

14 November 1951

~~TOP SECRET SUEDE - SECURITY INFORMATION~~
MEMORANDUM FOR CAPTAIN HOLTWICK

SUBJECT: Request for Japanese TICOM Data

References: (a) SRB,G-2 Memo dated 11 October 1951
(b) AFSA-02 Memo dated 12 October 1951

1. Forwarded herewith is a memorandum from the Chief, Training Division transmitting a list of Japanese nationals employed during World War II in signal intelligence activities (Tab A); a selection of these experts by work area (Tab B); and a list of Japanese members of the Chinese Nationalist Army Intercept Unit in Peiping (Tab C).

2. These lists, which were prepared in the office of the Chief, Training Division, are accompanied by eight documents from the TICOM Series pertaining to Japanese signal intelligence during World War II:

- DF-158 General outline of the codes used by the Red Army Ground Forces, Air Forces, and Border Guard Units. Translation of an unsolicited letter and report by a Japanese national Fukunaga EICHII, who had been stationed during the war on the northern border line of Russia and Manchuria.
- DF-159 Interrogation of KOTANI, former Japanese Military Attache in Russia and Bulgaria. Answers to two questions put to KOTANI on (1) the advantages and disadvantages of radio intelligence, and (2) personnel who could be used in radio intelligence service (15 persons named).
- DF-161 Interrogation of YAMABE, Hidehiko; IYANAGA, Shokichi; TAKEUCHI, Gaichi.
- DF-162 Interrogation of KAWARABAYASHI, Toshikazo, former member of the Special Intelligence Unit, North China Area Army Headquarters, Peiping.
- DF-163 Interrogation of OTANI, Fukashi, former member of Special Intelligence Section, Ch'ang-ch'un, Kwantung Army Headquarters.
- DF-164 Interrogation of Japanese national, KAWAOKA, Tadao, former member of Special Intelligence Department, Japanese Army and later (1946-48) employed by the Chinese Nationalist Army Intelligence Department.

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DF-169 Reports on the Cryptanalytic Section of the Japanese Foreign Office. Translation of 13 Japanese TICOM reports resulting from the investigation of the Japanese Foreign Office.

TICOM/S-2 Analysis and evaluation of the Japanese Intelligence Service and its effect on United States security. A study made from material available from TICOM and other sources through 1945.

3. The above list, which comprises those Japanese TICOM documents which have been issued in the TICOM series, form only a small proportion of the Japanese documents available in the TICOM files, the great majority of which have not been issued in any form and remain untranslated. These documents (referred to in the appended lists as JT/LXV, JT/XVI, etc.) are held in the original by the Chief, Training Division and are not available, for the most part, except in the Japanese TICOM collection. To examine these files thoroughly and to obtain the maximum amount of intelligence available from them would require the services of a person skilled in the Japanese language and in the techniques of research. Since the Chief, Training Division does not have on his staff a person with these qualifications, it is recommended that consideration be given to the assignment of a competent person to this task, particularly in view of the revived interest in Japanese signal intelligence activities.

4. It will be noted that the list forwarded by the Chief, Training Division contains only 60 names. I have been informed that this list was compiled with a view to selecting those Japanese who are considered to be the most competent or most easily available. There are, of course, hundreds of names to be abstracted from the files, particularly with the aid of a Japanese translator, and this might well form a part of the project suggested above in paragraph 3.

WILLIAM F. FRIEDMAN
Consultant

Inclosures:

4 cys of Tabs A,B,C,
DF-158,159,161,162,
163,169
TICOM/S-2

cc: AFSA-14

~~SECRET~~

ARMY SECURITY AGENCY
WASHINGTON, D. C.

SECRET	
By Authority of the	
Commanding Officer	
Initials	Date
<i>J.F.</i>	<i>29 Oct 1946</i>

RESULTS OF AXIS ANALYSIS OF UNITED STATES
COMMUNICATIONS AS REVEALED BY TIGOM
AND OTHER SOURCES OF INTELLIGENCE

In Three Volumes

VOLUME C - GERMAN TRAFFIC ANALYSIS OF
UNITED STATES COMMUNICATIONS

Prepared under the Direction of the
CHIEF, ARMY SECURITY AGENCY

16 August 1946

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VOLUME C

GERMAN TRAFFIC ANALYSIS
OF
UNITED STATES COMMUNICATIONS

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VOLUME C
GERMAN TRAFFIC ANALYSIS
OF
UNITED STATES COMMUNICATIONS

INTRODUCTION

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1. Purpose and Scope.-- This volume discusses the extent of German successes in Traffic Analysis and the exploitation of violations in Transmission and Procedure Security of United States Army and Air Forces cryptographic systems.

2. Source Materials.-- The materials on which this volume is based include TICOM (Target Intelligence Committee) material; Signal Operating Instructions (SOI's) of various United States Army and Air Force units; certain War Department publications; press releases; and other material. The TICOM material includes interrogation reports of German and Italian prisoners of war; written home-work assigned to German Signal Intelligence personnel, in order to obtain more detailed information than could be brought out in oral questioning; and various captured documents. The captured documents consist mainly of translated German military reports, a German War Diary, and technical instructions.

3. References.-- A complete list of the various references, documents, intelligence reports, personalities, organizations, and definitions will be found in Tab A.

4. Evaluation of Intelligence.-- In evaluating the activity of the German traffic analyst some caution must be exercised. The prevailing habit is to classify all intelligence which the enemy is known to have gained as being of equal value to the enemy. This habit leads to errors of judgment. It is impossible to judge the worth of information made available to the enemy unless, and until, it has been ascertained what successful use he has been able to make of that intelligence.

VOLUME C

Chapter I

EXCERPTS OF PERTINENT INFORMATION

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5. Excerpts of Pertinent Information-- The following excerpts from the subject matter in this volume gives a synoptic picture of German successes in intercepting and analyzing Allied traffic during World War II.

a. "Colonel [redacted] head of the Signal Intelligence Agency of the Air Force High Command (OKL/LN), had a very poor opinion of Allied security, and said that Allied signals were careless to a degree that would not have been tolerated by the German Armed Forces. He agreed that, with the material superiority in possession of the Allies, this lack of security did not make any difference in the outcome of the war. He felt, however, that if the Allies had not been in that particular position the story would have been quite different." (Chapter III, paragraph 13, page 20).

b. "In contrasting the procedure standards of the American and British forces on the Western front, and those of the Russians on the Eastern front, the Western front standards were found to have been the better." (Chapter III, paragraph 13, page 21).

c. "From the intercept of plain text and other traffic of the United States Army, the Germans had a complete picture of our army organization and even names of officers down to Captain, their units and locations. Ninety-five percent of the information contained in a manual issued to the German troops on the organization of the American Army was gained from radio intelligence. American nets were identified by solving traffic, by operators' characteristics, and by captured Signal Operating Instructions (SOI's). Up until December 1944 our Army Call Sign Book had been almost completely reconstructed with the aid of captured sequence charts." (Chapter III, paragraph 14, page 21).

d. "Colonel [redacted] cipher expert of the Signal Intelligence Agency of the Supreme Command Armed Forces (OKW/Chi), stated that it was not at all surprising that some Converter M-209 and American Strip traffic was read by the Germans, since mistakes in the use of these systems were made in one out of every three messages." (Chapter III, paragraph 14, page 22)

e. "In the United States Army on the Western front, some units used names of places in Italy as cover names, such as CASSINO, CASERTA, etc., which led the Germans to assume that these were units transferred from the Italian front. Formations coming from England used names such as MAYFAIR, PICCADILLY, etc., identifying England as their staging area." (Chapter III, paragraph 14, page 22)

f. "Although the traffic transmitted by Allied observation posts was sent in clear and transmitted by radio sets using low power, it was frequently audible to the Germans and intercepted by them. This traffic was concentrated upon, by monitoring operators, for then the Germans had time to institute evasive action." (Chapter III, paragraph 14, page 23)

g. "American radio and radio-telephone traffic afforded a greater amount of data to German traffic analysts than did the British traffic. Colonel [redacted] chief of Telecommunications of the Signal Intelligence Agency of the Supreme Command Armed Forces (OKW/Chi) stated that United States radio security was generally good on tactical nets but that supply and liaison nets gave everything away, including United States order of battle and intentions." (Chapter III, paragraph 14, page 23)

h. "The United States Army Air Forces did not change their call signs from May 1944 (just before the invasion of France) until the end of the war. From moves and reinforcements in air units, simultaneous moves and reinforcements in the ground forces could be assumed and observed by the Germans.

"United States Air Support Parties (ASP's) did not change their cover names (radio-telephone call signs) from May 1944 until the end of the war. Thus, the ASP could be recognized immediately by the Germans when they intercepted the cover names in traffic, and the tactical army unit which each ASP supported could also be recognized. ASP's sent traffic on the frequencies allocated the army units, thereby giving the Germans another way in which to make identifications." (Chapter III, paragraph 14, page 24)

i. "From the careless manner in which the United States 8th Air Force handled its radio traffic, Lt. [redacted] an expert on Allied air order of battle, said "It can be stated that no attack of the 8th Air Force came as a surprise. General advanced warnings were given some hours before the raids'." (Chapter III, paragraph 14, page 25)

j. "Intended raids by the 15th USAAF were revealed by the daily tuning operations carried out by the radio operators. The Germans could track continuously individual planes in flight by intercepting the voluminous air-to-air traffic, and by direction-finding of the Meddo and IFF (Identification Friend or Foe) radar devices. It was possible to track the IFF because it was left switched on during the entire flight." (Chapter III, paragraph 14, page 26)

k. "British radio transmissions and, to a greater degree, those of the United States, often revealed serious violations of radio discipline and cryptographic security. Some nets were so well known to the Germans that a change in call signs in a divisional net could be cleared up within six hours after the change became effective. Allied newspapers often furnished the German cryptanalysts with 'probable words' by divulging the names of units and officers." (Chapter III, paragraph 15, page 27)

l. "At the beginning of the invasion German traffic analysis results were good. They were not able to predict the invasion movements but were able to keep track of the tactical situation. Traffic analysis results continued to be good throughout the entire campaign in Western Europe, up to the Rhine, but after this [redacted] could give no information on results.

"The reason [redacted] gave for the Germans not being able to predict the invasion movements from traffic analysis was that traffic analysis, in his opinion, only enables one to estimate the static order of battle, not what is going to happen. That information comes from cryptanalysis of the enemy's traffic." (Chapter IV, paragraph 18, page 35)

m. "Dr. [redacted] senior cryptographic specialist in the Signal Intelligence Agency of the Navy High Command (OKM/4 SKL/III) said that 'The use of radio call signs, as in the landing of France in June 1944, offered valuable points of attack right at the start of the operation, which should hardly be permitted, particularly in the opening stages, even of a landing which in itself is carried out successfully.

Should one discover when forming one's radio call signs and delivery groups that there are not enough 3-letter groups to do it, then it would be advisable to use 4-letter groups for all the radio call signs and delivery groups. This would even be a caution against corruption." (Chapter IV, paragraph 18, page 36)

n. "The difficulty of the work of the German Listening Service was effectively increased by another call sign change which took place on D-Day itself." (Chapter IV, paragraph 19, page 40)

o. "All squadrons and groups in these Commands (the IX, XIX, and XXIX Tactical Air Commands) had fixed call signs. These call signs were known without an exception from our observation and from captured material. From this, we could say on every raid what unit and the type or types of planes in the formations were on the way. It was also possible to tell at any time what units (squadrons) had not been in action, how many had done their first operation, second, etc. These details were important for informing our own transport officers currently." (Chapter IV, paragraph 20, page 47).

p. "Lt. [redacted] in summing up the experiences gained by the Germans here (in the Dieppe raid) said, 'The widely-held opinion that urgent messages could quite happily be sent in plain-text shortly before the operation because there would not be time for the enemy to take counter-measures was disproved on many occasions at Dieppe.'" (Chapter IV, paragraph 24, page 83)

q. "Several conflicting statements concerning German intercept of US teletype and teleprinter traffic are on record. Lt. Colonel [redacted] chief of the German Air Force Intelligence Service, stated at one time that the German unit (Chi Stelle Ob. d. L., Referat B) in the Paris-Asnieres area, had intercepted and solved American non-morse teleprinter traffic between Washington and Europe. During a later interrogation when he was pressed about the above statement, it became obvious to the interrogators that [redacted] wished he had never mentioned the subject, not because he thought he had been insecure, but because he thought the whole subject uninteresting." (Chapter IV, paragraph 24, page 83)

r. "When, in the latter days of the war, Meddo devices were installed in aircraft of the 15th United States Air Force in Italy, (the planes having this equipment were Lightnings and were used for weather-reconnaissance), the Germans were able to predict the next day's target for this Air Force, by following the Meddo device. The reconnaissance planes would turn on a special function of the Meddo when over the target area, 'probably to take photographs', (said [redacted], thereby producing a rapid rate of impulses

which could be heard on the earphones of the German Waxburg set. As the position of the reconnaissance planes were always known by direction-finding, it was easy to determine what prospective target they were working on. In the last period of the war, every raid by the 15th Air Force confirmed German advanced warnings obtained from this source." (Chapter IV, paragraph 25, page 92)

s. (Concerning information which was available to the Germans during the Dieppe Raid on 19 August 1942). "The best information came from the plain-text messages sent by the units already landed. From these messages the course of events, initial partial successes, difficulties encountered as the operation progressed, and finally the withdrawal, were apparent to German Signal Intelligence. Towards noon on this day (19 August 1942) requests for stronger and more complete air support of the Army fighting units became more and more urgent, thus providing Signal Intelligence with an excellent source of material for exploitation." (Chapter V, paragraph 27, page 109).

t. "Lt. Colonel [redacted], of the Signal Intelligence Agency of the Supreme Command Armed Forces (OKW/Chi) said that traffic analysis by the Germans during the landings by the Allies in North Africa was not successful and did not reveal the approach of the landing forces. The approach was carried out in complete radio silence and took the Germans completely by surprise. The German Navy, said [redacted] was to blame for the lack of success, but he did not explain just how the Navy was responsible." (Chapter V, paragraph 28, page 109)

u. "Col. [redacted] said that the Americans at first were very careless in their transmissions but later (much to his disgust) adopted British procedure, which was more secure. The British, in addition to having had more experience than the Americans in radio transmissions, were also more cautious.

"The greatest success achieved by Col. [redacted] in the whole African campaign occurred in March 1943 when he intercepted an American order to some small American units to maintain complete radio silence until 2200 hours on 17 March. Col. [redacted] realized that this meant preparations for a big move, so he promptly went to [redacted] Chief of Staff, who would not listen to him. The Chief of Staff had no faith in radio intelligence. Col. [redacted] gave up trying to

convince the Chief of Staff and returned to his station, where he heard a second, and later a third message, ordering radio silence until 17 March. He went back to [redacted] headquarters, this time forcing his way into [redacted] own office to report to him in person. [redacted] listened to him and the next day flew from Sicily to Africa and made complete plans for a defense in case the Allies did make a move. Col. [redacted] said he actually prayed the Allies would attack, and on the night of 16 March they did attack. This was the greatest German success achieved by Col. [redacted] outfit, and in his estimation was derived solely from careless Allied radio procedure." (Chapter V, paragraph 28, page 110)

v. "On the evening of 5 June 1944, at about 2100 hours, Col. [redacted] unit (a forward reconnaissance unit of German Counter-intelligence) notified OB West, MB [redacted] Colonel [redacted] (formerly in charge of all German counter-intelligence, and some other units and men, that the invasion was scheduled to begin that night, or at the least, within the next thirty-six hours. These people were notified by land communications, teleprinter, or, in some cases, in writing.

"Insufficient belief was placed in the report. OB West passed on the information to the commanding officers of the 7th and 15th German Armies. The 7th German Army took no action whatsoever; the 15th German Army ordered its units to be ready for immediate action. MB [redacted] also attached no importance to the report and Col. [redacted] later heard that no action was taken.

Col. [redacted] said that sometime after D-Day, a military court of inquiry was held to find out why the warnings had resulted in no action, the outcome being that no one had attached any importance to the reports." (Chapter V, paragraph 32, page 130)

w. "A Russian message announcing the presence of the American planes at the Poltava base was intercepted and decoded by his unit (Sgt. [redacted] unit. He was a German Army radio intelligence man, resulting in a highly successful operation against the air base on the part of German aircraft.

"From newspaper sources it was found out that actually on 21 June 1944, a group of 175 planes of the 8th United States Army Air Force in England arrived at the Poltava base on a shuttle run from their English bases. There were P-51's in addition to the above B-17's in the formation. Of the B-17's, 53 were destroyed." (Chapter V, paragraph 33, page 133)

x. (Concerning German knowledge of preparations for airborne operations in the Western front in the last days of the war, and the transfer of the 32nd and 101st Airborne

Divisions from England to the Continent). "The first indication of a planned operation was the transfer of the 52nd and 53rd Wings from England to France. At the same time, the German Army picked up a Military Police message which revealed that both the known airborne divisions, the 82nd and 101st, had been pulled out of operations at the front, and were in rear areas preparing for new operations. One of these divisions, the Germans knew, was stationed on the military maneuvers reservation at Mourmelon, near Rheims. The Military Police message from which the Germans obtained this information read approximately as follows:

'THE ROAD FROM MOURMELON TO RHEIMS IS TO BE BLOCKED TO ALL TRAFFIC TOMORROW MORNING EARLY BECAUSE THE 82ND AIRBORNE DIVISION WILL BE MOVING TOWARDS MOURMELON WITH APPROXIMATELY 1,000 VEHICLES.'" (Chapter V, paragraph 38, page 139).

y. "During a German counter-thrust in the Luneville area (in France, west of the Rhine, south of Nancy), the 2nd French Armored Division got into difficulties. This was recognized by the fact that LIMBER, the radio-telephone call sign of the Air Support Party of this Division, continuously requested support from all available aircraft:

'LIMBER calling trouble'.

"The enemy's weak point thus recognized was exploited as fully as possible by the 5th Panzer Command." (Chapter V, paragraph 40, page 142).