every Bombardier participating in the mission is briefed and made responsible for the following photographic functions:
  - a. Opening vertical camera hatch and insuring same is properly locked in "OPEN" position prior to actuating camera for pictures.
  - b. Turning camera master switch located on Bombardier's panel "ON" prior to taking pictures.
  - c. Turning on of vacuum to the camera and regulating same to approximately four (4) inches of mercury.
  - d. Thorough knowledge of the operation of the B-7 Intervalometer.
  - e. The Bombardier will complete a camera data sheet before leaving the plane and attach same to camera. This camera data sheet will be furnished by the Group Photographic Officer prior to take-off.
  - f. The Bombardier will take the series of pictures, as briefed, regardless of weather conditions.
4. The Bombardment Group Commanders will insure that the C-3 camera operators are briefed thoroughly as to the focus, operation, and handling of the ~~C-3 camera~~ <sup>mounted on the Radar camera mount.</sup>

~~SECRET~~ 5-2-46

By Authority of

C. G. AAF, by

*Ray G. Baker*  
Ray G. Baker, Capt. A. C.

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PHOTOGRAPHIC

5. The Bombardment Group Commanders will be responsible for the following distribution in the most expeditious manner:
  - a. One set of one each prints of all aerial negatives sent to the Commanding General, XX Bomber Command, APO 493, Attn: XX BC P. I. Officer. One set of one each print of all aerial negatives sent to Group P. I. Officers.
  - b. Two prints of all C-3 negatives will be made. One set of prints will be retained in the Group and one set of prints along with the negatives will be forwarded immediately to the Commanding General, XX Bomber Command, Attn: XX BC Radar Officer.
6. The Bombardment Group Commanders will be responsible that the following photos are taken:
  - a. Enroute to and return from target.
    1. Photographs of installations of interest, (convoys, ports, large cities, industrial areas etc.,) with both the K-17b and hand--held (K-20) cameras.
  - b. Over target.
    1. Photographic coverage of target by the lead flight departing from each Group with K-18 camera, beginning with bomb release and continuing at least one minute on course thereafter. All other Cameras will be used in the normal manner on the bombing run.
  - c. Hand held cameras (K-20)
    1. Hand held (K-20) camera photos of the target and target area whenever possible. Oblique photography is a valuable supplement to vertical photography and every effort should be made to obtain this type of coverage. Under broken cloud conditions this type of photography is often the only means of obtaining photographic evidence of damage and photo coverage of the target.

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~~SECRET~~ 5-2-46  
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C. G. AAF, by

*Ray Baker*  
Capt. A. C.

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PHOTOGRAPHIC

B. THE BOMBARDMENT GROUP PHOTO OFFICERS

1. The Group Photo Officer will insure that all camera installations in airplanes participating in the mission are in perfect working order, prior to take-off.
2. The Group Photo Officer will be responsible for forwarding direct to the XX Bomber Command Photo Officer, a copy of the Camera Operation Report as soon as the photographic results are obtained.
3. The Group Photo Officer will forward to the 10th Photo Laboratory, XX Bomber Command, APO 493 all aerial film for storage immediately, following the completion of the printing requirements in the Group.

C. XX BOMBER COMMAND ADVANCE HEADQUARTERS LABORATORY

1. The XX BC Advance Hqs Photo Officer will be responsible for the development and printing of the 40th and 468th Bombardment Group's film. The number of prints made will be as stipulated in paragraph A, sub paragraph 5. All prints and negatives will be turned over to the Photo Officer of the respective Groups in the shortest time practicable, but not sacrificing quality for speed.

By Command of Brigadier General SAUNDERS:

JOHN E. UPSTON,  
Brigadier General, USA  
Ass't Chief of Staff, A-3

OFFICIAL:

*Albert R. Weaver*  
ALBERT R. WEAVER,  
Lt. Colonel., Air Corps,  
XX BC Photo Officer.

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~~SECRET~~ 5-2-46 By Authority of  
C. G. AAF, by *Ray G. Baker*  
Ray G. Baker, Capt. A. C.

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: T O P S E C R E T :  
: Auth: CG XX BC :  
: Initials: AKW :  
: Date: 18 July 1944 :  
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ANNEX NO. 1 TO ANNEX NO. 5  
FIELD ORDER NO. 4  
PHOTOGRAPHIC

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~~SECRET~~ 5-2-46  
By Authority of  
C. S. AAF, by Ray H. Baker  
Ray H. Baker, Capt. A. C.

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SECRET 5-2-46

By Authority of

C. G. AAF, by

*Ray G. Baker*

Ray G. Baker, Capt. A. C.

1. The photographic responsibilities that will be necessary to be fulfilled on targets by the Photo Reconnaissance plane as outlined in Field Order No. 4, are as follows:

a. XX BOMBER COMMAND PHOTO OFFICER

1. The Bomber Command Photo Officer will furnish the necessary cameras and equipment for the reconnaissance plane.

b. COMMANDING OFFICER, 40TH BOMBARDMENT GROUP

1. The Commanding Officer, 40th Bombardment, will be responsible that two Aerial Photographers from the 12th Photographic Laboratory are assigned to the crew of the reconnaissance plane for the purpose of obtaining aerial photographs of targets as outlined in Field Order No. 4.
2. The Commanding Officer of the 40th Bombardment Group is responsible that Radar scope photographs are taken throughout the mission.

c. PHOTOGRAPHIC OFFICER, 40TH BOMBARDMENT GROUP

1. The Group Photographic Officer is responsible that the Aerial Photographers, assigned to the Photographic Reconnaissance plane, are properly briefed on and have been given maps of the photographic targets and that they accomplish the following:
  - a. Prior to take-off, check the two camera installations (i.e. the Four Camera Split Vertical and the Three Camera Tri-Metrogon) for operation of the following:
    - (1) All camera electrical circuits.
    - (2) Camera vacuum system.
    - (3) A-1 remote control.
    - (4) Camera hatch doors.
  - b. Prior to take-off, check to see that the Tri-Metrogon camera magazines and the K-22 split vertical camera magazines are loaded with 150 ft rolls of Class L film and the K-18 split vertical camera magazines are loaded with 75 ft rolls of film.
  - c. Use the K-20 camera for shots of interest throughout the mission.
  - d. Just prior to reaching first target, calculate the interval of overlap (60%), set the A-1 control, turn on electrical system, turn on vacuum system, and open camera hatch doors.

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- e. At each target operate the cameras from a point four (4) miles before the target to a point three (3) miles after the target. A series of nine (9) pictures will be taken with both camera installations operating simultaneously.
- f. Enroute to and from targets, strips are to be taken, as briefed, with the Tri-Metrogon Installation alone. The number of exposures not to exceed one hundred and seventy five (175).

By Command of Brigadier General SAUNDERS:

JOHN E. UPSTON,  
Brigadier General, USA  
Ass't Chief of Staff, A-3

OFFICIAL:

*Albert R. Weaver*  
ALBERT R. WEAVER,  
Lt. Col., Air Corps,  
XX BC Photo Officer.

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5-2-46 By Authority of

G. C. AAF, by

*Ray G. Baker*  
Ray G. Baker, Capt. A. C.

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: Auth: CG, XX BC :  
: Initials *WAB* :  
: Date 18 July 1944 :  
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ANNEX 6 TO FO ~~SECRET~~ *Classification Changed to SECRET 5-2-46*  
SIGNAL ORDERS: *AAE* by *Ray G. Baker*

HQ, XX BOMBER COMMAND  
APO 493, NEW YORK, NY  
0530Z, 18 July 1944

*Ray G. Baker, Capt. A. A. C.*

1. A. (1) Information on enemy radio facilities will be transmitted to group communications officers, if available.
- (2) The monitoring of our point-to-point channels and fixing of our aircraft by D/F are valuable sources of information to the enemy. Therefore, strict radio discipline will be maintained.
- B. Air-ground and navigational aid facilities at all airfields in China are outlined in XX Bomber Command Radio Facilities Chart and ATC Facilities Chart.
2. Signal communications at the Advance Command Post, XX Bomber Command, APO 210 will be operated in accordance with current Signal Operation Instructions and XX Bomber Command Memoranda, except as specified in Paragraph 3, below.
3. A. The 338th Signal Company, Wing, will operate air-ground facilities as follows:
  - (1) Blind Broadcast (Fox Type) transmissions will be made to aircraft which are outbound or which are more than two hundred fifty (250) miles from the Command Post when inbound. "Fox Type" broadcasts will be authenticated by the direct authentication system as outlined in CSP 1270 ( ). All "Fox Type" transmissions will be repeated once every fifteen minutes for one (1) hour on all CW frequencies.
  - (2) During the first minute of every thirty (30) minute period, a series of V's and the ground station's tactical call sign will be sent on the three (3) CW frequencies in use (5530 kcs, 8280 kcs, 12235 kcs).
- X. (1) During the movement to, and return from, the advanced bases, the following procedure will apply:
  - (A) Only twenty (20) percent of each group's aircraft will be PX'd in the normal manner, and only these aircraft will conduct normal communications, as for the transport operations.

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- (b) The remaining eighty(80) percent of each group's aircraft will maintain strict radio silence, except in case of emergency.
- (2) On the mission, all aircraft will maintain continuous watch on one of the tactical air-ground channels, such channel being dependent upon distance from command post, during the first and third fifteen (15) minute period of each hour from takeoff until return to base, except when entering local control area on return trip.
- (3) Strict Radio Silence will be maintained by all aircraft from prior to take off until landing, except:
  - (a) On the air-to-air command net over the target area.
  - (b) When within two hundred fifty (250) miles of Hsinching on return trip to obtain navigational aid or clearance into the local control area.
  - (c) When in distress. If distress is not imminent, messages will be encoded in CSP 1270 ( ), and will include the serial number and position of the aircraft, plus any pertinent details. If distress is imminent, message may be transmitted in the clear. Such clear text transmissions made over enemy occupied territory will not include the position of the aircraft.
  - (d) For pre-arranged "Bombs Away" messages.
- (4) For inter-flight communications (meaning communication between flights), all flight leaders will utilize the wing "primary" air-to-air command frequency, as assigned in current SCI. For intra-flight communications (meaning communications within a particular flight), aircraft will use the applicable group "primary" air-to-air command frequency, as assigned in current SCI.
- (5) Group air-to-air homing frequencies are authorized for use within one hundred fifty (150) miles of Hsinching.
- (6) Each flight leader will report "Bombs Away" for his flight by sending one of the following messages, as applicable, within ten (10) minutes after "Bombs Away" on the best useable air-to-ground frequency, as determined by best reception of the net control station, utilizing blind broadcast (Fox Type) transmission with the text repeated three (3) times.

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By Authority of

C. G. AAF, by

*Ray G. Baker*  
Ray G. Baker, Capt. A. G.

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In the event that bombing is accomplished by an individual aircraft, the airplane commander will be responsible for transmission of the proper message. The letters "PT", "ST", or "LRT" will be included in the message immediately following the code word to indicate "primary", "secondary", or "last resort target". The date - time group will indicate actual time of "Bombs Away".

(a) 40th Bombardment Group:

5X5 5X5 5X5 V

(A/C call sign repeated  
three (3) times.)

(Date - Time Group) 000 FFF BT JUDY JUDY JUDY

(Target Bomed) <sup>BT</sup> <sup>AR</sup>  
(A/C call sign repeated  
three (3) times.)

(b) 444th Bombardment Group:

5X5 5X5 5X5 V

(A/C call sign repeated  
three (3) times.)

(Date - Time Group) 000 FFF BT ETHEL ETHEL ETHEL

(Target Bomed) <sup>BT</sup> <sup>AR</sup>  
(A/C call sign repeated  
three (3) times)

(c) 462nd Bombardment Group:

5X5 5X5 5X5 V

(A/C call sign repeated  
three (3) times)

(Date - Time Group) 000 FFF BT ALICE ALICE ALICE

(Target Bomed) <sup>BT</sup> <sup>AR</sup>  
(A/C call sign repeated  
three times)

(d) 468th Bombardment Group:

5X5 5X5 5X5 V

(A/C call sign repeated  
three (3) times)

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Ray G. Baker, Capt. A. C.

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(Date -Time Group) 000 FFF BT MARY MARY MARY

(Target Bombed) <sup>BT</sup> <sup>AR</sup> (A/C call sign repeated three (3) times)

- (7) The forward area aircraft control center will be utilized by aircraft returning to the local area as follows:
- (a) Transmissions to the aircraft control center involving position reports, requests for navigational aids, and requests for clearances will be made using A-5 (voice) emission. A-1 (CW) emission will be used only in the event that voice contact cannot be made. Aircraft serial number (numerical) type call signs will be used for these transmissions.
  - (b) Flight Leaders will call aircraft control center when two hundred fifty (250) miles out to request clearance for the entire flight to proceed to proper base. At this time, flight leaders will report position of the flight using the false grid system.
  - (c) Frequencies authorized for transmission outlined in (a) and (b) above are as follows:
    - (1) The 40th and 468th Bombardment Groups will use 5400 kcs as primary frequency.
    - (2) The 444th and 462nd Bombardment Groups will use 6300 kcs as primary frequency.
    - (3) Frequency 5528 kcs is assigned as secondary frequency for all groups.
  - (d) In the event that an aircraft aborts, and returns to the local area as an individual aircraft, the airplane commander is responsible for compliance with (a), (b), and (c) above.
  - (e) Aircraft will be answered on same frequency as call is made, and clearance granted, or directive given to land at a different base, if circumstances so warrant.
- (8) IFF equipment (SCR 695) will be utilized on missions as follows:

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By Authority of

C. G. AAF, by

*Ray Baker*  
Ray U. Baker, Capt. A. C.

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SECURITY of

C. G. A. A.

*W. J. Baker*

- (a) Code position two (2) will be used on both outbound and inbound flights. When outbound IFF will be turned on immediately on takeoff and kept in operation until one hundred twenty five (125) miles from Chengtu, at which point it will be turned off. When inbound, IFF will be turned on when on hundred twenty-five (125) miles from Chengtu, and kept in operation until landing is effected.
- (b) In flights of two (2) or more aircraft, IFF equipment will be operated only by flight leader. Aircraft returning as individuals will operate IFF as prescribed in (a) above.
- (c) Under no circumstances will IFF be turned on over enemy occupied territory.
- (9) The false grid system will be used to report all positions.
- (10) Aircraft Code #16 (CSP 1270 ( ) ) will be carried in all aircraft.
- (11) Hourly alaco weather transmissions will be broadcast on all CW air-ground frequencies utilizing "Fox Type" broadcast, once during every fifteen (15) minute period.
- (12) Each group will make the following reports to the forward area aircraft control center, by the most expeditious means available. (If circumstances permit, a "conference call" connecting the four (4) group operations officers and the aircraft controller will be used to transmit the aircraft take off and landing reports.)
- (a) Time of take off of each aircraft. To indicate that all scheduled aircraft are airborne, the word "End" will be used following the five (5) letter group of the last aircraft taking off.
- (b) Abortions, or early returns.
- (c) Time of landing of each aircraft. To indicate that all aircraft have landed, the word "End" will be used following the five (5) letter group of the last aircraft landing.

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By NARA Date 10/4



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(d) The reports in (a), (b), and (c) above will be submitted immediately as each aircraft takes off or lands, using the following reporting system:

- (1) A five number group will be used, the first three numbers indicate the last three (3) numbers of the aircraft serial number and the last two numbers of the minutes past the hour the aircraft took off.
- (2) A ten (10) letter word will be assigned each group as indicated below. The five (5) number group will be encoded and transmitted as shown in the following example:

Aircraft number 446 took off at 17 minutes past the hour. The five (5) number group would then be 44617. The code word assigned is "Cherbourg" and the five number group would be encoded by substituting the appropriate letter for the corresponding number

0 1 2 3 4 5 6 7 8 9  
C H E R B O U R G S

In this case the five (5) letter group would be BEUHR. This will be transmitted over the telephone as "Baker Baker Uncle How Roger".

(3) Code Words are assigned as follows:

a. 40th Bombardment Group:

R E G I S T E R E D  
0 1 2 3 4 5 6 7 8 9

b. 444th Bombardment Group:

R E C R E A T I O N  
0 1 2 3 4 5 6 7 8 9

c. 462nd Bombardment Group:

A U T H O R I Z E D  
0 1 2 3 4 5 6 7 8 9

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~~SECRET~~ 5-6-46  
By Authority of  
C. G. AAF, by *Ray Baker*  
Ray G. Baker, Capt. A. C.

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d. 468th Bombardment Group:

PENINSULAS  
0 1 2 3 4 5 6 7 8 9

4. Signal supply will be in routine manner.
5. Index 1-8 to Signal Operation Instructions and pertinent Bomber Command 100- Series memoranda will be in effect.

By Command of Brigadier General Saunders:

John E. Upston  
Brigadier General, U.S.A.  
Assistant Chief of Staff, A-3

OFFICIAL:

*Roy H. Lynn*  
ROY H. LYNN,  
COLONEL, AIR CORPS,  
COMMUNICATIONS OFFICER.

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By Authority of  
G. G. AAF, by *Ray G. Baker*  
Ray G. Baker, Capt. A. C.

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Initials: *RHB*  
Date: 21 July 44

HQ. XX BOMBER COMMAND  
APO 493, NEW YORK, N.Y.  
0530Z, 21 July 1944.

Amendment No. 1 to  
Annex No. 6 To FO 4:

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**SECRET** 5-6-46  
By Authority of

\* \* \* \* \*  
3. X. (3) \* \* \* \* \*  
C. G. AAF, by \* *Ray G. Baker* \*  
Ray G. Baker, Capt. A. C.

(e) For necessary reports on crossing the Yellow River on return flights.

3. X. (7) \* \* \* \* \*

(b) Flight Leaders will call Aircraft Control Center on crossing Yellow River on return flights. The code group "YYYYY" will be sent at this time, with the date time group of the message indicating the time that the Yellow River was crossed.

(c) Flight Leaders will call Aircraft Control Center when two hundred fifty (250) miles out to request clearance for the entire flight to proceed to proper base. At this time, flight leaders will report position of the flight using the false grid system.

(d) Frequencies authorized for transmissions outlined in a, b, and c above are as follows:

(1) The 40th and 468th Bombardment Groups will use 3400 KCS as primary frequency.

(2) The 444th and 462nd Bombardment Groups will use 6800 KCS as primary frequency.

(3) Frequency 5588 KCS is assigned as secondary frequency for all groups.

(e) In the event that an aircraft aborts and returns as an individual aircraft, the airplane commander is responsible for compliance with the following:

(1) Aircraft aborting when outbound before crossing the Yellow River will report that fact immediately on start of return to base, using appropriate "Q" signal with the date time group indicating time of turn.

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(2) Aircraft aborting beyond the Yellow River will report as prescribed in (b) above.

(f) Aircraft not returning on prescribed route will report position and heading immediately after clearing enemy occupied territory.

(g) Aircraft will be answered on same frequency as call is made, and clearance granted, or directive given to land at a different base, if circumstances so warrant.

\* \* \* \* \*

By Command of Brigadier General SAUNDERS:

John E. Upston  
Brigadier General, U. S. A.  
Assistant Chief of Staff, A-3

OFFICIAL:

*Roy H. Lynn*  
ROY H. LYNN  
Colonel, Air Corps,  
Communications Officer.

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5-2-46

By Authority of

C. G. AAF. by

*Lay H. Baker*  
Baker, Capt. A. C.

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By NARA Date 10/4

SEP 25 1924



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TWENTIETH AIR FORCE  
ADJUTANT GENERAL

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25th  
SEP 25 1924

