TOP SECRET
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ARMY SERVICE FORCES
SIGNAL SECURITY AGENCY
WASHINGTON 25, D. C.

TOP SECRET
By Authority of
The Commanding Officer
Initials 5 May 45
Date

SPSIS-8A

5 May 1945

SUBJECT: Intelligence Report No 3

THRU: Chief, Security Division

TO: Director, Communications Research

The inclosed report is forwarded for your information and file.

Richard L. Downing
RICHARD L. DOWNING
Major, Signal Corps
Chief, Communications Security Branch

1 Incl
Intelligence Report
No 3

3/11 5 Secretary

Declassified by NSA/CSS
Deputy Associate Director for Policy and Records
On 20130424 by RLT

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"I" Report
No. 3
15 March 1945

I CRYPTOGRAPHIC SECURITY

A. General Studies

1. Codes

a. AIRMO AND PLANE MOVEMENTS CODES

References:

(1)	17 August 1944	J-31423-A	Manila to Wasile
(2)	30 August 1944	J-29422	Menado to Tokyo
(3)	31 August 1944	J-30017-D	Rangoon to Tokyo
(4)	3 September 1944	C-957-B, D	Menado to Manila
(5)	15 September 1944	J-20055-A	Menado to Rabaul
(6)	15 September 1944	J-32893-A	Tokyo to Singapore
(7)	23 September 1944	J-31141-B	Hankow to Saigon
(8)	27 September 1944	C-969-AGHJK	Menado to Rabaul
(9)	27 September 1944	C-969-B-D, EFI	Menado to Rabaul
(10)	15 October 1944	J-26523	Hankow-to —M—
(11)	30 November 1944	F-39871-A	Pinrang to Tokyo
(12)	26 December 1944	J-12444-A-F	Saigon to Manila
(13)	12 January 1945	J-17537-A	Pinrang to Baguio
(14)	4 February 1945	C-915-G	Pinrang to Saigon
(15)	8 February 1945	J-25501-A	Pinrang to Saigon
(16)	10 February 1945	J-25647-A-B	Pinrang to Singapore
(17)	10 February 1945	J-29922-A	Pinrang to Singapore
(18)	11 February 1945	J-25773-A,B	Pinrang to Shanghai
(19)	12 February 1945	J-29867-A	Pinrang to Singapore
(20)	14 February 1945	J-26502-A-C	Pinrang to Tokyo
(21)	14 February 1945	J-26903-A-B	Pinrang to Tokyo
(22)	15 February 1945	J-29230-A,B,D	Pinrang to Tokyo
(23)	15 February 1945	J-22232-A	Pinrang to Tokyo
(24)	15 February 1945	J-27045-A,H	Pinrang to Singapore
(25)	15 Febraury 1945	J-29558-A,B,E	Singapore to Tokyo
(26)	16 February 1945	J-29356-A	Pinrang to Tokyo
(27)	16 February 1945	J-29356-B	Pinrang to Taihoku
(28)	16 February 1945	J-29364-A-H	Pinrang to Tokyo
(29)	16 February 1945	J-22231-ABD-H	Pinrang to Tokyo
(30)	16 February 1945	J-30986-A	Pinrang to Nanking
(31)	17 February 1945	J-29423-A	Tokyo to Nanking
(32)	18 February 1945	J-29431-A	Pinrang to Tokyo
(33)	19 February 1945	J-29936-A	Tokyo to Nanking
(34)	19 February 1945	J-29658-A	Pinrang to Taihoku
(35)	20 February 1945	J-30303-A-B	Pinrang to Tokyo

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(36)	20 February 1945	J-30380-A	Pinrang to Tokyo
(37)	21 February 1945	C-971 (?)	Pinrang to Taihoku
(38)	21 February 1945	C-971-A-M,OUY	Pinrang to Saigon
(39)	21 February 1945	J-30299-A	Saigon to Tokyo
(40)	21 February 1945	J-30337-A-B	Pinrang to Tokyo
(41)	21 February 1945	J-31444	Pinrang to Singapore
(42)	21 February 1945	J-30557-A-K	Singapore to Tokyo
(43)	22 February 1945	J-30989-ABD,F-H	Pinrang to Saigon
(44)	22 February 1945	J-31451	Pinrang to Saigon
(45)	22 February 1945	J-30563-A	Pinrang to Canton
(46)	23 February 1945	J-32686-A-B	Pinrang to Tokyo
(47)	23 February 1945	J-31457-A	Pinrang to Tokyo
(48)	23 February 1945	J-31566-A-D	Pinrang to Saigon
(49)	24 February 1945	J-31568-A,B	Pinrang to Saigon
(50)	24 February 1945	J-31605-A-B	Pinrang to Saigon
(51)	24 February 1945	J-31607-A-C	Pinrang to Saigon
(52)	24 February 1945	J-31585-A-G	Pinrang to Tokyo
(53)	24 February 1945	J-31560-A-F	Pinrang to Saigon
(54)	25 February 1945	J-32168-A-G	Pinrang to Tokyo
(55)	25 February 1945	C-974-A,B	Pinrang to Tokyo
(56)	26 February 1945	J-32270-A,G	Pinrang to Tokyo
(57)	26 February 1945	C-975-A-B	Saigon to Tokyo
(58)	27 February 1945	J-32730-A	Pinrang to Hankow
(59)	28 February 1945	J-32894-A	Pinrang to Saigon
(60)	28 February 1945	J-33360-A-D	Pinrang to Saigon
(61)	28 February 1945	C-977-E,F	Pinrang to Saigon
(62)	1 March 1945	C-979-A-D,FHO	Pinrang to Surabaya
(63)	1 March 1945	C-981-A	Pinrang to Taihoku
(64)	1 March 1945	J-33586-A,B	Pinrang to Tokyo
(65)	1 March 1945	J-33284-I-K,MNP	Pinrang to Canton
(66)	2 March 1945	J-33611-A	Pinrang to Taihoku
(67)	2 March 1945	C-960-C,E-H,N-EE	Pinrang to Taihoku
(68)	5 March 1945	C-962-I,Q	Pinrang to Baguio
(69)	5 March 1945	J-35242-A	Pinrang to Tokyo
(70)	6 March 1945	C-983-K,O	Pinrang to Saigon
(71)	6 March 1945	C-983-S	Pinrang to Saigon
(72)	6 March 1945	C-967	Saigon to Pinrang
(73)	6 March 1945	J-35181-A	Pinrang to Saigon
(74)	7 March 1945	J-35261-A	Pinrang to Tokyo

Contents:

(1), (2), (3), (5), (6), (7), (10), (11), (13), (22), (26), (27), (34), (36), (44), (49), (59), (69), (74). These references give the identification, locations, and movements, of individual Air Force units in the Pacific area.

(12), (15), (16), (18), (21), (23), (24), (25), (28), (29), (31), (39), (42), (43), (48), (52), (53), (54), (56), (60), (66), (73). These references give arrival and departure figures for plane movements on Leyte, Morotai, Nunru, Sansapor, Luzon, Mindoro, Lingayen, Angaur, Peleliu, Noemfoor, Biak, Kuraku, Hollandia, Guam, and Clark Field.

(17), (19), (30), (32), (33), (35), (40), (45), (46), (47), (50), (51), (64). These references give point-to-point movements of planes in the Pacific area.

(20) Summary of plane movements and air strength gained from A Intelligence up through 7 February 1945.

(41) Summary of plane movements and air strength gained from A Intelligence up through 15 February 1945.

(4), (14), (37), (38), (67). These references give series of 3-digit code groups recovered.

(65), (68), (70). These references give series of 3-letter code groups recovered, the plain-text same as in AIR#0.

(8) "The gist of the decrypting of the American Air Force transport circuit 3-digit code is as follows: 1—It is constructed in 2 parts, the first digits are code, the second are (?random?) substitution tables." The substitution tables are listed.

(9) "The plain text comprises 400 to 500 groups. Numerals —3G— 00 to 99 and 0 —4G—. Besides the 26 letters it contains words with various used (those with high frequency) —3G— plans types, plane names, and verbs. For solution we took the code (?on the?) day of the code change as the basis (clear text). On the basis of repeats in the cipher text of one day's traffic in accordance with Z time, we located things identical to the basic clear text and broke the substitution table. As an example of the first operation in solution —3G— an example of cipher text —5G—. On 13 September ...." (There follows a list of 3-digit code groups).

(55) "The 3-number code used on the American Air Force transport and replacement circuits (Australia, New Guinea, Philippine Sectors) has been changed as follows since 1000 on the 24th: (February) The Philippine sector is still using the 3-number code. We are at present investigating (results?) of the change of the unkeyed 3-letter code....."

(61) Arrival and departure figures for planes at Hollandia, Clark Field, and Nichols Field. "Explanatory note: since we (can) use the code we are resuming the stipulated form little by little." (NOTE: This stipulated form evidently refers to the breakdown of total plane figures as described in a previous message. The Japanese were unable to make this breakdown for a while after the American codes were changed.)

(63) "Please report the results of your investigation of the following items as contained in —1G— Staff Intelligence Message #909. —1G— CSP (Aircraft) Code, Syko Code, etc"....

(58) "From now on, WU attached to the end of each (item?) will indicate that it is intelligence from a 3-digit code, and bUN that it is intelligence from a 3-letter code."

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(57) "We have succeeded in decrypting the unkeyed three-letter code, which we had formerly reported, and the average number of these wires intercepted on one day is about 200 wires. After this we will call this 3-letter code the BN code."

(62) "The plain-text of the BN code (unkeyed three-letter) used by the American Air Force changed on 26 February". Parts B-D, F, H, and O list recovered plain-text for 3-letter code groups.

(71) "The 45 —1G— BN code is a conversion table for not less than several days. Because the number of messages that this Army now intercepts is small, we are not yet decrypting them, but we will report the changes of the 26th for reference."

(72) "Please report a summary of the solution of the unkeyed three-letter code mentioned in Kagoyaki Staff Message #338 and also the call signs and frequencies of this —1G— code".

Conclusions:

(1) The more frequent change of AIRMO (instituted in December by 68th AACS) has neither prevented nor hindered to an appreciable degree the solution by the Japanese. For a period of two months (i.e., until the latter part of February) they were able to submit only partial reports in the usual form, but are now resuming the complete breakdown in reporting. Their method of solution (see Contents: (9) page 3) used as outlined by the Japanese is one of the standard methods of approach.

(2) Information is being requested by SSA concerning the new 3-letter code being read by the Japanese and referred to as the BN code, which was first apparent on 24 February traffic. The code is clearly a variation of AIRMO, as the plain-text equivalents are identical (ARR, DEP, letters, figures, etc.). On the 26th of February the conversion tables were changed, and due to the small amount of traffic since that time, the Japanese were not decrypting the messages 8 days after the change. The low volume in traffic is evidently the sole difficulty encountered in reading the 3-letter code, as, until the drop in traffic, the plain-text was available in regular reports.

b. WEATHER CODES

8 References:

(1) 6 March 1945 C-985-A-J Pinrang to Canton

Contents:

(1) "The REKOH (1st February —1G—) Q code and the weather code which were picked up on the —3G— BRISTOL-BEAUFIGHTER on 1 February we have found out the following points on (WAF-3 and UCOPAC). (1) Fighter sectors —1G—C; Morotai—Gypsy; Sensapor—Jackpot; (2) Code Word.."... (Code names follow).

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Conclusions:

(1) As WAF-3 per se is a code form, unenciphered, cryptanalysis is unnecessary for its reading. However, WAF enciphered on ANDUSMET tables, and UCOPAC, are low-grade weather ciphers containing short-term confidential information. WAF-3 is similar to ALACO, a monoalphabetic substitution cipher; UCOPAC is polyalphabetic. Security tests have been made of these two types by SSA. It has not been determined as yet what the connection is between the weather codes and the name code, but the text permits the interpretation that the Japanese are listing information gained from the several codes picked up in the British plane.

2. Machine Systems

a. CONVERTER M-209

References:

(1) 30 August 1944 C-967-A-C Manila to Tokyo

(2) 11 February 1945 IC-6-114 Intercept Machines Aircraft; Extracts from notes of HMOC/245; Source: Poles--Passed to Strong at SHAEF and to Bicker.

Contents:

(1) To the Special Intelligence Squad. "From now on (we) are changing the name of the M-209 to be the "Z code". (Without strips, it is a different kind of machine code.) Please try to collect as many possible of the above telegraphic material".... "This seems to be --ZM-- repeatedly. We would like to study it so as to solve as much as possible before the book changes".

(2) "The Germans know the following ciphers on the basis of studying them...The small American Ciphering Machine (209)."

Conclusions:

(1) From now on the M-209 will be referred to as the Z code in ultra messages. The Japanese are anxious to obtain all possible traffic in this systems, so that they may solve as much as possible before the book changes.

(2) The Germans have been studying the M-209.

b. SIGABA

References:

(1) 11 February 1945 1C-6-114 Intercept Machines Aircraft; Extracts from notes of MMOC/245; Source: Poles--Passed to Strong at SHAEF and to Bicker.

Contents:

(1) "The Germans know the following ciphers on the basis of studying them:....The big American ciphering machine is unknown to them but their experts are working on it."

Conclusions:

(1) Previous references to the "big machine" indicate that SIGABA is the one discussed.

c. SIGJIP

References:

(1) 4 January 1945 J-24224-A-I

(2) 12 January 1945 J-29735-A-B

(3) 13 January 1945 J-25859-D-E

(4) 15 January 1945 J-18022-B,C

(5) 25 February 1945 J-33625-A-D

Contents:

(1) (Part D) "One of 6970 kc is used by patrol planes in the Marianas. One of 6809 kc is used by attack planes in the Marianas...the above are by telephone. At the present time it is difficult to identify the ones which usually contain information of value to us before the sally takes place. Up to the time of the enemy sally on 8th December 1944, we were able to understand the R/T used by enemy airplanes and gained accurate information in this manner. However, after that date we could not depend on this. The situation regarding telephones on attack planes is now under study."

(2) "Since August signal communication by --1G-- 43 unit at NAMELA, BOEROE Island has been jammed by radio waves. (1) Wireless telephone is being used but the language is indistinct. (2) Telephone conversations, lasting about 20 minutes, are often carried on at 1030 hours. (3) Frequencies: 6990, 5975, sensitivity 5. Whenever there is a conversation FIOZ is repeated twice."

(3) "...RUFU (LUF?) 40 kilometers south of .... course, 355 degrees. (2) There has been considerable use of plain text messages between 2 N —1G— and Y T on New Guinea. (3) The time of the signals of Air Navigation Air Units at —1U— is uncertain. There was interference on waves 6990 kc and 5975 kc. The languagewas not determined, but there was a great deal of wireless telephoning in the 20 mirutes after 1030. At the end they sent P—OZ twice."

(4) "Although the language is not clear, they are using radio telephone. From 1030 there were many R/T calls for a period of about 30 minutes. Frequencies: 6990 kc; 5975 kc; sensitivity: 5. At the conclusion of the conversation "PIOZ" was repeated twice."

(5) "(3) Although the signal communications of the Morotai detachment have recently been interrupted and the situation is unknown, we think that they are waging a suicidal battle. We wish to say in addition that we are eagerly working towards an understanding of their signals communications."

Conclusions:

(1) The preceding five items, if considered as circumstantial evidence, may be the reaction of the Japs to the use of SIGJIP. There is no positive identification at present that these references pertain to SIGJIP, but, with the Japanese habit of noting every little detail out of the ordinary, some reaction along this line would be expected.

(2) The statements concerning the telephone conversations that "the language is indistinct", "the language was not determined, but there was a great deal of wireless telephoning", and the fact that, despite this matter of indistinctness, they were able to understand four letters correctly (PIOZ) may mean that this is their reaction to the introduction of SIGJIP. However, if PIOZ is the indicator it is in the wrong place since it should be at the beginning of the conversation. Moreover, unless the users have made up their own set of indicators, it should consist of a digraph instead of 4 letters.

3. Unidentified and Miscellaneous Systems

a. FIVE-LETTER CODE

References:

(1)	25 February 1945	C-974-A-B	Pinrang to Tokyo
(2)	28 February 1945	C-976-A-H	Pinrang to Tokyo

Contents:

(1) "At present we are investigating (?results?) of ..... 5-letter double-keyed 5-letter code in the Morotai and New Guinea sectors." The message refers to this code as being in use on the American Air Force transport and replacement circuits.

(2) "1. The fact that we are not able to make a distinction between transport planes and military planes is because of a change in code and because we cannot decrypt (messages) as long as the volume of messages intercepted is so slight. 2. The fact that there has been a decrease at Morotai, Sansapor, Leyte, and Mindoro, is because in addition to confusion about the time of change of codes, they have used a five-letter code." (Translator's note: This is the first reliable indication that the source of these daily arrival-departure reports is cryptanalytic. However, the term decrypt (KAIDOKU) used in this message does not necessarily indicate a completesolution of a code, but may indicate a partial solution such as the solution of a discriminant, file date, etc.)

Conclusions:

(1) The characteristics mentioned in the messages indicate that the system being discussed is either strips or Converter M-209.

(2) Queries:
——If these are strip systems, is it possible to find out what particular systems are thus being compromised?

——If these are not strip systems, is the code mentioned low grade or high grade?

——What degree of security is necessary for the information learned from reading these codes?
NOTE: Information on this subject is being requested by Signal Security Agency.

(3) If a higher degree of security is required, there should be a thorough investigation of the type of code used and what changes can be made to increase security.

II TRANSMISSION SECURITY

A. General Studies

1. Broadcast

a. References:

(1) 21 February 1945 J-29870-A-C Tokyo to Broadcast

b. Contents:

(1) "According to a broadcast from San Francisco on the 19th, the commander of the operational units is Vice Admiral (?Turner?) and the landing force consists of the 4th Marine Division and the 5th Marine Division commanded by Lt. General Holland Smith.

c. Conclusions:

(1) Censorship of our news broadcasts was at fault, since the information thus afforded was considered to be of sufficient importance that the Japanese broadcast it from Tokyo. Prior to the news broadcast the Japanese either did not possess this information, or, if in possession, were not positive of its accuracy.

2. Call Signs and Radio Circuits

a. References:

German:

(1) 19 February 1945 ZIP/SAC/W.20

Japanese:

(1)	8 January 1944	C-235-D	Horomushiro to Sapporo
(2)	24 January 1944	C-218	Tokyo to Manila
(3)	28 January 1944	C-244-B	Horomushiro to Kanisikuka
(4)	7 April 1944	C-413	Sapporo to Horomushiro
(5)	29 May 1944	C-862-A	Tokyo to Nanking
(6)	9 June 1944	C-655-N	Sapporo to Horomushiro
(7)	10 June 1944	C-572-H	Sapporo to Horomushiro
(8)	11 June 1944	C-586-I	Sapporo to Horomushiro
(9)	18 June 1944	F-23708-A-F	Surabaya to Menado
(10)	6 July 1944	C-520-E	Horomushiro to Sapporo
(11)	7 July 1944	C-531-A-D	Rabaul to Menado
(12)	7 July 1944	C-757	Manila to --M--
(13)	9 July 1944	C-642-D-F	Rabaul to Tokyo

(14)	12 July 1944	C-835-A, D	Rabaul to Tokyo
(15)	13 July 1944	C-580-B	Sapporo to Horomushiro
(16)	14 July 1944	C-720-B	Tokyo to Manila
(17)	23 July 1944	C-695-A,C-E	Paramushiro Commercio
(18)	23 July 1944	C-626-B	Manila to Tokyo
(19)	27 July 1944	C-516-D	Tokyo to Ambon
(20)	28 July 1944	C-781-B	Hanoi to Hankow
(21)	30 July 1944	C-630-A-O	Manila to Rabaul
(22)	31 July 1944	C-643-B-F	Rabaul to Menado
(23)	10 August 1944	C-847-E	Menado to Sorong
(24)	15 October 1944	J-27059-A	Surabaya to Pinrang
(25)	21 October 1944	J-18197-B	Tokyo to Rabaul
(26)	13 November 1944	C-895-E	Tokyo to Broadcast
(27)	15 November 1944	C-920-A,B	Surabaya to Pinrang
(28)	21 November 1944	C-923-A,B	Rabaul to Tokyo
(29)	22 November 1944	C-901-E	Tokyo to Broadcast
(30)	1 January 1945	J-16643-ABE	Surabaya to Saigon
(31)	7 January 1945	J-16208-E	Pinrang to Tokyo
(32)	13 January 1945	J-24673-A-DG	Rangoon to Macassar
(33)	3 February 1945	J-23127-A-C	Rabaul to Tokyo
(34)	4 February 1945	D-9340	Tokyo to Berlin
(35)	4 February 1945	J-24097-A-C	Pinrang to Saigon
(36)	8 February 1945	J-25364-A	Pinrang to Saigon
(37)	10 February 1945	J-25360-A-H	Pinrang to Tokyo
(38)	14 February 1945	J-27037-C-J	Saigon to Taihoku
(39)	10 February 1945	J-36930	Saigon to Pinrang
(40)	15 February 1945	J-30292-F	Batavia to Pinrang
(41)	18 February 1945	J-22208-A-K	Tokyo to Broadcast
(42)	20 February 1945	C-972-A-DGH	Pinrang to Taihoku
(43)	21 February 1945	J-30299-E,F	Pinrang to Hankow
(44)	24 February 1945	J-31565	Nanking to Pinrang
(45)	28 February 1945	J-32728-EC, E-M	Taihoku to Tokyo
(46)	28 February 1945	J-32910-A	Taihoku to Saigon
(47)	28 February 1945	J-33305-E,F	Pinrang to Nanking
(48)	2 March 1945	C-981-B-C	Saigon to Taihoku
(49)	4 March 1945	J-35259-A	Pinrang to Saigon

b. Contents:

German:

(1) 19 February 1945. It is clear from first-hand German SIGINT reports that the enemy derives much detailed information on the subordination and dispositions of Allied troops and units from our own signals. The enemy is very familiar with U.W. cover names. This report gives cover names used in the 3rd and 7th American armies and some from the 1st French Army.

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Through W/T traffic the enemy located the 7th Army Corps in the Odeigne-Laroche area at one time.

This entire report gives location and identification of Allied units, operation plans, time of interception, cover names, battle orders, location of W/T and control stations, plain text messeges intercepted.

One signal picked up on the evening of 16 January refers to an operation by Unit 22 to take place at 1100 hours, and which was to be kept strictly secret. This instance shows a decided lack of security-mindedness on the part of the Allies. The report goes on to say that the Germans identified Unit 22 as the 22nd Infantry Regiment of 4th Infantry Division (American).

Japanese:

(1) Japs identify call signs: NGT--Dutch Harbor; NCI--Kuluk

(2) Japs identify call signs: VNAY--Brisbane
VNLN--Melbourne
VNTV--Tanobiru

(3) Japs identify call signs on Western Aleutians ship circuit G:

NPS--Pearl Harbor	NXU--Kiska
NUD--Kuluk	NZL--Attu

(4) Japs state that it is difficult to determine the maximum military strength because of the use of call signs.

(5) Japs identify WUTE as a call sign used between Kunming and Linsukia. (NOTE: WUTE is used by 62nd AACS at Chabua.)

(6) Japs identify Z5T and 762 as connected with Southern Air Command.

(7) Japs identify Z8A as related to the KU circuit.

(8) Japs hear Z3F on "A" circuit, and believe "A" circuit to be in eastern part of Southwest Pacific.

(9) The Western Australia patrol circuit used call signs which are generally used by patrol ships and submarines. Appearance of these call signs on an air patrol circuit is most unusual.

(10) Japs are collecting items about the Northern Navy Transport Plane circuits, the course of transport planes between Alaska, Dutch Harbor, and Kuluk, and evidence about Matsuwa Shima.

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(11) Japs state that No. 1 and 2 circuits in New Guinea area are being intercepted. Their frequencies and call signs do not change. Stations heard are:

VHZ--Port Moresby
Z4W--Goodenough
NDZ--Emirau Island*
NWE--Kunda*
GU-2--Lorengau
NGN--Tarokina*
VJJ--Milne Bay

(12) Japs request a report on circuits, call signs, and kilocycles, of ships located at Lorengau, according to "C" intelligence.

(13) Stations heard on the Solomon's area ship circuits are:

NGK--Guadalcanal
NDZ*-Emerald Island
NGE--Tarokina

(14) The number of ships located at Lorengau on 28 June 1944 was estimated from the ship's call signs. Two ship circuits in the New Guinea area have not changed call signs.

NGN--Tarokina*

(15) ØØ in a call sign indicates assignment of a ship to a carrier or its base. An "I" means the plane is an "airways" plane. Numbers after the V indicate the ship's name within the unit.

(16) Japs identify call signs on Eastern New Guinea circuits:

Z4W--Hollandia
NGS--Admiralties
VJJ--Milne Bay

(17) Conclusions of HTF Tokumu (Special Service) Hancho (Section Leader) regarding call signs connected with the KU and Z numbers are:

(a) KU call signs from the northern area appear to be call signs of prominent commanding officers.
(b) The Z call signs from the Aleutians are closely related to large operations.
(c) On the HA circuit Z5T, Z6Z, Z4N, etc., are clearly army high-speed battalions. The call signs are considered to be specially set-up call signs of the Southeastern or New Guinea areas.

(NOTE: Z call signs used by the Navy are assigned locally and are made up of Z-number-letter.)

(18) Japs believe call sign 5C5 to belong to an aircraft carrier.

(19) Japs identify call signs: NTF--Admiralties* VF9--Brisbane

(20) Call sign of some unit in Kaiping, Hsein, Kwangtung Province is PCR. (NOTE: this call sign cannot be identified at present.)

(21) Japs identify call signs and frequencies:

WXXD--Port Moresby*	WXXY--Finschafen
day--6950 kc	night--3130 kc

Patrol circuits:

TP6--Toi Island	Q3E--Wakde
2AW--Biak	2SX--Hollandia

LK1A, LK3C--submarine tenders around Biak

American Air Forces Transport circuit:

WXXD--Port Moresby*	WXXT--Bune
WXXY-Finschafen	WXXP--Horn Island
WXXW--Hollandia*	WZPT--Mokmer
WXXM--Aitape*	WZPQ--Wakde
WXXZ--Medang	WZPU--Noemfoor

Attack circuits: (used in rotation)

BL6	BU9	B48	BG4
BS3	BX4	6VK	BH8

Air Army New Guinea attack area: (used in rotation)

Biak Base:	Wakde Base:
E13	6DT
3HO	7ZH
5RC	MQ2
HA2	5FX
2WX	KV6
XP3	F33
4FG	4RV
5G8	75V

(22) Japs identify call signs:
24LK3C8--an aircraft carrier at Port Moresby
NTF--Admiralties*
NAP--Hansa
VHZ--Port Moresby
[redacted]I--Biak and Darwin

(23) Japs identify WXXQ as being somewhere between the Horn Islands and Medan. (NOTE: It is call sign for Lae.)

(24) Japs cite call sign BL22 as in the vicinity of Morotai, because its azimuth is 208.

(25) Since bombing Manchuria on 26 September, when a flight of raiding planes starts out it will always use a 4-group call sign, the first two letters being CT or CW.

(26) Frequency used by Allied attack planes is 7365 kc.

(27) Since 13 November Japs have picked up a tender with call sign LK8H.

(28) Japs have identified base call signs: Saipan--BLUEGRASS
Guam--DOVE
Tinian--FALCON

(29) Japs identify WITA as a central air station in the Marianas.

(30) In the Morotai area, planes with call signs in the form of letter-letter-digit-digit are attached to LL3D and flying boats with call signs of three characters are attached to BG4.

(31) "It is considered it corresponds to the unit bearing the call sign number-V7B-number, which has been participating in the attacks on the Philippines and is now based at Angaur". (NOTE: This unit referred to is presumed to be an aircraft carrier).

(32) Japs identify call signs in India-China transport net:

(WXW text) A through Z
(WUT text) A through A
(WL? text) A through N
(WLR text) F,I,K,S North Burma and China)
(WLS text) F (China)
(WLX text) D,F,J,N (China)
(WZP text) B,D,E,F,G,H,I,M,N,O

WXWA is Karachi.

(33) "Radio call signs of B-29 control station and planes changed at 0630 on 3 February. Former 00V530 (Saipan) changed to 00V605 and planes formerly number V53 changed to number V60. Former 00V535 (Guam) changed to 00V755.

(34) Japs identify call signs for meteorological relay stations:

Guam--NPN* Honolulu--NPM*

(35) The report orders Saigon to intercept AAF patrol circuits, place names, and call signs. It also identifies:

Morotai--BG4
Angaur--WVNF
Leyte--AR1
Mindoro--2SX

(36) Code names for bases:

Morotai--BLOOMER
Lingayen--HONEY
Leyte--CREEKY

(37) Report on air bases and strips in the Philippines and on Morotai. Some heard have not been placed as yet.

Luzon--covernames of Pinay and Goatee
Leyte--covernames of Clipper and Velvet
Mindoro--covernames of Auguste, Hammer, Hill, Charity, Elmore, and Maguire
Morotai--covernames of Snafu, Bloomer, Curfew, Junebeii, Windy.

(38) All call signs in the Philippine Area will be reported to the Hankow

Special Intelligence Dept., and the Canton Special Intelligence Dept. The Hankow Dept. will carry out actively and directly liaison affairs related to USAAF in the Philippines.

(39) Japs identify call signs in New Guinea area:
WVNF--Angaur
28X--Mindoro

(40) Japs have identified some Luzon based planes as transports, through their call signs.

(41) From documents captured in planes shot down, call signs of the 58th Task Force operating in the Iwo Jima area are:

1st Group	2nd Group
Hornet--Shasta	Lexington--Devil
Wasp--Spider	Hancock--Sambo
Bennington--Legion	San Jacinto--Lucky
Belleau Wood--Locust	

3rd Group	4th Group
Essex--Bobcat	Yorktown--Cobra
Bunker Hill--Tiger	Randolph--Phantom
Cowpens--Cocker	Cabot--Pontiac
	Langley--Demon

5th Group
Enterprise--Texas
Saratoga--Beaver

(42) Call signs of AAF transport circuits which the Japs intercept in the Philippine area are:

1st Circuit	3rd Circuit
WXKR--Mindoro	WXKR--Hollandia
WXKY--Lingayen	WWXKY--Lingayen
WXKQ--Clark	
WXKS--Luzon	
WXXR--Hollandia	5th Circuit
	WXKR--Angaur
4th Circuit	WVNF--
WXKR--Mindoro	(code names during day--COMIC)
WZPS--Morotai	(code names during night--LYRIC)
	6th Circuit
	(code names during day--Paces)

(43) Japs identify WXKQ as Clark Field, Luzon.

(44) This report requests an investigation of call signs and frequencies used by AAF, which advanced to the Philippines.

(45) "The following are what has been ascertained about call signs, code names, and frequencies of airfields, according to documents on the B-23 shot down on 18 February:

1. Oui Island--BLINKER
2. 309th Bombing Unit--POSSUM
3. Biak--LORDSHIP--Mokmer Field
4. MAA airstrip--DEXTER.

(46) Japs identify code names:
Noemfoor-DRAWBRIDGE
Kamiri Airfield--KAMASSREN
Morotai--GYPSY, APPLAUD
Weme airstrip--BLOOMER

(47) Japs identify additional code names:

VELVET--Tanuan airstrip
PINBALL--airstrip on Mindoro
FREEBOOTER--airstrip on Mindoro
BATMAN--Subic Bay Coast
HONEY--Mangaldan airstrip, Lingayen
DOODLE BUG--Clark Field
EMERALD--
BOLSTER--Hollandia
TUMBLER--Hollandia
BROCADE--Hollandia
ELBOW--Sansapor

(48) The Japanese want the following information regarding a captured code book used on planes:

(a) Do American planes change call signs daily and the time of the change?
(b) Number of planes by call signs (unit names).
(c) Are the patrol planes that use identical call signs identical planes?
(d) What are the peculiarities by which one distinguishes patrol planes from flying boats, from the call sign point of view?

(49) 'A' Intelligence reports that "the Air Army on Leyte consists of nine regiments. There are strong indications of a movement up from Finschafen". An air strip in the Morotai area used the code name WEAVER.

c. Conclusions

(1) Summary of call signs reported by the enemy which are correct, as far as checking is possible at present:

(a) 2AW--Biak
(b) NDZ--Emirau Island
(c) NGN--Tarokina
(d) NUD--Adak
(e) NWE--Munda
(f) WUTE--Chabua
(g) WXKY--Lingayen
(h) WXXD--Port Moresby
(i) WXXW--Aitape
(j) WXXW--Hollandia
(k) WZPQ--Wakde
(l) WZPR--Middleburg Island
(m) WZPS--Morotai
(n) WZPU--Noemfoor
(o) VMZ12--D/F net at Darwin

(2) Our present call signs system enables the enemy to:

(a) Determine the originating and receiving stations from day to day.

(b) Sort traffic accordingly

(c) Follow re-transmitted messages, and to attack cryptanalytically possible re-transmitted message enciphered in a different system.

(d) Make recommendations on signal counter-measures to be taken to avoid commission of errors similar to Allied errors resultant from weaknesses in call sign system.

(3) The use of fixed call signs by the Army, with the first two letters distinguishing the area where the transmitter is located enable the enemy without difficulty to:

(a) Compile and maintain accurate diagrams of all our fixed networks.

(b) Direct his intercept stations to the tasks allotted and to delete what information is immaterial to the completion of the assigned task.

(c) Distinguish rapidly the creation of new stations in an area.

(4) Fixed call sign system also aids the enemy's cryptanalysis in the following ways:

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(a) Any indiscretion or compromise can be compiled by station.

(b) Routine messages can be collected.

(c) Captured files can be examined and compared with earlier intercepted traffic.

(5) Traffic analysis by call signs will show radio silence and volume, thereby indicating movements, size of units, arrivals and departures, and the general area where reserves are located.

(6) We know from captured documents and other sources that German and Jap intercept stations render daily reports of subordinate formations or units, thus aiding their records or our Order of Battle.

(7) The differences between our Army and Air Force call sign systems enables the enemy to assign specific tasks to his many intercept stations without overlapping between them.

3. Intercept

a. References:

(1)	27 May 1944	C-311-A	Rangoon to Tokyo
(2)	24 June 1944	C-589-B	Sapporo to Horomushiro
(3)	3 July 1944	C-717-A	Sapporo to Horomushiro
(4)	6 July 1944	C-520-A	Sapporo to Horomushiro
(5)	12 July 1944	C-835-D	Rabaul to Tokyo
(6)	14 December 1944	J-27533	Manila to Tokyo
(7)	26 December 1944	J-13801-A,b,E	Saigon to Pinrang
(8)	4 January 1945	J-24224-A*I	Tokyo to Rabaul
(9)	29 January 1945	J-21896-B,C	Tokyo to Broadcast
(10)	4 February 1945	J-24097-A-C	Pinrang to Saigon
(11)	6 February 1945	J-26930	Saigon to Pinrang
(12)	10 February 1945	J-26930	Saigon to Pinrang
(13)	12 February 1945	J-26907-C-G	Tokyo to Broadcast
(14)	13 February 1945	J-26206-C-H	Tokyo to Broadcast
(15)	13 February 1945	J-25876-E	Tokyo to Broadcast
(16)	14 February 1945	J-26500-A-H	Tokyo to Broadcast
(17)	15 February 1945	J-30292-F	Batavia to Pinrang
(18)	20 February 1945	C-972-A,B	Pinrang to Taihoku
(19)	20 February 1945	J-30261-C	Tokyo to Broadcast
(20)	21 February 1945	J-29870-A-C	Tokyo to Broadcast
(21)	23 February 1945	J-30406-A-G	Tokyo to Broadcast
(22)	25 February 1945	J-31055-A-F	Tokyo to Broadcast
(23)	25 February 1945	J-31130-A-D	Tokyo to Broadcast
(24)	28 February 1945	H-169430	Nanking to Tokyo
(25)	7 March 1945	H-170860	Tokyo to Moscow

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b. Contents:

(1) The Japs say the Hoitanchiku Shireibu is the largest communications net on an established circuit since they began intercepting Allied traffic. They have decided the supreme commander of this circuit at Honolulu is also the commander at Kuluk. The report orders a close watch for changes in the net.

(2) The Northern Hiroshima Tsushincho American Intelligence: "We hear foreign stations as if we were an ordinary receiving station".

(3) The Japanese judge from radio telephone services and the Honolulu broadcasting net messages that there is presence of phenomena comparable to that which appeared prior to the attack on Saipan.

(4) General ship circuit which the Japs intercept communicates with stations nearest to the ships: Washington, San Francisco, Honolulu, Dutch Harbor, Canberra, etc.

(5) Japs intercept messages from stations located at Port Moresby, Tarokina, Finschafen, and Milne Bay.

(6) Summary of Operational Orders A. C.O. Southern Army Special Intelligence Bureau must establish immediately an organization to gather British, American, Chinese, and French intelligence, covering an area to the north and east through intercept. This area is presumably to the north and east of the Philippines area. The Manila branch will comprise most of the trained personnel at present, and the number of men to accompany the C.O. to Saigon will be the minimum necessary to establish a headquarters cadre (less than five men).

(7) By intercept intelligence, the Hornet, Wasp, and one unidentified vessel were known to be east of Luzon on 14 December.

(8) Enemy was able to detect Allied-planned sorties of Mariana-based B-29's up until 8 December through R/T used by the planes.

(9) Intercept of messages from San Francisco on 27 January to the effect:—"It is possible to bomb Taiwan, the Ryukyus, China, French-Indo China, and Singapore as well".

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(10) The Japs are ordered to intercept AAF patrol circuits, place names, and call signs at Morotai, Angaur, Leyte, and Mindoro.

(11) On 4 February, in the central area, 3 "O" messages were intercepted. They looked like orders from central headquarters, addressed to a general call sign. One was sent from Guam.

(12) This report gives the latest call signs and frequencies of air bases in the Philippines area to the Hankow and Canton Special Intelligence Bureaus. These bureaus are to carry out directly and actively the liaison affairs related to the USAAF in the Philippines.

(13) Four B-29's on recce over Iwo Jima sent "O" message which appeared to be recce report, to "over-all fleet commander in the Pacific area (central) and to the section commander of all submarine units in the Pacific". Radio waves for patrol planes from the Marianas, Marshalls, and Palau were all made on this day.

(14) Japs intercepted message reporting the sighting of Japanese units by patrol planes from the Philippine area bases.

(15) At 1700 hours on 11 February, 4 B-29's sent operational messages, which were thought to be messages concerning reconnaissance of the Iwo Jima area, to the commander of the Pacific submarine unit and a ship station in the central area.

(16) Intercept of daily "O" messages from two taks forces and assault units in the Marianas area. The Guam base sent important command messages to a task force and assault units. Strong evidence that a powerful force is sallying forth. Traffic analysis shows that the task force is east of Luzon. Patrol planes and subs in the Philippine area are sending messages reporting the sighting of Jap units in the South China Sea, to American air units in China, the 7th Fleet, and all air bases in the Philippine area. San Francisco is sending messages to a task force and units operating in the northeastern Pacific.

(17) Types of planes based on Luzon are identified through intercept of their call signs.

(18) It is hard for the Japs to intercept AAF transport circuits in the Philippine area because sensitivity of their intercept facilities at Pinrang is weak.

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(19) The task force in the Iwo Jima area has been receiving weather reports and intelligence messages from the Leyte Weather Bureau and the Tacloban air base.

(20) Intercept of San Francisco broadcast on 19 February gives Japs information that Vice Admiral Turner is C.O. of the operational units at Iwo Jima, and that the landing forces consist of the 4th Marine Division from Saipan, and the 5th Marine Division from the Marshalls, all under the command of Lt. General Holland Smith.

(21) Japs intercepted many plain text messages sent by the Marines at Iwo Jima. They suspect that the messages are both real and dummies.

(22) Patrol planes from the Philippine area are patrolling the Indo-China coast. Japs conclude that, taken together with the sending of important liaison "O" messages on 22 February by the CO of the Far Eastern Air Force at Kunming to the Supreme CO of the AAF in China and to the CO of the Pacific Submarine Forces, that the Japanese must be on guard against operations by planes and subs in that area.

(23) Patrol planes in the Philippine area sent out messages reporting the sighting of Japanese vessels along the French Indo-China coast and in the vicinity of Hainan Island.

(24) Chief of Staff at Hayabusha Unit at Nanking wants 10 Japanese of American birth immediately "in intercept wireless relating to enemy American airplanes."

(25) On 7 December 1944, an American B-24 approached North Chishima (Northern Kuriles) and radioed that "because of engine trouble we are going to Petropavlovsk" (Kamchatski peninsula). The plane then went to the northeast. Again it radioed in clear that it had found an airfield and was landing. Four times it repeated the statement that it was going to Petropavlovsk.

c. Conclusions:

Following is a summary of Allied circuits being intercepted, and Japanese organizations carrying on the intercept work.

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ALLIED CIRCUITS BEING INTERCEPTED	JAPANESE UNITS INTERCEPTING
Administrative - (Ref #1,11,16,22)	Rangoon
1-Supreme commander of Heitanchiku Shircibu circuit at Honolulu and at Kuluk. 2-Central HQ at Guam 3-CO of Far Eastern Air Force 4-CO of Pacific Submarine Forces	
Army Air Force Circuits. - (Ref. #8, 10, 13, 14, 15, 17, 18, 22, 16, 23, 24, 25, 19, 12, 10.)	Hankow and Canton Special Intell. Bureau. Hayabusha Unit at Nanking; Batavia;
1-Air bases. 2-R/T by planes.	Pinreng.
Ship circuits. - (Ref. #4, 7)	
1-Ships stations	Saigon
2-Land stations	Sapporo
Submarine circuits. - (Ref. #16)	
1-Submarine stations	?
Leyte Feather Bureau. - (Ref. #19)	?
Task Forces and Assault Units below Division. - (Ref. #16, 21)	
1-In Marianas area	?
2-On Iwo Jima	?
News broadcasts from "foreign stations. (Ref. #2, 9, 20.)	
1-San Francisco	Northern Hiroshima Tusshincho
2-General	American Intelligence. (Sapporo?)
Miscellaneous stations being intercepted. (Circuit undetermined.) (Ref. #3, 5.)	
1-Honolulu	Sapporo
2-Port Moresby, Tarokina, Finschafen, Milne Bay.	Rabaul

The purpose of this study is to determine at what levels Allied communications are being intercepted, and what levels of Japanese units are working on the intercepted material.

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