

DECLASSIFIED

E.O. 11652, Sec 3(E) and 5(D) or (E) NND# 760050

894.414/1-145 -- 12-3145



Mr. Turner:

You will note from his memorandum, that Phil Cherp over in FC has finally examined the report on the Lourenço Marques Letters.

Since he says "it is suggested ... the British ... be given the originals ... Without a statement indicating further disposition," I suggest that the original letter of transmission to Mr. Everson of the British Embassy will suffice, with change of date."

A Rey



~~REC~~ ~~FC~~

**BRITISH EMBASSY  
WASHINGTON, D. C.**

[ZONE 8]

Ref:1848/ /45

July 16th, 1945. *DC/R*

Dear Mr. Dickover,

I hear from the Foreign Office that among German Consular archives taken over in Lourenço Marques were some letters in the Japanese language addressed to various Japanese nationals. Our respective Consuls General in Lourenço Marques have agreed that these letters shall be forwarded to Washington for examination. We should be glad, however, if you could turn them over to us afterwards as we should like to have a look at them.

*CR 800.414*

Yours sincerely,

*F. C. Everson*  
F. C. Everson.

894.414/7-1645

Mr. Erle R. Dickover,  
United States Department of State,  
Washington, D. C.

Foreign Activity Correlation  
*file* *file*  
NOV 9 1945  
DEPARTMENT OF STATE  
*REC 11/14/45*

DCR - NE Unit  
Mr. Tolson  
Mr. E.A. Tamm  
Mr. Clegg  
Mr. Glavin  
Mr. Ladd  
Mr. Nichols  
Mr. Rosen  
Mr. Tracy  
Mr. Carson  
Mr. Egan  
Mr. Gurnea  
Mr. Hendon  
Mr. Pennington  
Mr. Quinn  
Mr. Nease  
Miss Gandy

CS/D  
NOV 16 1945  
*894.414/7-1645*



Ref:1848/ /45

July 16th, 1945.

Dear Mr. Dickover,

I hear from the Foreign Office that among German Consular archives taken over in Lourenço Marques were some letters in the Japanese language addressed to various Japanese nationals. Our respective Consuls General in Lourenço Marques have agreed that these letters shall be forwarded to Washington for examination. We should be glad, however, if you could turn them over to us afterwards as we should like to have a look at them.

Yours sincerely,

F. C. Everson.

Mr. Erle R. Dickover,  
United States Department of State,  
Washington, D. C.

Oct 11  
Prepare draft for WTT's  
Signature when letter done



State Department Nov. 2, 1945 183652  
 Foreign Activity MEMO F.W. 894.414/7-1645  
 Correlation  
 From

Memo in regard to letters in Japanese found among  
 German Consular archives taken over in Lourenco  
 Marques.

FC  
 rmc/mh  
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NOV 16 1945

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DEPARTMENT OF STATE  
FOREIGN ACTIVITY CORRELATION

FC  
JL  
DC/K

November 2, 1945

NOV 5 - 1945  
DEPARTMENT OF STATE

JA - Mr. Turner:

In view of the unimportant nature of the information contained in the Japanese letters received with despatch No. 556, July 30, 1945, from Lourenço Marques, according to the summaries attached hereto, FC is not particularly interested in their disposition. However, it is suggested that in compliance with the British request as indicated in your memorandum of October 22, 1945 they be given the originals and a copy of the summary, without a statement indicating further disposition. In this manner, we will always have the right to ask for their return should such a course later be found necessary.

FW 894.414/7-1645

Attachment:

Summaries.

JL

CS/D

NOV 16 1945

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FW 894.414/7-1645

FC:PFCherp:CMM

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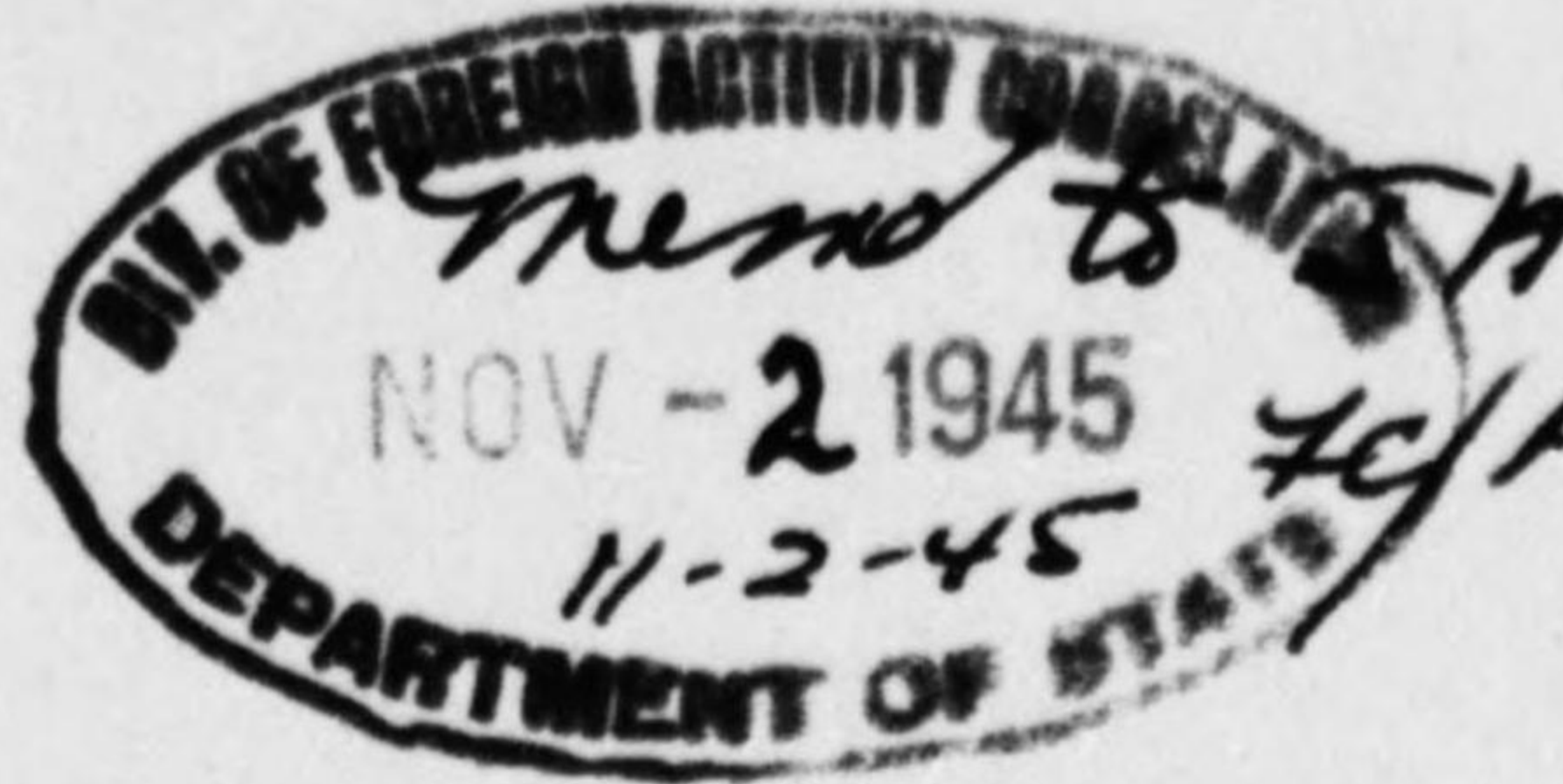


STANDARD FORM NO. 64

Office Memorandum • UNITED STATES GOVERNMENT

TO : FC : R. E. Carroll  
FROM : JA : William T. Turner  
SUBJECT:

DATE: 10-22-45



Reference is made to a memorandum from Mr. Oscar S. Strauss, dated August 29, 1945, transmitting despatch No. 556 from Lourenço Marques dated July 30, 1945 accompanied by a number of letters in the Japanese language.

There are enclosed three copies of a report prepared in this division summarizing the contents of these letters. Although it was originally intended to prepare complete translations of each letter, examination revealed that some of the longest letters were written by Japanese women and were concerned practically exclusively with family matters. The material is therefore presented in the form of translation of extracts, with emphasis being given to the mention of the movements of individuals within Japan's former "Co-Prosperity Sphere". Practically all the letters are dated in August, 1942.

When you have examined the report, it would be appreciated if you would indicate what disposition should ultimately be made of the original letters. In a letter of July 16, 1945, to Mr. Erle R. Dickover from Mr. F.C. Everson of the British Embassy in Washington the latter said in regard to this material, "We should be glad...if you would turn them over to us afterwards, as we should like to have a look at them." The question arises whether we should ask Mr. Everson to return the letters to us after examination, or whether he may dispose of them as he sees fit.

FW 894.414/7-1645

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NOV 16 1945

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In reply refer to  
JA

November 7, 1945

My dear Mr. Everson:

Reference is made to your letter of July 16, 1945 to Mr. Erle R. Dickover of this Department in regard to certain letters in the Japanese language which were found among the archives of the former German Consulate General at Lourenço Marques, Portuguese East Africa.

The letters were received in the Department in the early part of September and have been examined in detail. They are herewith enclosed together with a summary of the contents prepared in the Department. Since nearly all of them are dated in August, 1942, the information obtained from them is now probably of little value. It may be, however, that some of this material may prove of assistance in identifying individuals who were engaged in Japan's program for the development of "Greater East Asia".

Sincerely yours,

William T. Turner  
Chief  
Division of Japanese Affairs

Enclosure:

Copy of report on  
Japanese letters.

Mr. F. C. Everson, Esq.,  
British Embassy,  
Washington, D.C.

NOV 3 1945

DR T  
JA:DRay:mls  
11-7-45

DOE

to be sent only if the original is signed

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*Re*

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DEPARTMENT OF STATE

INCOMING TELEGRAM

DIVISION OF CENTRAL SERVICES TELEGRAPH SECTION

Action - A-H

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VE-703 - 0

This telegram must be closely paraphrased before being communicated to anyone. (SECRET)

Lima

Dated August 15, 1945

Rec'd 10:50 p.m.

Secretary of State,

Washington.

US URGENT

NIACT 853, August 15, 8 p.m.

After consultation with British and Chinese Government representatives here we have decided Peruvian situation referred to in Department circular telegram Aug 14, 8 p.m. requires delicate handling. My information is that Japanese archives here may be important hence essential they be obtained intact. There is danger that two Japanese employees of Swedish Legation might attempt to destroy. Therefore, before approaching Minister for Foreign Affairs, who, as you are aware, has brother with strong pre-Axis record, we suggest that the Four Powers immediately approach Swedish Government with request that their Lima Legation be given specific instructions to turn over archives and

ASSISTANT SECRETARY  
MR. HOLMES  
AUG 17 1945  
DEPARTMENT OF STATE

*Central*

894.414/8-1545

Confidential File

DEC 14 1945

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DIVISION OF FOREIGN ACTIVITY CORRELATION  
AUG 17 1945  
DEPARTMENT OF STATE

DCR - ARA Unit

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894.414/8, 1545



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-2-#NIACT 853, August 15, 8 p.m. from Lima

archives and property to us, thereby avoiding repetition of unfortunate delay in surrender of German archives and property which Peruvian Government insisted on taking over from Spanish Embassy for examination before we received them some weeks later.

We should be immediately informed when Swedish Government issues instructions to Lima Legation. Matter is very urgent because it must be obvious to Japanese employees of Swedish Legation that such a move is imminent.

PAWLEY

WVC

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DEPARTMENT OF STATE

INCOMING TELEGRAM

DIVISION OF CENTRAL SERVICES TELEGRAPH SECTION

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LYF-700-C  
This telegram must be closely paraphrased before being communicated to anyone. (SECRET)

Guatemala City  
Dated August 15, 1945  
Rec'd 10:32 p.m.

DC/R

Secretary of State,  
Washington.

511, August 15, 6 p.m.

No (repeat no) Japanese archives in Guatemala as there was no Japanese diplomatic representation in this country re Department Circular telegram August 14.

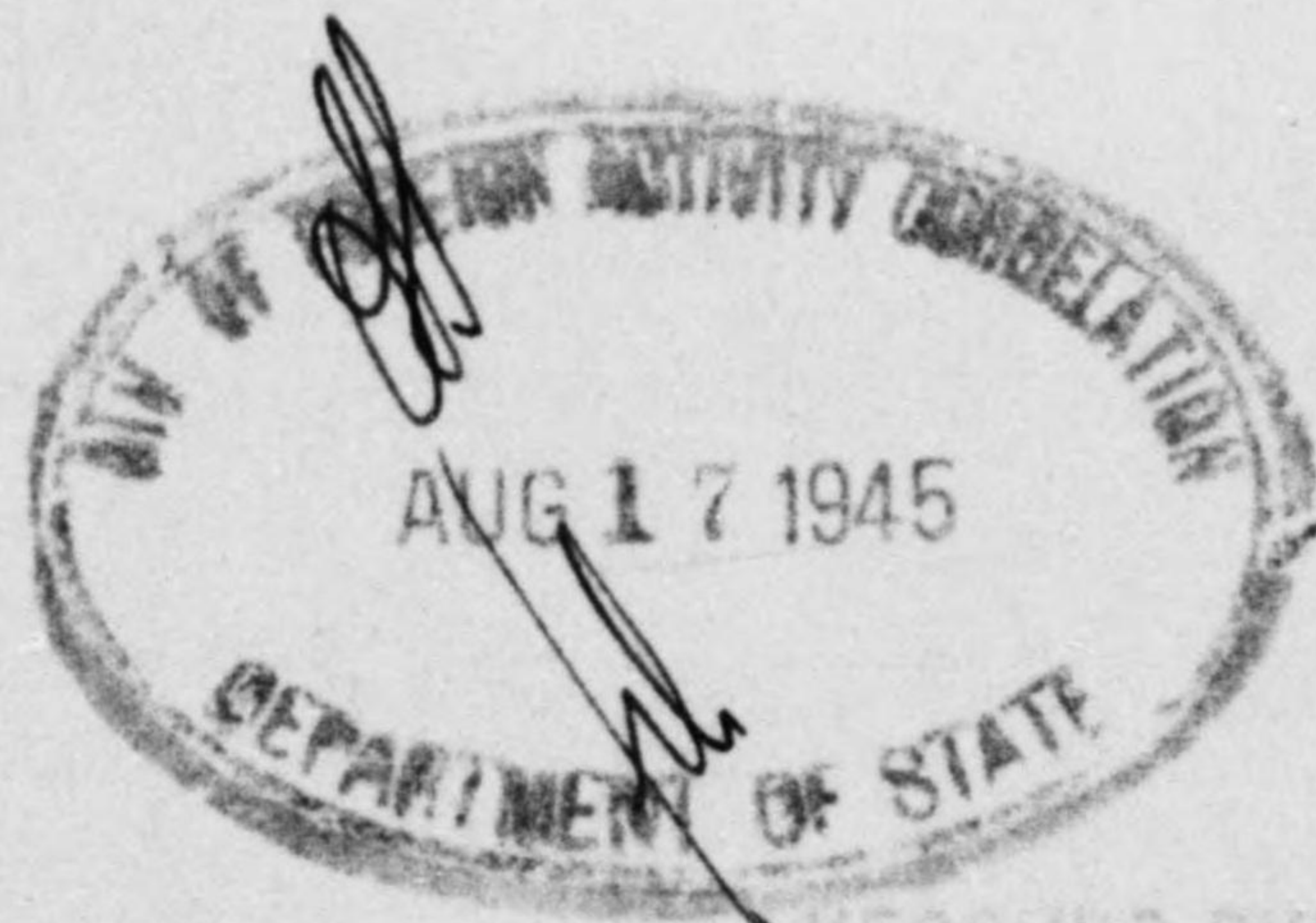
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894.414/8-1545

DEC 11 1945



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DEPARTMENT OF STATE

INCOMING TELEGRAM

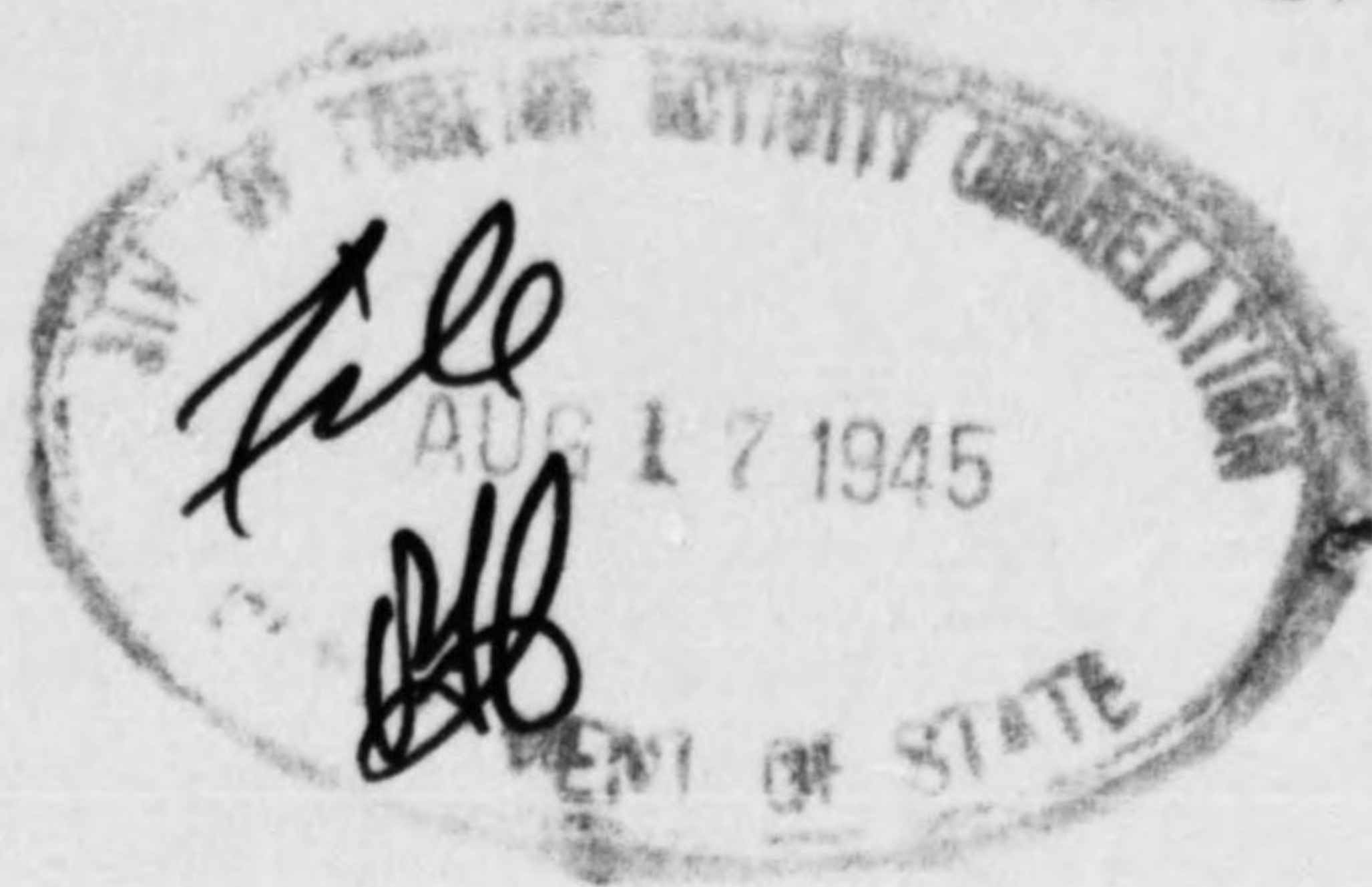
DIVISION OF CENTRAL SERVICES TELEGRAPH SECTION

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BEP-855-0  
This telegram must be closely paraphrased before being communicated to anyone. (SECRET)

Panama  
Dated August 16 1945  
Rec'd 2:08 a.m. 17th

Secretary of State  
Washington



DC/R

URGENT

766 August 16 10 p.m.

As a result of a conference at noon today August 16 with the President of Panama, the Foreign Minister, the British and Chinese Ministers and the Charge d'Affaires the Foreign Office today unofficially took possession of the Japanese archives three safes and certain other property including copies of the original inventory of effects received by the Spanish Legation from the former Japanese Legation. Reference Department's circular telegram August 15. The honorary Swiss Consul has telegraphed to the Swiss Legation in Caracas for authority to turn over officially all of Japanese Legation property to the Foreign Office. The Foreign Minister has promised to make available to this Embassy all of the Japanese archives and property immediately after the

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-2- #766, August 16. 10 p.m. from Panama

honorary Swiss Consul receives the authority from his government. In addition to the archives the property consists of large quantities of furniture, motion picture and office equipment, two Packard automobiles, etc. (the Foreign Minister has indicated that his government would appreciate the loan of these cars). With the Department's approval, the furniture and equipment will be stored free of charge in an Army warehouse in the Canal Zone. I desire to point out in this connection that General Brett and his staff have been very cooperative with the Panamanian Government and the Embassy in transferring the archives and safes to the Foreign Office. The Embassy will commence a study of the archives tomorrow. Copies of the inventory will be forwarded by airmail on August 17. The British and Chinese Ministers have been kept fully informed and are in entire agreement with the procedure. No (repeat no) trouble was encountered in taking over the archives and safes.

DONNELLY

DM

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DEPARTMENT OF STATE

INCOMING TELEGRAM

DIVISION OF CENTRAL SERVICES TELEGRAPH SECTION

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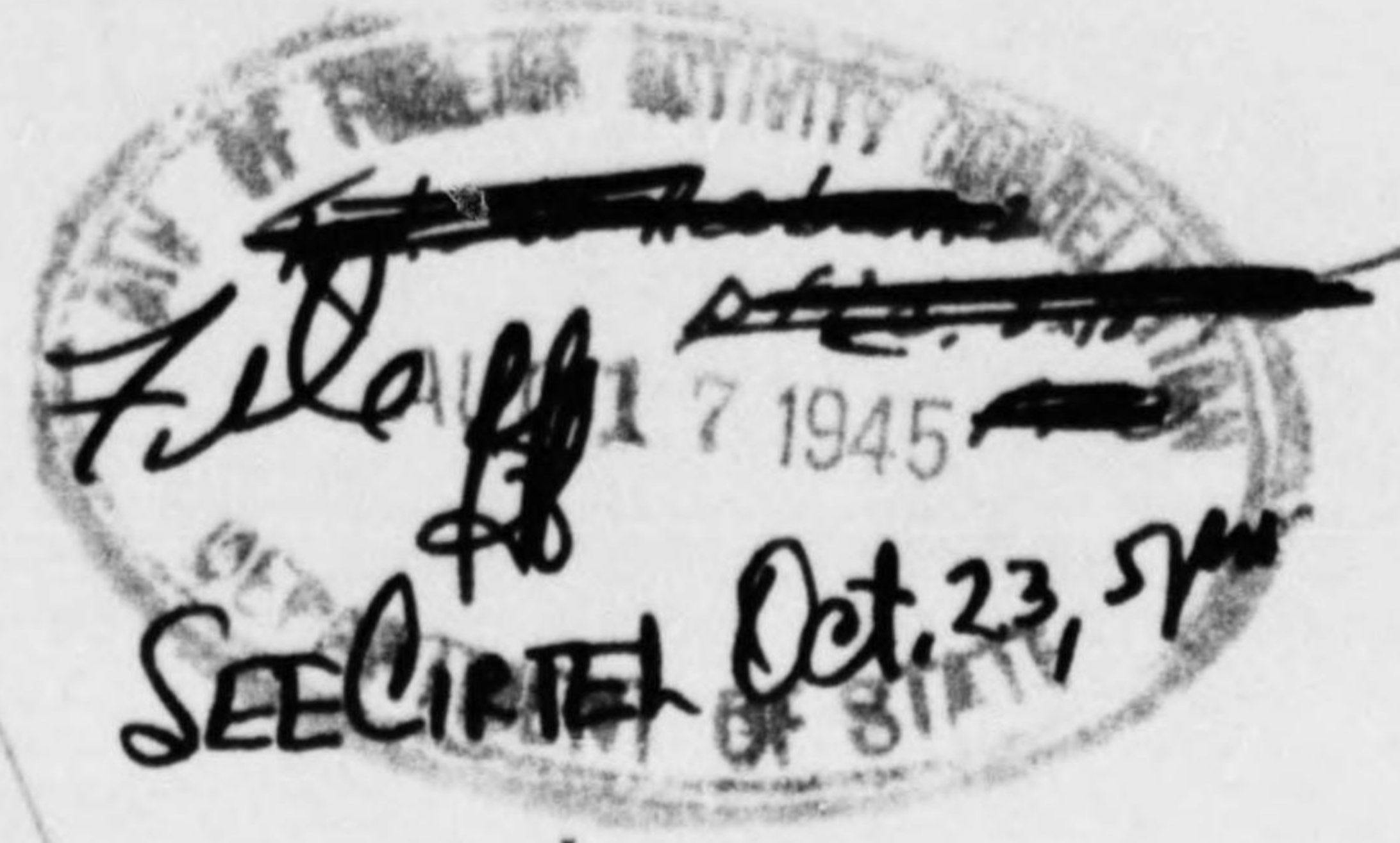
Habana  
Dated August 16, 1945  
Rec'd. 3:42 p.m.

~~SECRET~~

DC/R

Secretary of State,  
Washington.

US URGENT  
540, August 16, Noon.



Upon receipt DEPTCIRCTEL Aug 14, 8 p.m. and upon consultation with British and Chinese Ministers and Russian Charge d' Affaires, Minister of State was requested on behalf US, Great Britain Soviet Union and China to give custody of Japanese archives and property at earliest possible date. British and Chinese colleagues readily associated themselves and Russian said that while he had no instructions he would take responsibility to acquiesce and once he received instructions would associate himself.

A similar request was made to Spanish Charge d' Affaires who has custody of the archives and property,

Minister of State immediately called Spanish Charge repeating our request and asking that the material be turned

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DEC 11 1945

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-2- #540, August 16, Noon, from Habana

turned over to that Ministry. In conversation with Embassy Ministry official stated that only possible difficulty was a technical one. In case of German archives no German Govt existed and it was easy for Cuba to take charge from Spanish Legation. In this case a Jap Govt apparently exists albeit under Allied domination and control. Ministry of State official requested we obtain from Washington an indication of how matter would be handled there in connection with material within US and we replied that while our instructions stated Jap Govt would be instructed to authorize protecting Govts to relinquish archives in belligerent? countries (such as Cuba) we would nevertheless report their question. Apparently what Cuban GOVT has in mind is taking charge of archives itself and making them available to other Allied Govts as in case of German archives. FONOFF worked with us wholeheartedly in German case and we had complete access to everything.

Spanish Charge this morning said he was immediately telegraphing Madrid for the record's sake requesting authority to surrender everything to Cuban GOVT for account of Allied

SECRET



SECRET

-3- #540, August 16, Noon, from Habana

of Allied powers. The Spaniard said archives were completely intact in boxes which were wired and sealed.

Chinese Minister said he would be glad to make preliminary inspection and if facts warranted could have experts sent from Washington for more thorough examination.

NORWEB

RB

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DEPARTMENT OF STATE

INCOMING TELEGRAM

DIVISION OF CENTRAL SERVICES TELEGRAPH SECTION

ACTION: FC  
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LB-828 -W  
This telegram must be closely paraphrased before being communicated to anyone. (SECRET)

Lisbon

Dated August 16, 1945

Rec'd 7:45 p.m.

Secretary of State,  
Washington.

*file* *DCR*

*See CIRTEL Oct 23 5 pm*

AUG 17 1945

DEPARTMENT OF STATE

1741, August 16, 8 p.m.

Neither the British nor the Chinese missions here have yet received instructions REDEPCIRTEL August 14, 8 p.m. to associate themselves with US in a request for custody of Jap archives and property.

We, however, laid the matter before the FONOFF informally today who stated that while the Portuguese Government was ready to cooperate in every way possible they find that there would be no justification in law for turning over Jap property or archives to us. They point out at length the differences existing in the situation at present and that upon the German surrender when in fact the legitimate German Government had disappeared and was replaced by Allied authority. They emphasize the fact that relations with Japan still continue and that Jap Government continues in existence;

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894.414/8-1645



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-2- #1741, August 16, 8 p.m. from Lisbon

also that Jap mission here is legitimate representative of such Government.

They hope we can instruct Jap Government to turn over archives and property to US when surrender has occurred and in that event will be helpful if needed in every possible way.

BARUCH

RB

SECRET







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DEPARTMENT OF STATE  
WAR PROBLEMS  
SPECIAL/DIVISION

August 17, 1945

SECRET

TO: A-H - General Holmes

FROM: SWP - Mr. Plitt *8*

## 1. SUBJECT:

Custody of Japanese diplomatic and consular property and archives upon the relinquishment of such property to the custody of the United States Government by the Powers protecting Japanese interests in the United States, i.e. the Swiss Government protecting Japanese interests in the United States with the exception of the Territory of Hawaii and the Swedish Government protecting Japanese interests in the Territory of Hawaii.

## 2. THE PROBLEM:

To attain the objective of maintaining Japanese official property and archives as a pool of information available to those agencies of the United States Government legitimately interested and those members of the United Nations which accord reciprocity.

## 3. BACKGROUND

The Swiss Government has been requested to transmit a message to the Japanese Government according to which the Japanese Government is instructed to authorize the appropriate Governments protecting its interests to relinquish diplomatic and consular property and archives to the custody of Allied powers in belligerent countries. It will be necessary that the Japanese diplomatic and consular archives and property in the United States relinquished in accordance with the foregoing be appropriately controlled and made available by the proper agency of the United States Government which, as was considered appropriate with regard to similar former German property and archives, is the Department of State.

## 4. RECOMMENDATIONS:

- nbn*
- (a) That the custody and responsibility for Japanese diplomatic and consular property and archives and

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any other comparable Japanese property which was held with permission of this Government by the Swiss or Swedish missions at Washington in charge of Japanese interests in the United States be placed in the Department of State.

- (b) That the Chief Special Agent make all arrangements to take over physical custody of such property and archives from the Swiss and Swedish missions immediately upon the release thereof by the respective protecting powers. The time and place of this transfer should occur as may be agreed upon between SWP and the Swiss and Swedish missions at Washington. CSA and SWP should be authorized to sign inventories of property thus delivered to the Department. SWP should be authorized to verify and sign protocols relating to matters other than deliveries of property.
- (c) That all official Japanese archives, including reference books, be centralized at Washington. Stored property elsewhere to be reviewed and useless items disposed of. In connection with (b) and this step, CSA should be authorized to enlist the services of the FBI and other expert assistance, retaining custody for the Department, however, of all items concerned.
- (d) That the Japanese diplomatic and consular archives so concentrated be made equally available to all agencies of this Government legitimately interested and, subject to reciprocity, to representatives of other governments. As a matter of firm policy, no part of this material should be removed from the premises upon which it is concentrated except for a specified period of time and against a responsibly signed receipt. In order to avoid any occasion for the removal of any part of the archives, ample facilities including a photostat machine should be made available for study and examination of the documents on the premises. Removal of property even though against receipt should be primarily for the purpose of laboratory examination.
- (e) That a professional and custodial staff be installed in the Japanese Embassy building to arrange for the use of the materials assembled there and to preserve them against attempts toward dissipation.
- (f) That SWP with the assistance of RP, FC, and CSA develop a detailed plan for staffing the premises.
- (g) That the foregoing program be initially financed out of emergency funds as a number of governmental agencies can

be



-3-

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be expected to benefit from the program and since its duration is indeterminate. A decision might be made at a later time regarding the possibility of requesting a special appropriation for the purpose.

(h) That SWP be charged with the responsibility of coordinating and supervising the foregoing program.

5. CONCURRENCES:

FC

CSA

RP

JA

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*Jim [unclear]*  
SWP:REHibbard:MA



DEPARTMENT OF STATE

INCOMING TELEGRAM

DIVISION OF CENTRAL SERVICES TELEGRAPH SECTION

*PEM-1007*

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PEM-1007 -R  
This telegram must be closely paraphrased before being communicated to anyone. (SECRET)

Panama via War  
Dated August 17, 1945  
Rec'd 3:33 p.m.

*DC/R*

Secretary of State,  
Washington.

771, Aug 17, 2 p.m.

A preliminary search and examination of the former Jap Legation archives (EMBTel 766, Aug 16, 10 p.m.) has revealed absolutely no information of value. Apparently all correspondence, code books, et cetera, were destroyed. The Embassy and the intelligence agencies on the Isthmus are investigating one or two possible sources of further information and if anything of any value whatsoever is uncovered the Dept will be immediately informed.

894.414/8-1745

DONNELLY

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DEC 11 1945

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DEPARTMENT OF STATE

INCOMING TELEGRAM

DIVISION OF CENTRAL SERVICES TELEGRAPH SECTION

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HHL-1359-W  
This telegram must be closely paraphrased before being communicated to anyone. (SECRET)

Rio de Janeiro  
Dated August 18, 1945  
Rec'd 2:12 p.m.

PE  
JON

Secretary of State,  
Washington.

See  
AUG 20 1945  
CIRTEL Oct. 23 5 pm  
DEPARTMENT OF STATE

2588, August 18, 2 p.m.

Neither British Embassy nor Chinese Embassy has yet received instructions regarding Japanese archives (Embassy's telegram 2574, August 17, 7 p.m.). Both Embassies informed of our interest in matter in line with Depts circular telegram of August 14, 8 p.m., and their cooperation invited. Both said they would communicate with this Embassy immediately upon receipt of instructions.

This morning Secretary General Muniz said that he had got in touch with Swedish Minister, and that he expected that early next week the Japanese archives would be turned over to Brazilian Foreign Office by Swedish Legation. He said that he had requested Swedish Minister to remove Japanese caretaker acting as custodian of

ARA Japanese archives, which Swedish Minister said he

would do

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894.414/8-1845

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-2-#2588, August 18, 2 p.m., from Rio de Janeiro

would do. Muniz added that he had already given orders for Brazilian police to guard premises to prevent destruction of archives.

Swedish Minister has undertaken to inform Embassy immediately upon receipt of his instructions regarding turning over Japanese archives. It would be helpful in addition if Dept would telegraph Embassy its understanding of nature of instructions actually dispatched to Swedish Minister.

With reference to last paragraph of Embassy's telegram under reference Muniz repeated that Foreign Office, upon receipt of Japanese archives, would grant this Embassy full access thereto.

BERLE

MJF

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FORM NO. 64

# Office Memorandum • UNITED STATES GOVERNMENT

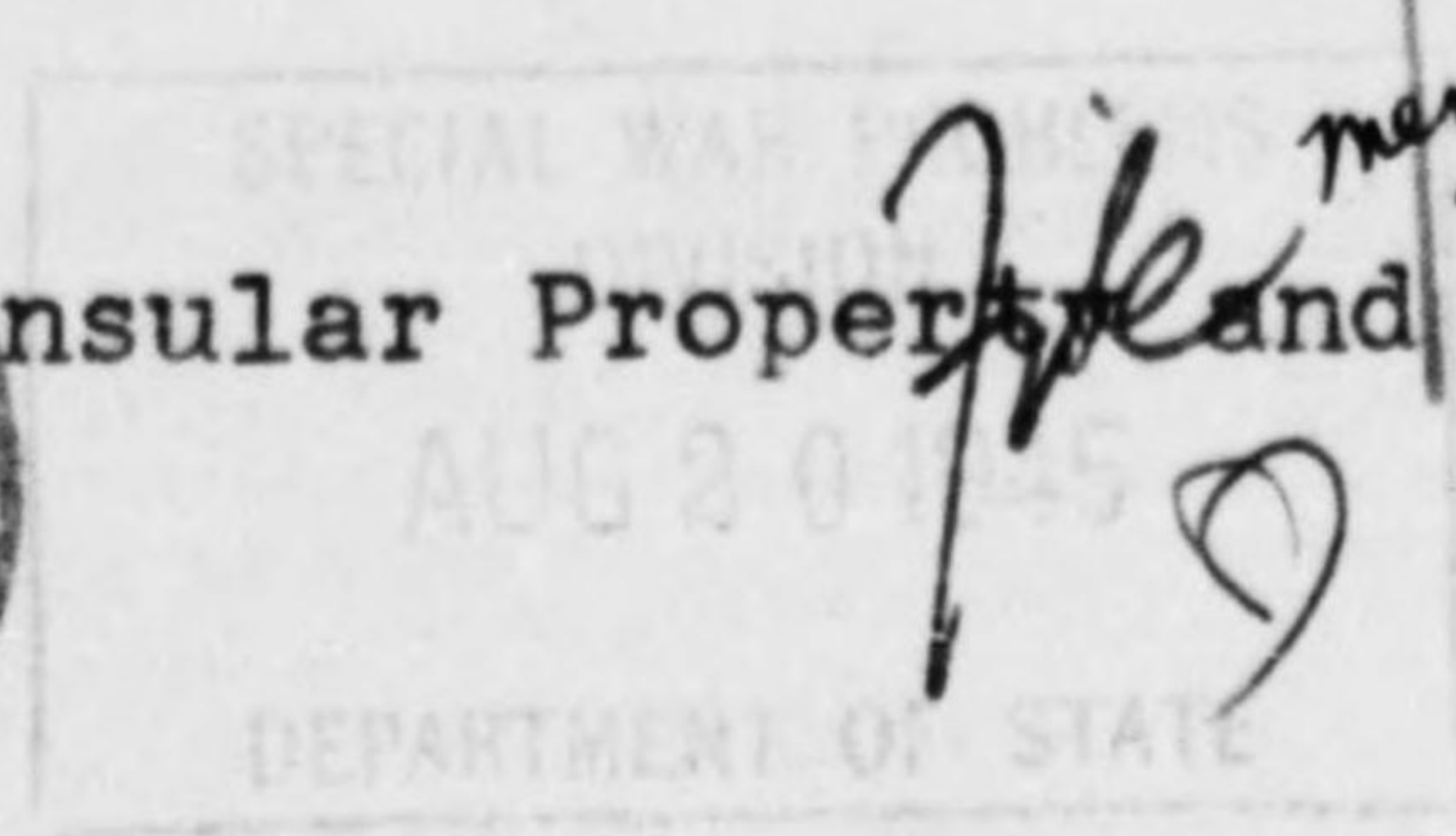
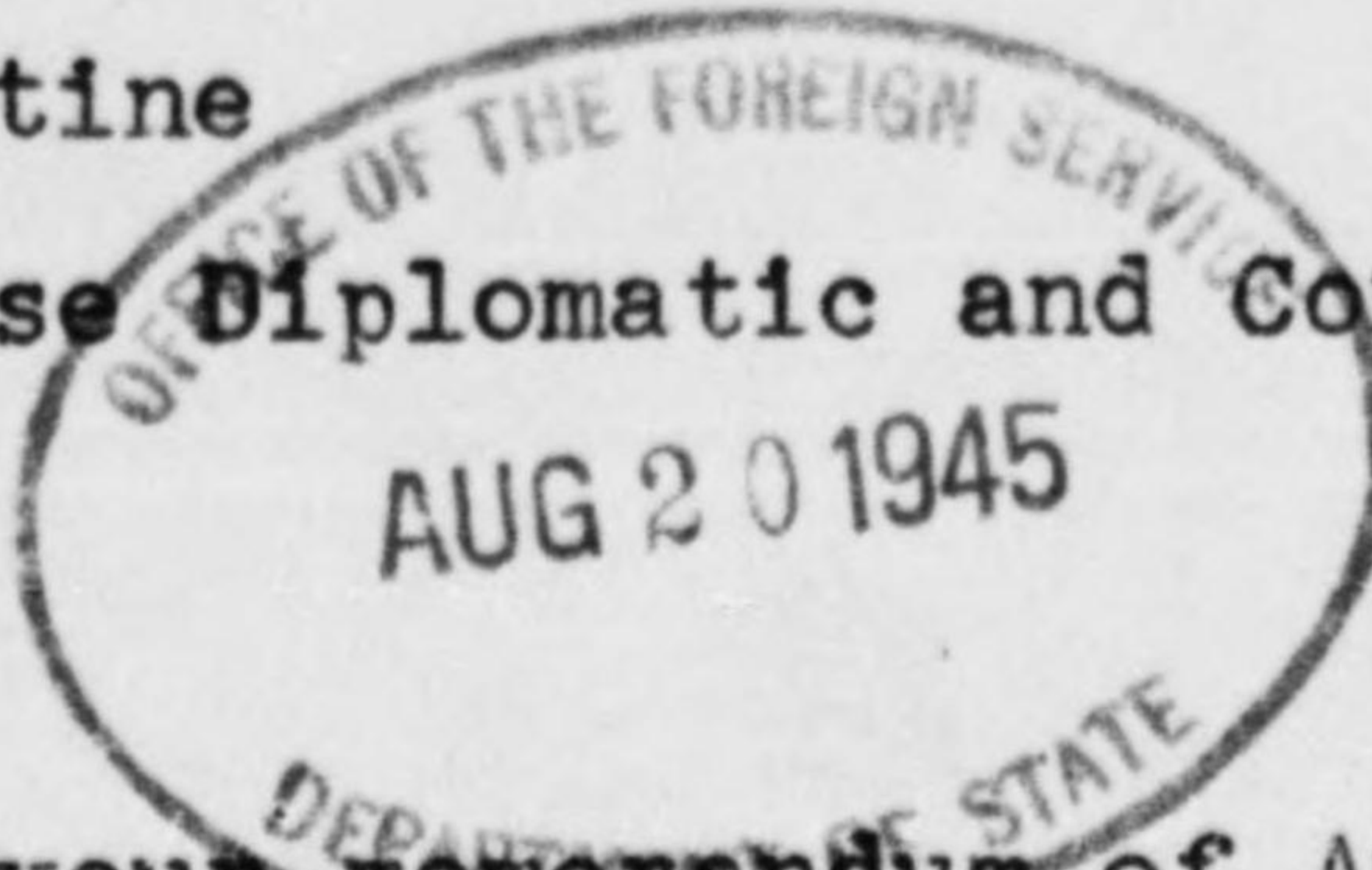
TO : SWP -- Mr. Plitt

246

DATE: August 18, 1945

FROM : FE -- Mr. Ballantine

SUBJECT: Custody of Japanese Diplomatic and Consular Property and Archives



*Handwritten notes:* name to P.A.H. 7/20/45

894.414/8-1845  
Document Must Be Returned to

With reference to your memorandum of August 17, addressed to General Holmes, containing recommendations for taking control of Japanese property and archives in the United States, comment is offered as follows:

We concur with SWP in regard to the desirability of making available to agencies of this Government, and of our Allies, information contained in the Japanese archives which might be of value in connection with the implementation of the Potsdam Declaration. We feel impelled to point out, however, that there are certain considerations in regard to the legal situation which, in our opinion, render it necessary to consider carefully the question of methods to be adopted in attaining this objective.

P.W.C. 297-A approved by the Department several months ago contains the following:

"American authorities should continue to respect Japanese consular and diplomatic archives in the United States and its territories and should continue to permit a neutral power, selected by Japan, to protect such archives."

There have so far been no changes in conditions which, in our opinion, should alter this recommendation. Even after the surrender instrument has been signed the functions of the Government in Japan have not been taken over by the Allied powers as were those of Germany, but on the other hand the Japanese Government is in existence and it will be permitted to continue to exist under the terms of the Potsdam Declaration. Consequently our rights in respect to Japanese diplomatic and consular archives are limited to directing the Japanese Government to make those archives available to us and to utilize them for the purpose of effectuating the terms of surrender.

We believe that the proper procedure is therefore to direct the Japanese Government, after the surrender instrument has been signed, (see paragraph 3, reply to Japanese acceptance of Potsdam Declaration, August 11, 1945) to request the protecting powers to

permit

**SECRET**  
CS/M

*Handwritten:* 7/20/45 P.W.C. 297-A

*Handwritten:* 894.414/P-1845

*Handwritten signature:* [Signature]



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permit representatives of the Allied Governments to examine diplomatic and consular archives in order to copy such material as may be necessary for carrying out the Potsdam terms. In our opinion archives or other property should not be removed from the premises and should remain under the custody of protecting powers subject to the above conditions.

The telegram received from our Embassy in Lisbon, August 16, 1945, indicates that the Portuguese Government takes the view that the Japanese and German situations differ, and to refuse to permit the Allied powers to take over the Japanese archives in Portugal without the consent of the Japanese Government.

Even after Japan's surrender it is not clear what warrant there is for directing the Japanese Government to take action which is not necessary for carrying out the Potsdam Declaration. For example: It is reasonable, after Japan's surrender, to call upon the Japanese Government to make their archives available for inspection for purposes of implementing the Potsdam terms and also to instruct the protecting power to prevent destruction of archives, but it is not clear what warrant there is for taking over property of the Japanese Government and disposing of it as implied in the second sentence of (c) of your recommendations. ?

In the light of the steps which this Government has already taken (circular telegram of August 14, 1945 and telegram 2535 of August 14, 1945 to Bern) it is recommended that we await the reactions of our Allies, of neutral Governments and of the Japanese Government before determining precisely the next steps which we should take in this matter.

In setting down the above considerations we are not so much concerned with the interests of the Japanese Government as we are with the honor and integrity of the American Government, which, with our Allies, proposed the terms set down in the Potsdam ultimatum, terms which have been accepted by the Japanese Government to our material advantage - estimated by Mr. Churchill at 1,000,000 American lives - and which we are now in honor bound to observe.

J.W.B.

*JWB*  
FE:JWBallantine:ead



DEPARTMENT OF STATE

INCOMING TELEGRAM

DIVISION OF CENTRAL SERVICES TELEGRAPH SECTION

*Handwritten initials and scribbles*

ACTION - FC  
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- A-H
- A-R

DML-137 -Z  
This telegram must be closely paraphrased before being communicated to anyone. (SECRET)

Panama via Army  
Dated August 21, 1945  
Rec'd 1:21 p.m.

*Handwritten initials and scribbles*

Secretary of State,  
Washington.

PRIORITY

781, August 21, 11 a.m.

*Stamp: AUG 22 1945*  
*Handwritten: See CIRTELS*  
*Handwritten: Oct 23 5 pm*  
*Handwritten: Oct 25 8 pm*

The Swiss Honorary Consul in Panama has not yet received authorization from the Swiss Legation in Venezuela to turn over the Japanese archives and property. (Embassy telegram 7666, August 16, 10 p.m.). When will the transaction take place in the United States?

Does Department wish Embassy to take possession of the large quantities of furniture motor vehicles, et cetera or should they be retained by the Panamanian Government?

The archives are now stored in the Panamanian Foreign Office and will be released to the Embassy as soon as the Swiss Consul receives authorization from his superiors.

DONNELLY

LMS  
SECRET

|                |             |
|----------------|-------------|
| DCR - ARA Unit |             |
| Anal.          | <i>Mark</i> |
| Rev.           | <i>gr</i>   |
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REC 141945

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894.414/8-2145

*XR 706.9454*  
*XR 701.9419*

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*(circled)*

894.414/8-2145



DEPARTMENT OF STATE

INCOMING TELEGRAM

DIVISION OF CENTRAL SERVICES TELEGRAPH SECTION

ACTION-FC INFO:

S  
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GEK-1786-J  
This telegram must be closely paraphrased before being communicated to anyone. (SECRET)

Habana

Dated August 25, 1945

Rec'd 12:28 p.m.

*[Handwritten initials]*

Secretary of State,  
Washington.

559, August 25, 11 a.m.

Spanish Charge d'Affairs reports he has not yet received instructions from Madrid to relinquish Japanese archives which he is personally anxious to get rid of. Could Dept expedite issuance of these instructions by Spanish Foreign Office.

Embassy's telegram No. 540, August 16.

*894 414/8-1645  
FC*

NORWEB

MJF

SECRET

SEE CIRTEL Oct 23 5M  
AUG 27 1945  
File Hh  
DEPARTMENT OF STATE

ARA  
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DISTRIBUTION  
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SEP 1 1945

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DEPARTMENT OF STATE

INCOMING TELEGRAM

DIVISION OF CENTRAL SERVICES TELEGRAPH SECTION

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SG-794 -H  
This telegram must be closely paraphrased before being communicated to anyone. (SECRET)

Bogota

Dated August 28, 1945

Rec'd 7:18 p.m.

Secretary of State,  
Washington.

1133, August 28, 3 p.m.

My British colleague tells me that Soviet Minister also called on him and informed him of his instructions from Moscow. Re 1124, August 27, 11 a.m. <sup>101,942/8-2745</sup> British Ambassador expressed surprise that Soviet Government was opposed to having Jap archives turned over to American Embassy on behalf of all. Re: Snow replied that it was a matter of principle. Snow stated that he thought it was wrong time to raise matter of principle and that he had no intention of making an idiot of himself by trying to read Jap hieroglyphics in the Colombian Foreign Office, adding that he had no one available who had any knowledge whatsoever of Jap language.

Swiss Charge indisposed and in country but have learned from female clerk of his Legation that there is substantial amount of Jap archives which Swiss

Legation

SECRET



DC/R

894.414/8-2845

Handwritten routing slip with 'ARA', 'DCR', 'BMB', and 'MTR' written on it.

DEC 11 1945

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894.414/8-2845

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Jan. 23, 1976 - FBI #2  
By [signature] NARS, Date 12/7/78



SECRET

-2- #1133, August 28, 3 p.m., from Bogota

Legation in bulk and under seal and of whose contents it has no knowledge. These archives are still in Jap Legation where Chancellor of Swiss Legation is residing. Jap. ~~gardener~~ and family also there and she tells me that it is believed that Jap Minister when departing turned over confidential documents to him.

Have requested Legal Attache to use good offices with national police in endeavor to effect discreet control of situation and am requesting Swiss Charge this afternoon to transfer archives to his own Legation pending final disposition.

WILEY

CAD

SECRET

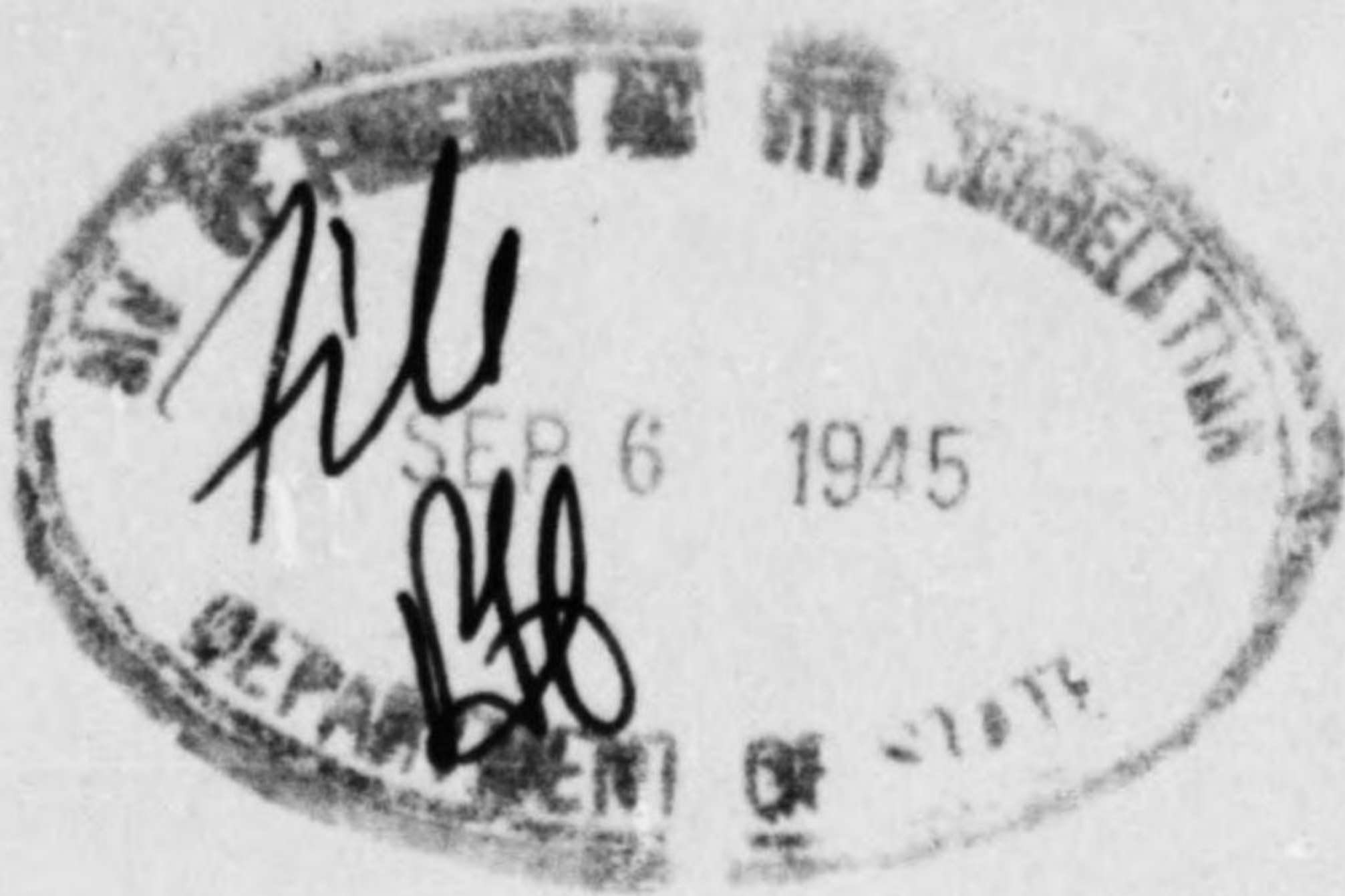


OS

DC/R

AIRTEL

ACTION: F  
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FROM: American Embassy  
San Salvador, El Salvador  
Dated August 28, 1945  
Rec'd Sept 5 6pm

SECRET-Z

Secretary of State,  
Washington.

*ack am supp to*

A-200, August 23, 1945.

Reference Department's circular telegram of August 14, 8 p.m.

The Japanese archives were delivered by the Foreign Office to this Embassy at 4 p.m. on August 27. My British and Chinese colleagues have been informed.

I should greatly appreciate the Department's advice as to what final disposition should be made of these archives, as storage space in this Embassy is already overtaxed.

SIR:MS

DEC 6 1945  
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894.414/8.2845





**SECRET**  
UNITED STATES POLITICAL ADVISER  
FOR GERMANY

*REC-ES*

Frankfurt, August 29, 1945

**SECRET**

No. 892

**SUBJECT: JAPANESE INTELLIGENCE AND DOCUMENT REPORTS.**

RECEIVED  
DIVISION OF  
CENTRAL SERVICES  
SEP 14 1945

RECORDS BRANCH

The Honorable  
The Secretary of State,  
Washington, D. C.

Sir:

OFFICE OF POLITICAL AFFAIRS  
OCT 4 1945  
DEPARTMENT OF STATE

OB Akab  
copy  
SEP 21 1945  
File of State

I have the honor to transmit herewith certain intelligence and documentary reports, as indicated below, concerning Japanese matters and originating in the Office of the Assistant Chief of Staff, G-2, USFET.

The Department will note that the original documents referred to in the documentary reports have in all cases been forwarded to MIRS, Washington, D. C.

INTELLIGENCE REPORTS

- J-048 Japan, Hydrogenation of Gases in.
- J-053 Germany, Japanese Army and Navy Purchases of Material in.
- J-054 Japanese Naval Attache's Office, Berlin.
- J-055 Germany, Shipment of Naval Stores to Japan.
- J-056 Japan/Indo-China, Shipyards, Drydocks, and Harbors.
- J-057 Germany, Foreign Office Personnel, Information re Japanese.
- J-058 Japan, Oil, Chemical and Rubber Industries.

DOCUMENT REPORTS

- CD-124 Germany, Supply of Armaments to Japan (Rheinmetall-Bersig A.G., APOLDA).
- CD-125 Germany, Japanese Financial Transactions in.
- CD-126 Japan, Cultural films of.
- CD-127 Japanese Typewriters.
- CD-128 Germany, Japanese Embassy, Miscellaneous photographs and personalities of.
- CD-129 Japanese Contacts with German Aircraft Firms.
- CD-130 Germany, Commercial Relations with Japan.
- CD-131 Germany, Japanese Embassy Library in.
- CD-132 Maps, Japanese, German, Russian, Polish, Italian and Brazilian.
- CD-133 Miscellaneous Papers of the Japanese Military and Naval Attache's, Berlin.
- CD-134 Japanese Interest in German Air Equipment.
- CD-135 Economics and Industrial Reports on Japan.

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OCT 1 1945  
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CD-136 Papers

OCT 1 1945

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*VR*



SECRET

- 2 -

- CD-136 Papers of the Japanese Naval Attache, Berlin.
- CD-137 Germany, Blue Prints for Machinery for Japan.
- CD-138 Return of German Armaments bought by Japanese to Germany.
- CD-139 Japanese Contacts with German Manufacturers of Air Equipment.
- CD-140 Aircraft & Equipment--Correspondence with Japanese.
- CD-141 Japanese & German Aircraft-Reports and Correspondence.
- CD-142 Japanese Interest in German Machine Tools.
- CD-143 Japanese Interest in German Air Equipment.
- CD-144 Japanese Study of German Bridge Reconstruction.
- CD-145 Documents taken from the Japanese Naval-Air Attache's Office in the Japanese Embassy, Berlin.

Respectfully yours,

*Robert Murphy*

Robert Murphy

Enclosures:

As listed above.

*Not att. Attached  
not attached  
SR.*

In triplicate to Department  
Copy for CE - Mr. Riddleberger

File No. 820.02a

MRG/mk

SECRET



Serial: J-048

HEADQUARTERS  
U. S. FORCES, EUROPEAN THEATER  
CONFIDENTIAL (MAIN)  
Office of Assistant Chief of Staff, G-2

16 July 1945.

JAPANESE INTELLIGENCE REPORT

SUBJECT: Japan, Hydrogenation of Gases in.

1. There is transmitted herewith for MIRS, Washington, folders of pre-contract correspondence between I.G. Farben-Industries in Germany and its branch office in Tokyo, as well as between I.G. Farben, Germany, and those firms constituting its sources of steel supply in Germany. The period 1937-1942 is covered. The documents were recovered by the Seventh U.S. Army.

2. There is set forth in translation below extracts of items which appeared to be of particular interest:

"Translations from letters between I.G. Farben home office and Japanese branch offices. Refers almost exclusively to Haber Bosch process of I.G. Farben using natural gas.

'That one cannot count with long time duration of natural gas production in Japan (proper)' 28 Jan. 1938.

'Hydrogenation . . . a 30,000 ton/year plant in (north) TAIWAN coal fields near the natural gas fields' from a request for estimate for pre-contract considerations 1939.

Firm of Taiwan Kogge K.K. perhaps in Formosa 'delivers daily 20,000,000 cu.ft. of natural gas' 9 Sept. 1937.

Firm of Taiwan Kagaku Kogge 'intends to use 4,000,000 cu.ft. of natural gas for production of ammonia sulfate (100,000 tons/yr.) and the rest (16,000,000 cu.ft.) for production of liquid fuel' 9 Sept. 1937.

-----  
Condensations of German translation from Japanese magazine Kagaku Kogge Tiho (Chem Industrz Magazine) 27 Sept. 1936, entitled 'Use of Natural Gas'.

The best known oilfields in Japan are in NIIGATA and AKITA, CHEKI (no oilfield as indicated in original article) and KINSUI oilfield in Formosa. Last one is highly productive 'which amounts to about 2,000,000,000 cu. meters since its first exploitation in 1914. It is said that at times as much as 8,000,000 cu. meters/day is produced'.

Translation note: I question unit measure which appears to be a mixup of cu. meters and cu. ft.

-----  
Condensation of discussion between Japanese foreign minister Matsuho and I.G. Farben representatives in Berlin on 5 April 1941.

Subject: Synthetic fuel manufacturing in Japan. I personally was interested in subject as early as 1930 but Japanese navy was against acquiring license at that time. All else of discussion deals with commercial and economic matters of a very preliminary state between I.G. resp. Germany and Japan.



CONFIDENTIAL

Serial: J-048

HEIHAN/FUSHIN  
 HACHIDOGO  
 JORAN MAIN MINE  
 JORAN EAST MINE  
 JORAN BOTSOKO

Abstracted translation from Deutsche Bergwerk Zeitung  
 (German mining newspaper) of 20 June 1942.

'It is reported that the So. Manchukuan R.R. Co. will enlarge its coal liquifying plants near FUSAN'. Further, 'The manufacture of various oils and aero-gasoline will commence shortly on a large scale'.

-----  
Abstracted translation from a report on conference on 3 Nov. 1942 between I.G. Farben and Japanese army men.

'The (oil) production on SAKKALIN obtains about one half million tons. The Japanese hydrogenation plant in TOKUYAMA (Navy) is already in operation. Its production is small and certain difficulties still exist'. Gas consists primarily of methane and also some oil vapor. Gasoline is primarily prepared, also illuminating gas.

In Formosa lampblack, propane, butane is primarily prepared since 1917. In 1935 the Aici Industrial Co. was formed with a capital of 500,000 Y to produce chloromethane, chloroform dichloromethane, carbontetrachloride, etc. The Formosa natural gas research Institution was formed in 1936 in SHINCHIKU.

Quantities of natural gas used:

|            |                     |
|------------|---------------------|
| 1926 - 926 | } IN MILLION CU.FT. |
| 27 - 1,162 |                     |
| 28 - 1,163 |                     |
| 29 - 1,208 |                     |
| 30 - 1,760 |                     |
| 31 - 3,548 |                     |
| 32 - 3,752 |                     |
| 33 - 4,087 |                     |
| 34 - 4,267 |                     |

Translators' Note: According to planned project, 96,000 M<sup>3</sup>/gas will be used.

"Large oil fields are near UBE and the island of KYUSHI".

Formosa is estimated to have 'natural gas field (yielding) 300,000 cu.ft/day for 17 to 20 years'. Besides, larger coal field has been recently (1936) discovered nearby (to gas fields).

For the A.C. of S., G-2.

*Dupre Sissard*  
 DUPRE SISSARD  
 Lt. Colonel, GSC  
 Executive.

DISTRIBUTION:-  
 See next page.



Serial: J-048

CONFIDENTIAL

The following translation is the only specific statement of the document: The "S.M.R. (private concern of which Matsusho was the onetime president) built a plant in FUSHUN according to the Tokuyama (hydrogenation) process which operates satisfactorily". Note: Parentheses translator's.

-----  
Translation from a letter of I.G. Farben to Reichswirtschaftsministerium of 24 April 1941.

'We should like to mention that extended deliberations took place between us (I.G.) and Japanese interests before the outbreak of this war with the approval of the new-German owners of the hydrogenation process (the International Hydro Patents Co.). These deliberations concerned hydrogenation of gas oil (German Gas Oil) into aviation gasoline which did not lead to final settlement due to the hesitant position of the Japs before the war'. Further, 'The construction of hydrogenation plants would require at least three years!'. Translator's note: Three years is based upon German delivery of high-pressure vessels to Japan. This item of long term delivery is based upon German program, since all Japanese sources have no particular confidence in apparatus made in Japan.

-----  
Condensation from "Japanese industrial newspaper" of 24 Oct. 1939. EIKOKU DENRYO KOGYO (Imperial fuel development Co.) has recently invested capital in the SUZITOMO (spelling not clear) Metals Industrial Co. 'which has recently embarked upon the plan of manufacturing hydrogenation reaction towers.'

-----  
Condensation from letter of 31 Oct. 1939 to Krupp, Essen from I.G. Farben. Refers to above condensation.

These concern intends to manufacture high-pressure vessels which 'is facilitated since Japan has now a 15,000 ton hydraulic press'.

-----  
Translation from a conference report between I.G. Farben and Krupp representatives of 2 June 1939.

'According to the opinion of Chief Engineer Ruhl, the Japanese hydrogenation program will extend over a period of 5 - 10 years, and whose center of gravity will be situated in Manchukuo'.

Translator's Note: Chief Engineer Ruhl represents German Firm UHDE, Dusseldorf (hydrogenation process and his pressing vessels) in Japan and appears to later have been given representation of I.G. Farben. All transactions in Japan regarding hydrogenation are going thru Ruhl.

-----  
Copy from "The Japan Chronicle" of 11 May 1939.

'The AGOCHI (spelling not clear) factory in North Korea of the Korea Nitrate Co. and the MIIKE factory of the Mitsui Interests have already completed the installation of the necessary equipment for the purpose (of hydrogenation)'.

From a table of coal analyses for synthetic gas production. Table made up for I.G. Farben dated Tokyo 16 Dec. 1938.

SHINKYU/FUSHIN  
 KOTOKU /FUSHIN  
 TAIHEI /FUSHIN (spelling not clear)



CONFIDENTIAL

Serial: J-048

## DISTRIBUTION:- 4 Ea.

A.C. of S., G-2, War Department

D.M.I., War Office

D.N.I., Admiralty

CNO, Navy Department

A.C.A.S. (I), Air Ministry for A.I. 3 (d)

S.W.P. Allied Air Force I.L.O., Air Ministry c/o A.I. (1)

Intelligence Officer, COMNAVEU

Intelligence Officer, COMNAVFOR GERMANY

Intelligence Officer, COMNAVTECHMISEU

Director of Intelligence, USSTAF

Director of Intelligence, USGCC

Political Officer, USGCC

Political Officer, CCG (British)

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**SECRET***Serial J-056*

Serial J-053.

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reverse of this sheet*SECRET

HEADQUARTERS  
U. S. FORCES, EUROPEAN THEATER  
(MAIN)  
Office of the Assistant Chief of Staff, G-2

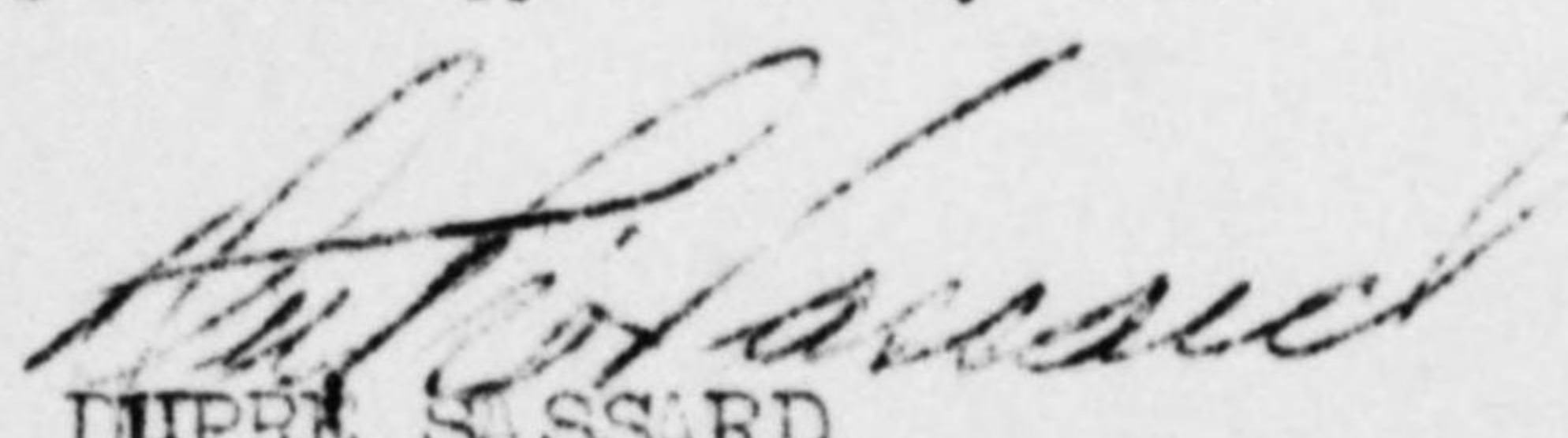
22 August 1945.

JAPANESE INTELLIGENCE REPORT

SUBJECT: GERMANY, Japanese Army and Navy Purchases of Material in

1. On 18 July 1945, the Japanese Intelligence section was requested by G.S.I. H<sub>1</sub>, Berlin Area to participate in the exploitation of material available in the Japanese Embassy, Berlin, Germany. Although badly damaged by the war and thoroughly looted, an enormous library and vast quantities of documents are being recovered from the rubble both within and outside of the building. It is being sorted and will be forwarded as quickly as transportation is available.
2. On 1 August 1945 a film of the Japanese Coast and two folders of material dealing with purchases of material for the Japanese Army and Navy (in Japanese and German), which appeared to be particularly interesting, were forwarded by air courier to the A C of S, G-2, War Department (Attention MIRS).

For the A C of S, G-2.

  
 DUPRE SISSARD

 Lt. Colonel, GSC  
 Executive.

## DISTRIBUTION:- 4 Ea.

A C of S, G-2, War Department  
 D.M.I., War Office  
 D.N.I., Admiralty  
 C.N.O., Navy Department  
 A.C.A.S. (I), Air Ministry for A.I. 3 (d)  
 S.W.P. Allied Air Force I.L.O., Air Ministry c/o A.I. (1)  
 Intelligence Officer, COMNAVEU  
 Intelligence Officer, COMNAVFOR GERMANY  
 Intelligence Officer, COMNAVTECHMISEU  
 Director of Intelligence, USSTAF  
 Director of Intelligence, USGCC  
 Political Officer, USGCC  
 Political Officer, CCG (British) ✓

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*Serial J-053*

Serial: J-056

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this sheet*

SECRET

HEADQUARTERS  
U. S. FORCES, EUROPEAN THEATER  
(MAIN)  
Office of Assistant Chief of Staff, G-2

22 August 1945.

JAPANESE INTELLIGENCE REPORT

SUBJECT: JAPAN/INDO-CHINA, Shipyards, Drydocks, and Harbors.

1. The report quoted below is forwarded for information:

"The figures and information on which this report is based, have been extracted from a document "Handbuch für Admiralstabsofficiere" (handbook for Naval staff officers) in the custody of DNI, Admiralty, London. (This handbook is marked "rough draft" and bears the stamp of the OKM signals division and is dated 1939) NID ref: NID 24/T.3/45.

I. SHIPYARDS

"The following details must be considered as minimum figures, for it is known that the large government shipyards in YOKOSUKA, KURE, and SASEBO as well as the most important private shipyards KAWASAKI-KOBE and MITSUBISHI-NAGASAKI have been considerably enlarged. In the light of the increase in the fleet which may be expected, it is especially interesting to note what constructional possibilities for this purpose exist in the Japanese shipyards. Simultaneously there can be laid down on the stocks:

| <u>Kind of Ship</u>                       | <u>Shipbuilding Yards</u>  | <u>Number</u>  |
|---|--|----------------|
| Battleships                               | Government shipyards of KURE and YOKOSUKA, KAWASAKI-KOBE, MITSUBISHI-NAGASAKI.     | 4              |
| Cruisers                                  | Aside from the above-named government shipyards; SASEBO, URAGA.                    | 8              |
| Aircraft-Carriers                         | Government yards at KURE and YOKOSUKA.   | 2              |
| Destroyers                                | Aside from the above-named, KOSABUKA-MIZURU, FUGINAGATA-OSAKA, ISHIKAWAJIMA-TOKYO. | 16             |
| Submarines                                | Government yards at KURE, YOKOSUKA, SASEBO, MITSUBISHI-NAGASAKI, KAWASAKI-KOBE.    | 10             |
| Mine-sweepers and other small war-vessels | - - -  | a large number |

"The possibilities of construction, with the exception of those for battleships, can probably be increased considerably by putting off the construction of merchant vessels."



Serial: J-056 *cont.*

SECRET

"LIST OF DRYDOCKS OF GOVERNMENT SHIPYARDS

| <u>SHIPYARD</u> | <u>Length m.</u> | <u>Width m.</u> | <u>Depth m.</u> |
|-----------------|------------------|-----------------|-----------------|
| KURE            | 121              | 22              | 9               |
|                 | 143              | 30.5            | 12              |
|                 | 213              | 33.5            | 13              |
|                 | 213              | 33.5            | 13              |
|                 | 365              | 33.5            | ?               |
| YOKOSUKI        | 120              | 25              |                 |
|                 | 148              | 28              |                 |
|                 | 89               | 13              |                 |
|                 | 137              | 28              |                 |
|                 | 238              | 70              |                 |
| SASEBO          | 139              | 30              | 11              |
|                 | 123              | 20              | 5               |
|                 | 169              | 31              | 11              |
|                 | 250              | 33              | 13              |
|                 | 200              | 31              | 13              |
|                 | 160              | 22              | 13              |
|                 | 328              | 35              | 11              |
| MAIZURU         | 62.5             | 7.5             | 2               |
|                 | 85.5             | 11.4            | 3.5             |
|                 | 166              | 24.5            | 11              |
|                 | 230              | 32              | 10              |
| OMINATO         | 85               | 18              | ?               |
| RYOJUN          | 169.7            | 25.5            | 9.5             |
|                 | 75.7             | 9.1             | 3.9             |
| MAKO            | 110              | 24              | 5.5             |

II. LIST OF DRYDOCKS OF PRIVATE SHIPYARDS.

| <u>OWNER</u>  | <u>NAME OF DRYDOCK</u> | <u>OVERALL LENGTH OF BED</u><br>m. | <u>WIDTH OF ENTRANCE TOPSIDE, BOTTOM.</u><br>m. | <u>HEIGHT ABOVE THE BED</u><br>m. | <u>RAISING STRENGTH</u><br>t. | <u>RISE OF THE TIDE</u><br>m. |
|---|------------------------|------------------------------------|---|-----------------------------------|-------------------------------|-------------------------------|
| <u>H A K O D A T E</u>                                |                        |                                    |   |                                   |                               |                               |
| HAKODATE SENKYO KABUSHIKI K. (HAKODATE DOCK CO. LTD.) | DRYDOCK                | 161.90                             | 24.88   | 8.95                              |                               | 0.81                          |
|   | PATENT SLIP            |                                    |   |                                   | 1200                          |                               |
|   | STEEL FLOAT-ING DOCK   | 85.34                              | 14.93   | 5.07                              | 2500                          |                               |
|   |                        | 85.34                              | 15.84   |                                   |                               |                               |



Serial: J-056

SECRET"ISLAND OF INOSHIMA (PROV. BINGO)

| OWNER                 | NAME OF DRYDOCK                   | OVERALL LENGTH, LENGTH OF BED<br>m. | WIDTH OF ENTRANCE, TOPSIDE, BOTTOM.<br>m. | HEIGHT ABOVE THE BED<br>m. | RAISING STRENGTH<br>t. | RISE OF THE TIDE<br>m. |
|-----------------------|-----------------------------------|-------------------------------------|---|----------------------------|------------------------|------------------------|
| OSAKA IRON WORKS LTD. | O.I.W. DOCK No. 3 (Stone drydock) | 105.25<br>102.97                    | 14.12<br>12.97                            | 4.57                       |                        | 3.04                   |
|                       | "No. 4 (S.D.)                     | 140.51<br>136.95                    | 17.92<br>16.67                            | 6.09                       |                        | 3.04                   |
|                       | No. 5 (S.D.)                      | 46.90<br>45.02                      | 9.64<br>8.55                              | 8.23                       |                        | 3.04                   |
|                       | No. 6 (S.D.)                      | 128.18<br>126.13                    | 17.37<br>15.49                            | 5.48                       |                        | 3.04                   |
|                       | No. 7 (S.D.)                      | 91.43<br>88.69                      | 12.80<br>11.58                            | 4.49                       |                        | 3.04                   |

K A S A D O S H I M A (SUWO PROV.)

|                      |                 |                  |                |      |  |      |
|----------------------|-----------------|------------------|----------------|------|--|------|
| KASADO DOCK CO. LTD. | K.W. DOCK No. 1 | 147.72<br>146.66 | 22.78<br>21.51 | 6.62 |  | 2.74 |
|                      | No. 2           | 106.68<br>103.63 | 16.45<br>15.44 |      |  | 2.74 |

K O B E

|  |                       |        |       |      |       |      |
|--|-----------------------|--------|-------|------|-------|------|
| KAWASAKI DOCKYARD CO., LTD.                                      | DRYDOCK               | 129.84 | 18.44 | 7.46 |       | 1.21 |
| KOBE SHIP-YARD & ENGINE WORKS (MITSUBISHI JU-KOGYO KABUSHIKI K.) | STEEL FLOAT-ING No. 1 | 118.10 | 18.28 | 6.80 | 7000  |      |
|  | No. 2                 | 153.92 | 21.33 | 7.92 | 12000 |      |
|  | No. 3                 | 124.96 | 30.48 | 9.14 | 16000 |      |
| ARITA SHIP-YARD & ENGINE WORKS                                   | STEEL FLOAT-ING DOCK  |        |       |      | 350   |      |
| TAISHO ZOSEN TEKKO-SHO   |                       | 42.67  | 10.68 | 4.57 | 500   |      |



Serial: J-056

SECRET

| OWNER | NAME OF DRYDOCK | OVERALL LENGTH, LENGTH OF BED<br>m. | WIDTH OF ENTRANCE TOPSIDE, BOTTOM.<br>m. | HEIGHT ABOVE THE BED<br>m. | RAISING STRENGTH<br>t. | RISE OF THE TIDE<br>m. |
|-------|-----------------|-------------------------------------|--|----------------------------|------------------------|------------------------|
|-------|-----------------|-------------------------------------|--|----------------------------|------------------------|------------------------|

N A G A S A K I

|  |               |                  |                |       |  |      |
|--|---------------|------------------|----------------|-------|--|------|
| NAGASAKI SHIPYARD & ENGINE WORKS (MITSUBI-SHI JUKO-GYO KABUSHIKI K.) | DRYDOCK No. 1 | 159.41<br>145.39 | 27.12<br>21.03 | 8.76  |  | .76  |
|  | No. 2         | 114.14<br>111.70 | 20.04<br>16.15 | 8.05  |  | .76  |
|  | No. 3         | 222.13<br>207.18 | 29.48<br>26.97 | 10.97 |  | .76  |
| MATSUO ZOSENSHO, KOYAGIS-HIMA  | DRYDOCK No. 1 | 106.98<br>103.02 | 14.65<br>12.19 | 5.48  |  | 1.06 |
|  | No. 2         | 76.19<br>74.67   | 11.27<br>9.14  | 5.48  |  | 1.06 |

H A R I M A (40 km. West of KOBE)

|   |                                |                  |                |              |  |  |
|---|--------------------------------|------------------|----------------|--------------|--|--|
| THE HARIMA SHIPBUILDING & ENGINEERING CO., LTD. | HARIMA DRYDOCK (Stone drydock) | 157.88<br>155.45 | 23.01<br>21.79 | 6.09<br>1.95 |  |  |
|---|--------------------------------|------------------|----------------|--------------|--|--|

O N O M I C H I (MUKAIJIMA, PROV. BINGO.)

|                         |                         |                  |                |      |  |  |
|-------------------------|-------------------------|------------------|----------------|------|--|--|
| ONOMICHI DOCKYARD, LTD. | ONOMICHI DRYDOCK No. 1  | 88.39<br>86.25   | 12.95<br>12.39 | 5.48 |  |  |
| MUKAI-JIMA SEN-KYO k.k. | MUKAI-JIMA DRYDOCK no.1 | 89.91<br>88.39   | 12.95<br>12.34 | 5.48 |  |  |
|                         | No. 2                   | 124.96<br>123.44 | 16.76<br>15.84 | 5.94 |  |  |
| MATSUBA IRON WORKS      | MATSUBA DRYDOCK         | 49.68<br>49.52   | 11.48          | 2.74 |  |  |

O S A K A

|                       |                                     |                  |                |      |  |      |
|-----------------------|-------------------------------------|------------------|----------------|------|--|------|
| OSAKA IRON WORKS LTD. | O.I.W. DOCK No. 1. (Wooden drydock) | 214.00<br>208.51 | 30.48<br>21.64 | 6.40 |  | 1.06 |
|                       | No. 2 (Cement drydock)              | 133.34<br>131.06 | 17.37          | 7.16 |  | 1.06 |



Serial: J-056

SECRET

| OWNER  | NAME OF DRYDOCK  | OVERALL LENGTH, LENGTH OF BED | WIDTH OF ENTRANCE TOPSIDE, BOTTOM. | HEIGHT ABOVE THE BED | RAISING STRENGTH | RISE OF THE TIDE |
|--|--|-------------------------------|------------------------------------|----------------------|------------------|------------------|
|  |  | m.                            | m.                                 | m.                   | t.               | m.               |
| HARADA<br>ZOSEN<br>K.K.                      | HARADA<br>DRYDOCK<br>No. 1<br>(KIZU-<br>GAWA)<br>(W.D.)          | 73.15<br>67.05                | 12.49                              | 3.96                 |                  |                  |
|  | No. 2<br>(W.D.)  | 47.24<br>45.72                | 8.53                               | 3.65                 |                  |                  |
| ONO TEKKO<br>ZOSENSHO                        | ONO<br>DRYDOCK<br>No.1 (Stone<br>drydock)                        | 54.86                         | 8.53                               | 3.65                 |                  |                  |
|  | No. 3<br>(W.D.)  | 85.34<br>85.34                | 12.19                              | 3.96                 |                  |                  |
| FUJINA-<br>GATA<br>SHIP-<br>BUILDING<br>LTD. | FUJINA-<br>GATA DRY-<br>DOCK (FU-<br>NAMACHI)<br>No. 1<br>(W.D.) | 147.22<br>137.16              | 19.32<br>18.28                     | 5.48                 |                  |                  |
|  | No. 2<br>(Cement<br>drydock)                                     | 85.64<br>85.34                | 12.49<br>12.19                     | 3.96                 |                  |                  |
|  | (SHIN SU-<br>MIYACHO)<br>No. 3<br>(W.D.)                         | 74.97                         | 11.58                              | 3.35                 |                  |                  |
| Y. SANOYA-<br>GAWA                           | SANOYASU<br>DOCK<br>(Wood &<br>Concrete<br>drydock<br>(KIZUGAWA) | 97.53<br>92.96                | 13.41                              | 4.57                 |                  |                  |
| NANIWA<br>DOCKYARD<br>CO!LTD.                | NANIWA<br>WORKS<br>(KIZUGAWA)<br>(Stone Dry.)                    | 105.15<br>100.58              | 14.02                              | 4.26                 |                  |                  |
| NAMURA<br>ZOSEN-<br>SHO K.K.                 | NAMURA<br>ZOSENSHO<br>(W.D.)                                     | 105.15<br>100.58              | 13.71                              | 4.26                 |                  |                  |
| KIZUGAWA<br>DOCKYARD<br>CO.                  | KIZUGAWA<br>DOCK No.1<br>(W.&C.D.)                               | 82.29                         | 12.19                              | 4.41                 |                  |                  |
|  | No. 2<br>(Wooden<br>& Concrete<br>dock)                          | 51.81<br>31.68                | 9.14                               | 3.65                 |                  |                  |



Serial: J-056 *cont.*SECRET

| OWNER                        | NAME OF DRYDOCK                         | OVERALL LENGTH, LENGTH OF BED<br>m. | WIDTH OF ENTRANCE TOPSIDE, BOTTOM.<br>m. | HEIGHT ABOVE THE BED.<br>m. | RAISING STRENGTH<br>t. | RISE OF THE TIDE<br>m. |
|------------------------------|---|-------------------------------------|--|-----------------------------|------------------------|------------------------|
| OHARA DOCK-YARD              | OHARA DOCK (W. & C.D.) (KIZUGAWA)       | 81.07<br>80.77                      | 13.41                                    | 3.81                        |                        |                        |
| AMAGA-SAKI SHIP-BUILDING CO. | AMAGA-SAKI DOCK (W.D.) (SHIN SUMIYACHO) | 76.19                               | 11.58                                    | 3.96                        |                        |                        |

S H I M O N O S E K I

|  |                                      |                  |                |      |  |      |
|--|--------------------------------------|------------------|----------------|------|--|------|
| HIKOSHIMA SHIPYARD & ENGINE WORKS (MITSUBISHI No.1 JUKOGYO K.K.) | HIKO-SHIMA DRYDOCK (MITSUBISHI No.1) | 121.76<br>118.87 | 21.23<br>17.06 | 7.74 |  | 1.82 |
|--|--------------------------------------|------------------|----------------|------|--|------|

|       |                  |                |      |  |      |
|-------|------------------|----------------|------|--|------|
| No. 2 | 140.20<br>137.16 | 22.75<br>21.33 | 5.61 |  | 1.82 |
|-------|------------------|----------------|------|--|------|

|       |                |               |      |  |      |
|-------|----------------|---------------|------|--|------|
| No. 3 | 80.59<br>77.84 | 10.78<br>8.83 | 5.91 |  | 1.82 |
|-------|----------------|---------------|------|--|------|

|                  |                          |                |               |      |  |  |
|------------------|--------------------------|----------------|---------------|------|--|--|
| OSAKA IRON WORKS | DRYDOCK No.1 (Con. Dry.) | 67.66<br>60.96 | 11.27<br>8.68 | 4.57 |  |  |
|------------------|--------------------------|----------------|---------------|------|--|--|

|                 |                |                |      |  |  |
|-----------------|----------------|----------------|------|--|--|
| No. 2 (W.&C.D.) | 87.78<br>85.64 | 16.76<br>15.08 | 6.70 |  |  |
|-----------------|----------------|----------------|------|--|--|

|              |                         |                |              |      |  |  |
|--------------|-------------------------|----------------|--------------|------|--|--|
| MIWA RYOTARO | DRYDOCK (Stone drydock) | 38.40<br>37.18 | 9.44<br>9.44 | 2.74 |  |  |
|--------------|-------------------------|----------------|--------------|------|--|--|

|                 |                         |                |              |      |  |  |
|-----------------|-------------------------|----------------|--------------|------|--|--|
| YAMA-SHITA KOZO | DRYDOCK (Concrete dock) | 46.02<br>44.19 | 9.14<br>8.23 | 4.57 |  |  |
|-----------------|-------------------------|----------------|--------------|------|--|--|

T A M A (OKAYAMA-KEN)

|                           |                       |                  |       |      |  |      |
|---------------------------|-----------------------|------------------|-------|------|--|------|
| MITSUI BUSSAN KAISHA LTD. | TAMA DOCK No.1 (S.D.) | 172.06<br>170.99 | 22.55 | 6.70 |  | 2.43 |
|---------------------------|-----------------------|------------------|-------|------|--|------|

|             |                  |       |      |  |      |
|-------------|------------------|-------|------|--|------|
| No.2 (S.D.) | 148.55<br>147.49 | 22.55 | 7.31 |  | 2.43 |
|-------------|------------------|-------|------|--|------|

|             |                  |       |      |  |      |
|-------------|------------------|-------|------|--|------|
| No.3 (S.D.) | 123.44<br>120.09 | 14.78 | 4.41 |  | 2.43 |
|-------------|------------------|-------|------|--|------|

T O K Y O

|                            |                         |                  |                |      |  |  |
|----------------------------|-------------------------|------------------|----------------|------|--|--|
| ISHIKAWA S.B.&E. CO., LTD. | ISHIKAWA WAJIMA DRYDOCK | 109.73<br>106.22 | 17.74<br>14.22 | 4.11 |  |  |
|----------------------------|-------------------------|------------------|----------------|------|--|--|



Serial: J-056

SECRET

| OWNER | NAME OF DRYDOCK | OVERALL LENGTH OF BED | WIDTH OF ENTRANCE TOPSIDE, BOTTOM, | HEIGHT ABOVE THE BED | RAISING STRENGTH | RISE OF THE TIDE |
|-------|-----------------|-----------------------|------------------------------------|----------------------|------------------|------------------|
|       |                 | m.                    | m.                                 | m.                   | t.               | m.               |

U R A G A

|                                  |  |        |       |      |  |  |
|----------------------------------|--|--------|-------|------|--|--|
| URAGA DRYDOCK                    |  | 151.48 | 21.33 | 7.74 |  |  |
| SENKYO No. 1                     |  | 146.96 | 18.28 |      |  |  |
| K.K. (URAGA) DOCK CO. LTD. No. 2 |  | 139.24 | 19.96 | 7.41 |  |  |
|                                  |  | 136.65 | 16.30 |      |  |  |

Y O K O H A M A

|  |  |        |       |             |  |      |
|--|--|--------|-------|-------------|--|------|
| YOKOHAMA DRYDOCK SHIPYARD & ENGINE WORKS (MITSUBISHI JUKOGYO K.K.) No. 1 |  | 194.48 | 28.34 | 9.09        |  | 1.98 |
|  |  | 191.43 | 23.01 |             |  |      |
| No. 2  |  | 122.58 | 20.59 | 8.15        |  | 1.98 |
|  |  | 116.53 | 14.02 |             |  |      |
| No. 3  |  | 151.18 | 20.54 | 6.85        |  | 1.98 |
|  |  | 149.19 | 19.35 |             |  |      |
| TSURUMI DRYDOCK SEITETSU NO. 1 ZOSEN K.K. (ASANO DOCK) No. 2             |  | 208.51 | 28.34 | 10.05       |  |      |
|  |  | 183.50 |       | 10.97 (sic) |  |      |
|  |  | 150.87 | 21.64 | 7.01        |  |      |
|  |  | 143.25 |       | 7.92 (sic)  |  |      |

K W A N T U N G P E N I N S U L ADAIREN (DALNY)

|                                       |  |                      |       |       |  |  |
|---------------------------------------|--|----------------------|-------|-------|--|--|
| DAIREN DRY-DOCK KAIISHI DOCKYARD LTD. |  | 135.94               | 17.57 | 6.09  |  |  |
|                                       |  | 120.70               | 15.54 |       |  |  |
|                                       |  | PORT ARTHUR (RYOJUN) |       |       |  |  |
| DRYDOCK No. 1                         |  | 142.03               | 29.57 | 10.84 |  |  |
|                                       |  |                      | 24.68 |       |  |  |
| No. 2                                 |  | 79.24                | 11.27 | 4.57  |  |  |
|                                       |  | 67.05                | 9.44  |       |  |  |

III. (Excerpts from) "THE MOST IMPORTANT JAPANESE HARBOURS OUTSIDE JAPAN PROPER"

"FUSAN The water-depths at the docksides are from 7 to 11 m. A small drydock (77m. long and 16m wide) as well as some patent slips are available.

DAIREN The water-depths alongside the docks are from 7.3 to 12.8 m.

RYOJUN Water-depths beside the docks up to 7.9 m.



Serial: J-056 *cont.*

SECRET

"KEELUNG Water-depth in the inner harbour and beside the docks is over 9 m. The docks have a length of 1400 m. The KEELUNG DOCK CO. owns a drydock 125 m. long. The construction of a 20,000 ton drydock is planned.

TAKAO When finished, (the harbour) is to be able to accommodate 10 ships up to 10,000 tons alongside the docks and 12 ships lying at mooring-buoys. In 1925 the water-depth in the harbour was 8.5 m.

IV. The following information on French harbours in Indo-China has been extracted from

"HANDBUCH FÜR ADMIRALSTABSOFFIZIERE (L.H) FRANKREICH," (1. Ausgabe), Completed mid-August 1938, BERLIN 1938, M.Dv.Nr.507

DRYDOCK CAPABILITIES IN FRENCH HARBOURS (excerpts)

| HARBOUR    | NO.      | GREATEST  |          | DEPTH OVER | KIND    |  |
|------------|----------|-----------|----------|------------|---------|--|
|            |          | LENGTH IN | WIDTH IN |            |         | THE  |
|            |          | M.        | M.       | ENTRANCE   | DRYDOCK |  |
| INDO-CHINA | HAIPHONG | 1.        | 60.9     | 16.4       | 2.7     | Floating drydock with 1800-ton raising capacity. |
|            |          | 2.        | 32.9     | 16.4       | 2.7     | Floating drydock with 700-ton raising capacity.  |
|            | SAIGON   | 1.        | 150.4    | 19         | 9.1     | Drydock  |
|            |          | 2.        | 68       | 7.8        | 3.6     | Drydock  |
|            |          | 3.        | 50       |            |         | Floating drydock with 350-ton raising capacity.  |

p. 157: COASTAL RADIO STATIONS

INDO-CHINA  
(Stations at) FORT BAYARD, KIEMAN, HANOI, MYTHO (2 stations, call letters FFM and FFM 2), PADARIN, PHUQUOC, POULO-CONDRE, SAIGON, and TOURANE."

For the A.C. of S., G-2.

*Dupre Sassard*  
DUPRE SASSARD  
Lt. Colonel, GSC  
Executive.

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(MAIN)  
Office of the Assistant Chief of Staff, G-2

22 August 1945.

JAPANESE INTELLIGENCE REPORT

SUBJECT: Japanese Naval Attache's Office, Berlin.

1. The latest address-list found in the Japanese Embassy, Berlin W. 35, Tiergartenstrasse 25-27, showed that the naval office was in Charlottenburg, Berliner Strasse 93.
2. This address was found evacuated and emptied of papers and equipment.
3. The housekeeper stated that the house was occupied by Japanese naval officers from March 1944 up to the end of March 1945. Names he remembered were Admiral KOJIMA, Admiral ABE, Captain TANIGUTI (on Kojima's staff), Captain FUSHIMURA and Captain IKEDA. An envelope marked "S. TUYAMA Representant der C.S.K.-Linie" was found, and the housekeeper stated that TUYAMA was one of the naval officers formerly there. The Japanese left the place in different parties and at different times during March 1945; some, the housekeeper thought, went to Constance, some to the Baltic to escape to Sweden and some to an unknown destination to embark on a U-boat.
4. The Japanese often visited a German Admiralty establishment at 196 Umland Strasse (Steinplatz). This address was visited and found to have been the former office of the OKM Naval Attache Group, among other OKM departments. The Russian Navy had evacuated most of the documents. Of those found remaining, none related to the Far East.

For the A.C. of S, G-2.

*Dupre Sassard*  
DUPRE SASSARD  
Lt. Colonel, GSC  
Executive.

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Office of Assistant Chief of Staff, G-2

22 August 1945.

JAPANESE INTELLIGENCE REPORT

SUBJECT: GERMANY, Shipment of Naval Stores to Japan.

The reports quoted below are forwarded for information:

1. "Commander, U.S. Naval Forces in Europe's confidential report, serial X1295, of 27 June 1945, source: U.S. & British Navies, subject: Germany-Shipment of Naval Stores to Japan:-

"The U.S. Naval Liaison Officer on the Staff of the Flag Officer-in-Charge, Kiel, Germany, has advised by memorandum dated 2 June 1945, that a cache of 200 cases packed for shipment to Japan has been located by Royal Navy Supply Officers. One Bernard MELZARSKIE reportedly requested Royal Navy authorities to visit his premises at Hamburger Chaussee 29, Kiel, stating that his premises contained quantities of Naval Stores apparently intended for shipment to Japan. MELZARSKIE stated that a certain Korv. Kapt. BECKER, recently retired, had arranged for storage of the lot of packing cases in the premises owned by MELZARSKIE. After occupation of Kiel, MELZARSKIE reported the existence of these stores to German Naval Authorities. They apparently took no interest in the matter and thereupon he reported the situation to the Royal Navy.

"MELZARSKIE is stated to be anti-Nazi, although his connections with the stowage of packing cases intended for Japan is now the subject of further inquiry. A search has been instituted for BECKER who is reported to be 47 years of age and to have been retired from the German Navy about a year ago. He was seen in Kiel after the surrender by MELZARSKIE and at the time was dressed in civilian clothes. BECKER warned MELZARSKIE not to reveal the existence of the stores to the Allies.

"The lot of cases has been taken into custody and one case bearing each of the several serial numbers has been opened for sample inspection. They were found to contain such stores as bomb sights, radar and W/T equipment, guns and film equipment for aircraft. In addition to the packing cases, two suitcases were found containing specifications in Italian for aircraft guns. Some of the packing cases bore markings indicating that they originated at the Ansaldo Armament Works in Italy and were consigned to Herr Korv. Kapt. BECKER, care of K.M. Shipping instructions in Japanese were placed over the original instructions in several cases. No translation of these writings had



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been undertaken as of the date of the memorandum from the U.S. Naval Liaison Officer, Kiel. DNI, Admiralty, is cognizant."

2. Japanese Section, G-2, SHAEF, memo of 7 July 1945, Subject: Stores destined for Japan.:

"The enclosed list shows the contents of sample cases from the consignment of 200 cases seized at 92 Hamburger Chaussee, Kiel. The owner of the premises revealed the location of the consignment, but expert examination even of the sample cases has not been possible owing to the lack of technical personnel. The sample cases, however, are representative of the total store as they were selected from boxes numbered in series. It is suggested that the samples at least should have expert examination especially those containing bomb sights, pressure-control flasks, film equipment for aircraft, and radar equipment.

"There are further consignments on Cosmos I in Bergstadt near Rendsburg, containing Radar and Echo sounding gear, and 280 cases of uncut optical glass at Shed 28b Kriegsmarine Arsenal, and 161 cases at Shed 273, Kehlwerft. None of these has been examined at all.

"CONTENTS OF SAMPLE CASES FROM CONSIGNMENT SEIZED AT 92 HAMBURGER CHAUSSEE, KIEL"

| <u>No. on Case</u> | <u>Contents</u>   |
|--------------------|---|
| 1281               | Specifications of guns for Aircraft (in Italian) addressed to Japanese Embassy, Berlin.   |
| 6616/2             | Bomb Sight for aircraft with specifications.  |
| 30119/197)         |   |
| 30120 )            | Uncut glass for lenses.   |
| 5231               | Electric motor equipment.   |
| 31050/5            | Containers for radio equipment without equipment.   |
| 30128              | Machine tools, lathes, etc.   |
| 4208/3             | Radar aerial, cathode tubes.  |
| 6158               | Pressure control, 5 litre flask made by Hagenuk, Kiel. Tool box.  |
| 4215/5             | Various valves, probably radar.   |
| 489/85             | Injector pumps for diesel engines.  |
| 31037/9F           | Film Equipment for aircraft, viz-<br>1 automatic mosaic camera<br>1 chassis<br>1 filter<br>1 motor<br>1 tool box<br>12 spare lamps<br>2 keys. |
| 30116              | Film holders. 3 boxes in case.  |
| 6145/10            | Equipment, probably radar.  |
| 6145/10            | 2 cm L.A. gun   |
| 3240               | Large wooden table complete with fittings for some unit.  |

"In various cases instructions in Japanese have been placed over the originals."

For the L. C. of S., G-2.

*Dupre Salsard*  
DUPRE SALSARD  
Lt. Colonel, GSC  
Executive

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Office of Assistant Chief of Staff, G-2

22 August 1945.

JAPANESE INTELLIGENCE REPORT

SUBJECT: GERMANY, Foreign Office Personnel, Information re Japanese

1. The report quoted below is forwarded for information:

"ECONOMIC SECTION G-2 SHAEF  
"T" FORCE DETACHMENT SIXTH ARMY GROUP  
APC 23 U.S. ARMY

8 June 1945

INTELLIGENCE REPORT NO. EW-Mu 15

Japanese Intelligence

German Foreign Office Personnel

"The following were interviewed at Mobile Field Interrogation Center 5, Augsburg on June 8th 1945, by Dr. Perkins CICS and Morley Aycarst, G-2 SHAEF Economic Section, assisted by Lt. Walter Jessel.

MARTIUS, George  
TANNENBERG, Wilhelm

"Herr Martius is an old Foreign Office employee having entered the service in 1919 and having been nominated to his last post by president von Hindenburg in 1932. He left Berlin on April 20th 1945. He was a member of the Commercial Department concerned with international communications and traffic. He is very indignant at his incarceration and was not disposed to be communicative but gave the impression of knowing little of interest in any case. He mentioned Herr Tannenberg and a Prince Urach as possible sources of Japanese economic information.

"Herr Tannenberg was vice counsel in Chicago for some years, and subsequently with the German Embassy in Washington until May 1942. On his return to Germany he was assigned to the Commercial Division in the Foreign Office which position he held from June 1942 to March 1945, since which time he has been in the protocol Division, as a member of which he was evacuated to Bad Gastein.

"He said that the attack on Pearl Harbor came as a complete surprise to the German Embassy as they had received no hint of any sort between the German and Japanese Embassies in Washington preceding Pearl Harbor were cool and infrequent.

"During his period of service in the Commercial Division he was assistant to the Chief, Herr Wichl who retired in 1944. Herr Wichl conducted the negotiations with the Japanese for a General Commercial Treaty which was signed on January 20th 1944. The Japanese representations was Matsushima. This treaty was a document in very vague and general terms and the subject believed it to be a piece of window dressing to indicate Axis cooperation rather than an instrument for the actual encouragement of trade.



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"The chief of the Far Eastern Section of the Commercial Division at this time was Legationsrat Bohrend who retired January 30th 1945 and was subsequently drafted into the Volksturm in Berlin. Subject had heard that Bohrend had later been seriously ill.

"The chief of the Far Eastern Section of the Political Division was Herr Kolb who later became Consul General at Gothenburg. He was succeeded in the Far Eastern Section by Legationsrat Braun. This man had been seen by the subject at Bad-Gastein and was believed to have joined his family somewhere near Salzburg.

"The Ministry of Economics also had a section or at least an official charged with Far Eastern Affairs. This was Herr Ministerialrath Roth who was succeeded by Herr Oberregierungsroth Koppelman.

"The Commercial Division records were sent from Berlin to Krumhobel in Silesia where they were in the custody of Herr Koppeler assisted by Consul General Wuester. Subject believed the Japanese documents were probably retained in Berlin because there were continuing negotiations regarding Japanese trade.

"The Berlin files of the Commercial Department were finally evacuated to Thuringia to a number of different places, some of which were in or near:

Bad Berka  
Weimar  
Muelhausen  
Thauroda

"The personnel were evacuated to Blankenheim near Bad Berka.

"In Thuringia the official in charge of the files was Herr Minister Schleier.

"The loading of blockade running vessels and submarines was in charge of the Navy but the sailings were controlled by the Sonderstab HWK under Admiral Groos.

"The only special Japanese interests that informant could give were: special steels, aluminum, and special machines and machine tools.

"The code office including secret and special codes was in charge of Minister First Class Solchow of the personnel Division of the Foreign Office.

"Informant, who speaks fluent English seemed to be frank and cooperative. It is the opinion of the interviewers that he could supply more information on specific topics."

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HEADQUARTERS  
U. S. FORCES, EUROPEAN THEATER  
(MAIN)  
Office of Assistant Chief of Staff, G-2

6 August '45

JAPANESE INTELLIGENCE REPORT

SUBJECT: JAPAN, Oil, Chemical and Rubber Industries.

The report quoted below is forwarded for information:

"HEADQUARTERS  
U.S. STRATEGIC BOMBING SURVEY BI/RR/vet  
APO 413  
Intelligence Branch 11 July 1945

SUBJECT: Transmittal of Preliminary Reports.

TO : Japanese Intelligence Section, G-2 SHAEF, APO 757.

1. Attached is a preliminary report prepared by U.S. Strategic Bombing Survey Oil Division covering results of preliminary investigation of Japanese oil, chemicals and rubber industry.

2. A copy of this report has been given to Joint Target Group, Washington, D.C.

3. As pointed out in the covering letter enclosed, this report is a preliminary one, and is subject in every respect to further evaluation and correction.

For the CHAIRMAN:

/s/ RICHARD REEVE

/t/ RICHARD REEVE  
Commander, USNR,  
Deputy, G-2

Incs: Ref. to above."

"HEADQUARTERS  
U.S. STRATEGIC BOMBING SURVEY  
OIL DIVISION

27 June 1945

MEMORANDUM:

TO: Mr. H.D. Dale, Oil Division, U.S.S.B.S.

1. We are attaching herewith copies of memorandum entitled "Results of Preliminary Investigations by members of Oil Division of USSBS of Japanese Oil, Chemical and Rubber Industries." It should be borne in mind that this memorandum has been prepared under considerable pressure and is therefore only a preliminary effort. It will be delivered to the appropriate parties at the earliest opportunity, however. One copy of the attached is for G-2, USSBS Hqs. file.

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2. Undoubtedly questions will arise on this subject. It has been agreed that Mr. Calingaert and Lt. Jacobi will stand by for such requests as may develop. A plan for locating and perhaps moving to more convenient areas certain German personnel has been outlined today with Mr. Calingaert and Lt. Jacobi.

W. C. ASBURY

cc: Mr. R. P. Russell."

-----

"RESULTS OF PRELIMINARY INVESTIGATION BY MEMBERS OF OIL DIVISION OF USSBS OF JAPANESE OIL, CHEMICAL AND RUBBER INDUSTRIES.

This memorandum presents a summary of information on Japanese Chemical and Oil industries as brought out by a study of German documents and interrogation of German individuals by members of the Oil Division of U.S. Strategic Bombing Survey. Due to the limited time available for this investigation only a relatively small number of individuals have been interrogated thus far, and the results and conclusions are still highly preliminary. It is believed that considerably more can be accomplished by further interrogation of Germans who have been in Japan. The first section of this memo deals with the relative importance of the various industries, the latter sections with the industries themselves.

-----

SUMMARY

"Over 25 Germans have been contacted who have had either been in Japan or have had recent dealings with the Japanese.

"The majority rated aviation gasoline as the most critical item in the Japanese oil, chemical and rubber field, due to the very pressing desire recently of the Japanese to get I.G. experience in the manufacture of aviation fuel. The most generally favoured rating in order of decreasing importance is:

Aviation gasoline  
Synthetic Nitrogen manufacture  
Methanol

However two sources placed synthetic nitrogen first on the basis that ample stocks of crude had been stored in Japan.

"Information obtained on nitrogen plants indicated a 1938-1939 capacity of synthetic plus by-product plants (but without calcium cyanimide) of 644,000 tons/year of pure nitrogen. Actual production in 1938 was about 60% of capacity. Present capacity was rated at 650,000 tons/year in one German government report. Estimates of present production are quite variable and range from 200,000 to 400,000 tons/year of 'N'. It was agreed that the Japanese would be able to operate their nitrogen plants efficiently, however.

"Nitric acid plant capacity appears to be 225,000 to 250,000 tons/year. One source indicated that all synthetic nitrogen plants were ordered to install nitric acid plants which would greatly increase capacity. There was practically general agreement that the synthetic nitrogen plants were



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more vulnerable than nitric acid plants.

"Methanol capacity may be only 50,000 to 60,000 tons/year. One source, however, placed it at 400,000 tons/year. The Japanese have shown considerable interest in the I.G. process for iso-octane from methanol via the isobutyl alcohol route. It is also important for the new explosives pentanitrate and hexogen. The I.G. claim that their isobutanol process was not given to the Japanese.

"The Germans have the impression that (1) the Japanese synthetic oil plants are operating poorly due to catalyst troubles and in the case of some hydro plants to corrosion difficulties, (2) the Japanese were vitally interested in getting the I.G. technique to improve the operation of these plants rather than to build new synthetic plants.

"No satisfactory estimates on actual synthetic productions were obtained. Based on the German information there appear to be the following:

- 3 Fischer plants
- 6 Japanese Navy Hydro Plants
- 3 Japanese Army Hydro Plants
- 1 H.I.G. (Varga) Hydro Plants

Many of these are small plants. Many references to large expansions, which may or may not have taken place, were found in German files.

"No information on Japanese tetra-ethyl-lead plants could be obtained. It seems fairly certain that the Japanese did not get the process from I.G. Definite information on shipments of ethylene dibromide to Japan was obtained which is conclusive evidence that Japan has lead manufacturing facilities. A total of about 1200 tons of dibromide were shipped from Germany in 1942 and 1943. Assuming that one third of this reached Japan it would have been equivalent to about 600 tons of tetra-ethyl-lead.

"Two sources independently stated that there was a possibility of underground installations. One mentioned underground nitric acid plants, the other underground oil refining plants in Japan.

"One source believes that the Japanese have information on the new German poison gases Tabun and Sarin.

"Consideration should be given to the vulnerability of the Japanese soda industry. Some Germans feel that a concentrated attack on this industry in Germany would have been most serious.

RELATIVE IMPORTANCE OF PRODUCTS AND INDUSTRIES IN THE  
OIL-CHEMICAL-RUBBER FIELD

"Table II presents a list of the people interrogated thus far.

"The majority of the people interrogated stated that aviation gasoline was the most important and critical item in the Japanese oil, chemical and rubber field. They based this on:

- a. Experience in Germany as a result of Allied air attack.



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- b. The extreme interest shown by the Japanese during the period, end of 1944 and beginning of 1945, in I.G. experience in the manufacture of aviation fuel.

"Dr. Krauch of the German government office of Gebochem and the Four Year Plan stated that aviation gasoline was the most critical of all Jap supplies and should have first priority in bombing. His rating in order of decreasing importance was aviation gasoline, ammonia, methanol. He was strongly of the opinion that nitrogen plants should be attacked rather than nitric acid plants since:

- a. The nitrogen (synthetic) plant equipment is more difficult to replace than the nitric acid plant equipment.
- b. In Germany the nitrogen production was concentrated in large units whereas the nitric acid plants were smaller and more dispersed.

Dr. Ambros, Dr. Goldberg and Herr Backmeyer of the I.G. Ludwigshaven agreed that gasoline (aviation) is the bottleneck in the Japanese war set-up. Goldberg rated in decreasing order of importance: aviation, nitrogen, concentrated nitric acid and methanol. Dr. Braus, in Japan until May 1939, represented a minority view that nitrogen industry was more important than synthetic fuels for two reasons, namely:

- a. Synthetic 'N' industry is much further developed.
- b. Japan probably still has stocks of imported crude which can be refined into high grade fuel.

"Dr. Munzing (4 1/2 years in Japan to August 1940) did not know plants other than nitrogen producers and did not give an opinion on the relative importance of the industries. He did note that the Japanese were very interested in iso-octane. Willy Faessler was reported to have died or committed suicide. His friend Dr. Dietmann, who discussed bombing matters with Faessler before he died, said that Faessler thought the Japanese nitrogen industry quite vulnerable to attack.

"There is an indication from the recent 1945 interest of the Japanese in technique for high concentration nitric acid that they are in need of additional capacity for this vital explosive raw material. There is some confusion in the German documents on what the more important explosives are in Japan. The German government report of 1944 states that picric acid is the most important explosive. Krauch thought TNT would be the main explosive. Estimates on Japanese Toluene production range from 15,000 to 100,000 tons per year with none coming from synthetic processes. The process used in Germany for the production of Toluene from methanol and benzol has not been divulged to the Japanese according to the persons interrogated. It is believed by some people that most of the Toluene would be needed for explosives and would not be available for aviation fuel.

"Although it appears that the Degussa people gave the Japanese a process for Pentanitrate, satisfactory answers



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have not been obtained to date from the representatives interrogated. The I.G. claim not to have given their process for penta nitrate and hexogen.

The general German opinion that aviation gasoline is the most critical item in the Japanese war effort in the field of oil, chemical and rubber is obviously based on German impressions gained from the Japanese that the Japanese indigenous oil supplies were not large.

A copy of a telegram from Tokyo to I.G. dated Sept. 9, 1942, states that the Ahrens Co. (I.G. representative in Japan) had several pressing inquiries for the isobutanol process for "special purposes". Dr. Giesen who had had this telegram in his files advised that iso-octane was the product desired. Methanol is required in this process.

Dr. Giesen thought that the Japanese methanol industry would be quite important since methanol is one of the raw materials for the newer explosives, Hexogen and Pentanitrate.

None of the Germans interrogated had any information on the Japanese tetra ethyl lead industry. The I.G. (Dr. Mueller Cunradi) stated that the lead process had not been given to the Japanese by the Germans. He did suggest that the Italians might have done so, however. It seems fairly certain that I.G. did not give their process to the Japanese.

#### DISCUSSION OF INDIVIDUAL INDUSTRIES

##### NITROGEN PRODUCTION

The attached curve, Figure 1, shows the rapid increase since 1924 in the synthetic nitrogen plant capacity of Japan. This curve shows both the "existing and under construction" capacity as well as the projected capacity. It should be noted that for the fertilizer year 1939/1940 the "existing and under construction" capacity amounted to 562,400 tons per year of "N" (nitrogen) and that with the inclusion of projected capacity the total goes up to 812,000 tons per year of synthetic nitrogen. From reports up to August 15, 1940, it appeared, as shown in Table I, that probable capacity of by-product plus synthetic capacity of the Japanese empire amounted to 644,300 tons per year of "N". Of this approximately 500,000 tons represents synthetic production capacity. In addition there is about 106,000 tons per year of "N" in the form of calcium cyanide capacity. It is apparent that in 1938 actual production was only 60% of capacity, part of which may have been due to poor operating technique. Based on limited conversations with Germans who have been in Japan it is probable that the plants operation has been improved considerably. No detailed estimates are available on present operating level of the Japanese plants. Germans interrogated on the subject have estimated from 200,000 to 350,000 tons per year of "N". However, a German government report dated August 1944 entitled Die Sprengstoff Versorgung der Kriegführenden Mächte which gives Japanese synthetic nitrogen production capacity as 620,000 tons per year of "N" or 77% of Germany proper. This figure could represent the truth if the many projected plant expansions and new plants had been carried through.

Turning to Table I it will be seen that the synthetic and by-product ammonia industry of the Japanese empire was distributed over 26 producers most of them of relatively



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small capacity. Nine of these plants were larger than 20,000 tons per year of "N" and represent about 60% of the total capacity of the empire. The Konan plant of Chosen Chisso is relatively large. There are also unconfirmed reports of an extremely large nitrogen plant (size of Leuna) at Fushun.

In Germany the nitrogen production was concentrated in a few great plants such as Leuna, Ludwigshaven, Linz, and Heridebrock.

From 1940 Heidelberg documents it seems that the planned sulphate production (as of 1938) program was:

|      | <u>Sulphate</u>         | <u>Equiv. "N"</u> |
|------|-------------------------|-------------------|
| 1938 | 1,880,000 tons per year | <u>per year</u>   |
| 1939 | 2,080,000 tons per year |                   |
| 1940 | 2,150,000 tons per year |                   |
| 1941 | 2,230,000 tons per year |                   |
| 1942 | 2,230,000 tons per year | 446,000           |

(Note that actual production usually about 75% capacity).

Other documents indicated an even more expanded plan which involved the following:

| <u>Actual</u>  |               | <u>Sulphate</u>  | <u>"N"</u>     |
|----------------|---------------|------------------|----------------|
|                | Japan         | 1,880,000 T/yr   | 395,000        |
|                | Korea         | 502,000          | 98,000         |
|                | Manchuko      | 350,000          | 73,500         |
|                |               | <u>2,732,000</u> | <u>566,500</u> |
| <u>Planned</u> | Manshu Rynan  | 250,000          |                |
|                | Nihon Suisso  |                  |                |
|                | Onahama       | 100,000          | 73,500         |
|                | Teikokukoatsu |                  |                |
|                | Akita         | <u>50,000</u>    |                |
|                | Total         | 3,282,400        | <u>682,000</u> |

However, the Manshu Rynan plant may not have been built which would reduce the above to about 3,000,000 tons of sulphate or 600,000 tons of "N". This figure is in good agreement with the 1944 German report showing a total capacity of 650,000 tons per year of "N".

NITRIC ACID

There is considerable uncertainty regarding the present size of the nitric acid industry in Japan. A German estimate made for 1937 gave the following:

| <u>Company</u>  | <u>T/Year of Nitric Acid</u> |
|-----------------|------------------------------|
| Nippon Chisso   | 60,000                       |
| Mitsui Kozan    | 10,050                       |
| Sumitomo Kagaku | 25,000 (50,000 tons/1938)    |
| Tahagi Kogyo    | 10,000                       |
| Showa Hiyo      | 10,000                       |
| Manshu Kagaku   | 3,500                        |
| Manshu Bujum    | 1,800                        |
| Chosen Chisso   | 40,000                       |
| Uke Chisso      | <u>2,000</u>                 |
|                 | 162,300 - 187,000 (1938)     |

However, a study of the I.G. files in the library at Heidelberg indicated a possible capacity of 243,800 tons equivalent to 54,000 tons per year of "N".



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The August 1944 government report mentioned above gives the following estimate of 1944:

| <u>Product</u>      | <u>Tons per year "N"</u> | <u>Tons/year of Nitric</u> |
|---------------------|--------------------------|----------------------------|
| Concentrated Nitric | 45,000                   | 201,000                    |
| Ammonium Nitrate    | 24,000                   | 22,400                     |
|                     | <u>69,000</u>            | <u>223,400</u>             |

Until further data are available it would seem desirable to estimate the present capacity of nitric acid at 225,000 to 250,000 tons per year. In 1937-1938 the industry was concentrated in 10 plants and would appear to be vulnerable. However, this judgment should be tempered by the fact that

- a. The Japanese government may have built additional small dispersal plants as a part of its munitions industry and
- b. Practically all of the Germans interrogated think nitric acid plants less vulnerable than synthetic nitrogen plants. This opinion is naturally based on German experience where the nitric acid industry was spread over 18 plants.

The following comment from Dr. Braus is pertinent:

"Primary "N" and nitric acid of medium concentration can only be produced in comparatively few large plants. Concentration of medium concentrated to highly concentrated acid could be carried out in many small plants. To effectively hit production, better destroy the few large primary "N" plants". Braus believes that in Japan conversion of medium concentrated to highly concentrated acid is carried out in many small installations, and quite likely also underground. This last point was brought up by Braus without any prompting or prior questioning on underground or other dispersal. When questioned thereupon, he remarked that many old coal mines on Kyushu would be available for this purpose. (However, Braus cannot give a definite factual example of an actual underground installation).

In 1945 the Japanese representative Gen. OTANI presented to the Germans a program on processes which they would like to obtain. It is significant that high concentrated nitric acid and ammonium nitrate were included along with the new explosives. Dr. Buetefisch states that a memo was given to the Japanese on technical data concerning the manufacture of concentrated nitric acid. Others indicated that the amount of concentrated nitric acid made in Japan was small.

#### AMOUNT OF NITROGEN USED FOR AGRICULTURE

Only fragmentary estimates are available thus far on the relative consumption of nitrogen in the agricultural and explosive fields. Braus for example gave for 1939

2/3 rds to agriculture  
1/3 rd to explosives

and estimated 1944 consumption total at 400,000 tons of "N".

The German government reports of August 1944 shows that nitrogen consumption for explosives in 1944 would amount to only 11% of the total capacity of the Empire, for example:



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|                         | <u>Tons/yr. "N"</u> |
|-------------------------|---------------------|
| Nitric acid consumption | 45,000              |
| Ammonium nitrate "      | 24,000              |
| ' Total                 | 69,000              |
| Total capacity          | 650,000             |
| % of capacity           | 11%                 |

METHANOL PRODUCTION

Data on Japanese Methanol plants is quite incomplete. The following was derived from the Heidelberg documents, however:

| Firm                        | Location  | Capacity 38/39          |
|-----------------------------|-----------|-------------------------|
| Tokyo Methanol              | Tokyo     | 3000-4500 T/yr          |
| Toyo Kantsuk.k.             | Omuda     | 4500 ) additional 4500  |
| Cosci Kogyok.k.             | Hikoshima | 7500 ) may be identical |
| Nippon Suisokogyo           | Konahama  | 1500                    |
| Chosen Sekitan Kogyo        | Eian      | 1500 Additional 1500    |
| Hokkaido Denki Kogyo        | Hokkaido  | 4500 (Start 1940)       |
| Sumitomo Kagaku k.k.        | Niihama   | 3000 additional 3000    |
| Tokuyama Naval Fuel Arsenal | Tokuyama  | 700                     |
| Shewakogyo K.K.             | Hokkaido  | <u>1500</u>             |

28,700 T/yr

May be some duplication in this figure.

Another statement by Dr. Goldberg placed the 1940 production at 20,000 T/yr of methanol.

Dr. Braus pointed out that the Tokyo methanol (Edogawa) plant was Japan's largest and today would have a capacity of 400 to 500 tons/day or 12,400 to 15,400 tons/year (based on 310 days/yr). It is possible that other plants have been added or existing ones expanded. Even so, the capacity perhaps 50,000-60,000 tons must be quite small compared with that of Germany which in the best months produced 25,000 tons or at a rate of 300,000 tons/year.

The Japanese would be interested in methanol for the following purposes:

- To make iso-octane via the isobutanol route.
- For the new explosives, namely hexogen and penta-nitrate.
- For motor fuel (several Germans mentioned this possibility).

All I.G. personnel interrogated state flatly that the isobutanol process was not turned over to the Japanese although there is evidence in the files that they were extremely interested in making iso-octane by this route. A considerable loss in plant capacity is realized when a methanol plant is switched to isobutanol manufacture due to the heavy recycle rate involved (i.e. only 25 tons of iso-octane from a plant making 100 tons of methanol, without radical addition).

Several Germans mentioned the possible use of methanol in motor fuels. Since the Japanese probably have the technique for new explosives they will have a definite requirement for formaldehyde. No figures are available on the magnitude of this demand.



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SYNTHETIC OIL PRODUCTION

Table II presents a summary of information derived from a number of sources in Germany of the synthetic oil plants which have been put in operation or are fairly definite projects. There are three Fischer-Tropsch plants in operation and two additional projected plants (Based on German information, no mention was made by the Germans of a Fischer plant at Imagasaki). Capacity is usually given as 20,000 to 30,000 tons/year each, but two of them may be expanded to considerably larger. However, it is believed that they are operating below capacity as a result of catalyst difficulties.

The hydro plants using the Japanese navy process are reported to be 6 in number with considerable spread in reported capacity. Actual production is probably below capacity. Three plants employing the Japanese Army process are said to be in production each 50,500 tons/year capacity. Corrosion difficulties in the preheater and catalyst troubles are reported\* for these plants. A small plant using the Varga process is believed to be in operation. One large plant for the production of 72,000 T/year of aviation fuel has been projected using I.G. technique.

A large number of additional projects have been and still are being considered.

The I.G. men interrogated emphasize that the Japanese were at the end of 1944 very anxious to obtain the I.G. experience on dehydrogenation. According to Bucofisch the I.G. representative in Japan, Dr. Ruhl, stated in 1944 that the erection of new plants there was questionable (because of lack of steel and other raw materials). Bucofisch surmised that the Japanese were mainly seeking experience for the operation of their existing plants. Bucofisch also points out (see statement in appendix) that General Otani, the Japanese representative in Berlin, mentioned the extraordinary difficulties of transporting fuel from the occupied oil regions in the Dutch and British Indies to Japan.

The general impression left with Krauch, Bucofisch and others by the Japanese was that the latter were particularly under pressure regarding aviation gasoline.

The Germans insisted that the I.G. process for making iso-octane via isobutanol had not been given to the Japanese. One person suggested that the Japs themselves had a plant for making it by this process in the EDOGAWA methanol plant. The general impression was that not much iso-octane would be made by this route.

The I.G. have not given the lead tetra ethyl process or the iron carbonyl process to the Japanese. Mueller Gurradi thought they might have gotten it via the Mentecatini people in Italy, however. No one had any ideas on location of lead tetraethyl plants in Japan. The individuals questioned to date were not familiar with the shipment of ethylene bromide to Japan by U-boat.

EXPLOSIVES

The I.G. claim that they have not given the Japanese their new processes for explosives. However, there is an indication that Degussa may have done so. The Degussa



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worked on a Japanese project for the Edogawa plant for the production of formaldehyde (only 21 tons/month) and hexamethylenetetramin (13.5 tons/month). Further details are not now available on this development. The I.G. intimated that Degussa might have given the Japanese a process for Pentanitrate. An examination of Degussa projects (appendix) shows that they had worked on one for this material for an Italian firm. The technique may have reached the Japanese by this indirect route. The German government report of August 1944 gives no figures for the production of these new explosives but estimates total high explosive production at 100,000 tons for 1944 versus 460,000 + for the U.S.A. The report indicates that this is mainly picric acid. If it should be TNT as Krauch suggests, then about 50,000 tons/yr. of toluene would be needed. Ammonium nitrate, also indicated as important by the report, is estimated at 70,000 tons/yr.

#### SULPHURIC ACID PLANTS

No detailed study has been made of the sulfuric acid industry in Japan. However, the following information on contact acid plants was obtained from Lurgi:

| <u>Company</u>    | <u>Location</u> | <u>T/D Capacity (Monohydrate)</u> |     |
|-------------------|-----------------|-----------------------------------|-----|
| Sumitomo          | Niihama         | 1 unit                            | 270 |
|                   |                 | 1 unit                            | 45  |
| Kuansi Rinsan     | Amagasaki       | 1 unit                            | 100 |
| Jahagi Kogyo      | Nagoya          | 1 unit                            | 200 |
| Ishihara Sangyo   | Jokkaichi       | 1 unit                            | 240 |
|                   | (Near Nagoya)   |                                   |     |
| Ninon Jinze Kogyo | Onahama         | 1 unit                            | 300 |
| Shikeko           | Bosshi          | 1 unit                            | 650 |
| Unknown           | Hulutso         | 1 unit                            | 150 |
|                   | (Manchuria)     | 1 unit                            | 250 |
| Ube Shisso        | Ube             | 1 unit                            | 300 |

Further details are expected later.

Contact plants are important for the production of ammonium sulfate from ammonia.

The above plants represent 920,000 tons/year of monohydrate. The German government report of August 1944 gives the Japanese contact acid capacity as 1,000,000 tons/year. It may be assumed therefore that the above plants are all, or nearly all, of those in Japan. This same report gives the effective requirement of the Japanese in contact acid of 107,000 tons/year for explosive manufacture, or only 10% of total capacity.

Note: Since typing above a more complete list has been obtained from Lurgi. This tabulation included in the appendix indicates even greater capacity of perhaps 2,000,000 tons/annum of contact acid.

#### INDIVIDUAL TARGETS

##### BEFU

The Taki Kiryo nitrogen plant at this place was located



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by Dr. Munzing as being on the south coast of the Japanese home island west of Kobe. Befu lies between the towns of Henegi and Akashi on the electric railroad. It is a few hundred yards from the coast and is connected with the ocean by a small canal.

NAGOYA

This plant of Yakagi Kogyo was located by Munzing as just South of Nagoya, close to the coast. A pier area serves the plant.

KUROSAKI

Kurosaki plant of the Nihon Kasei Kogyo K.K. - no further information.

HACHINOYE

The plant of the Nitto Kagaku Kogyo K.K. has been located by Dr. Munzing and Karl Grassle. Munzing located the plant a little north (along the coast) of the town of Minate which is the port of Hachinoye. Not clear as to whether plant was on east or west tip of island.

TSURMI

The nitrogen plant of the Dai Nihon Tokyo Hiryo is located at Tsurmi. Munzing stated that it was about midway between Tokyo and Yokohama. The factory has a pier on the coast.



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FRIEDRICH UHDE K.G.

Interrogator H.K. Nieuwenhuis.

20 June 1945.

"In 1930 we have built a plant in Dairen for the synthetic manufacture of ammonia on the basis of coke-oven-gas decomposition. This plant produced about 1000 tons of ammonium sulfate per day, equivalent to 220 tons of N. As far as I can remember the coke ovens were built by the firm Koppers, Essen, now Dr. Otto, Bochum. The sulphuric acid was made at a separate sulphuric acid installation from pyrite with the lead-chamber method in form of 60° B. Layout plans and other documents were burned.

"We have also built another nitrogen plant at Nagoya. This plant produced now about 40 tons of nitrogen per day. The ammonia obtained was at first converted to ammonium sulfate, and later, as I have found out it should have been converted to ammonium nitrate, or rather calcium ammonium nitrate. I do not know who has built the nitric acid and ammonium nitrate installations. The gas was obtained from coke through decomposition and conversion of watergas. I also don't know who built this installation. As already mentioned, an ammonia oxydation was built later, and ammonium nitrate was manufactured.

"Using this installation as an example, we have built two more, to manufacture synthetic ammonia from coal, the first installation in Onahama on the East coast of Japan. This plant is supposed to produce 100-200 tons of nitrogen per day. A second installation of the same size was built in Akita on the West coast of Japan. Both of these installations were pretty much the same. The hydrogen was obtained through the preparation of watergases from coal according to the Viag-method. The necessary nitrogen was obtained by burning of the air with the water-gas method. Each plant has a capacity of 120 tons of nitrogen per day. The total nitrogen was converted to ammonium sulfate, the sulphuric acid for this was supplied from the outside. The whole installation, starting with the conversion of the coal to the finished ammonium sulfate was delivered by me. Both installations were put into operation in 1937.

"The Japanese have frequently asked me about methanol installations. As I worked together with the I.G. at that time, the Japanese did not want to pay for a license for the methanol installations. For this reason we never were able to get the order. I know however, that the Japanese have built methanol installations according to their own construction, which as I have heard don't work so good, and which they would like to have converted by me. I have also rejected these conversions.

"The Japanese came to me quite often for conferences with regard to the construction of coal hydrogenation installations. I had worked out a method by which coal, at a low temperature could be converted to a primary bitumen or to diesel fuel. The hydrogen was added to the coal in a certain form, to a point when it was easy to filter the ash from the coal. The product obtained, which I have called primary bitumen, was further converted to diesel oil by hydrogenation. We did not reach a conclusion on this with the Japanese, as they wanted to build their own hydrogenation method, which had been worked out by the Navy, and as they refused to pay the licenses for the available methods. I also know that the Japanese had been in conference with the I.G. regarding the taking over of the hydrogenation methods. Also there they could not reach a conclusion, in spite of the fact that I have supported the conferences of the I.G. several times, because the Japanese were under the impression that they could get away cheaper and better by using their own methods.



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"One installation which had been built in Japan by the Navy, and which was supposed to produce 80 tons of gasoline per day, did never work out satisfactory, and had cost an enormous amount of money, as a lot of difficulties in the manufacture had occurred. At one hydrogenation plant at Nagoya, built by the Japanese, they used a pressure of 300 atmospheres. Japan has asked for many vessels for hydrogenation from Germany, from me as well as from the Krupp Company. As far as I can remember Krupp has delivered to them 10 vessels with the devices, which had been manufactured in accordance with our patents. Larger vessels for coal hydrogenation have been delivered by the Bethlehem Steel Co. in America. The largest vessels which have been made had a diameter of 800 mm and a length of 13 m, there were also smaller ones with a diameter of about 600 mm and a length of 10 m.

"I do not know whether or not the I.G. had helped to put these installations into operation during the war. I hardly believe so, as the I.G. was quite put out about the view point of the Japanese.

"Dipl. Ing. Braun with family, and Dipl. Ing. Dohm with family from my office are still in Japan. They live in Yokohama. These gentlemen have helped to construct the nitrogen installations built by me, and were my representatives in Japan. We worked together with the firm Illies in Japan. This firm Illies has taken over my representation.

"An estimate of the total synthetic nitrogen production in Japan is 300,000 tons per year."

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Serial - J-058

Interrogator H.K. Niewenhuis

Conference with Dr. Eckstein at the office of the  
Steinfabrik Dr. C. Otto & Co. G.m.b.H.

Bochum-Dahlhausen

20 June 1945.

"Dr. B. Eckstein lives at Bochum-Dahlhausen, in Stapel 7, and in  
Detmold (castle). Chief Manager of the entire firm.

"The technical management is under the deputy chief manager.

"Director Hofmann, lives in Bochum, Hunscheidstr. 130, and Director  
Ernst Kleinholz, lives in Essen-Bredeney, Graf Spee Str. 32.

"Also present at the conference were the secretary of Dr. Eckstein,  
the chemist Dr. Stuhlmann, residing in Bochum-Dahlhausen, Dr. C. Otto-  
Str. 218, or rather Detmold (castle).

"The firm Dr. C. Otto & Co. works in the field of cokery and gas  
work building. In particular the firm has its own technical methods for  
coke ovens and the machinery belonging to them, fittings, etc, gas work  
ovens of all kinds, low temperature carbonization installations for bi-  
tuminous coal and oil bearing shale, installations for by-products  
(production and treatment of benzol, ammonia and tar), as well as puri-  
fication installations for technical gases, to purify them from sulphur,  
naphtalene, prussic acid, carbon dioxide and phenols, furthermore, in-  
stallation for the treatment of natural and synthetic hydro carbons, as  
for instance cracking installations, polimerization installations, dis-  
tillation installations, paraffin-treating installations, and similar  
other ones (according to the method of the U.O.P.), generators for gas  
production, gas-heated lime kilns.

"The firm operates a large factory for fire-proof products at Bochum-  
Dahlhausen and owns subsidiaries, which altogether operate five factories  
for fire-proof products, as well as the needed raw material plants.

"Due to the fact that the building of the firm in Bochum has been  
destroyed, part of the technical installation has been moved to Detmold.  
At that place the construction divisions with their respective files and  
registers have been moved. All the documents concerning the business  
with Japan are at Detmold. The Detmold address of the firm is the castle  
there.

"Due to the fact that we do not have any documents we are only able  
to make some general statements from our memory, from Dahlhausen. Dr.  
Lorenzen's table was compared with our documents. Besides the install-  
ations mentioned there, according to our files, we have also participated  
in the construction of the following installations:

|          |   |
|----------|---|
| Osaka    | probably gas work   |
| Yawata   | cokery  |
| Kamaishi | cokery  |
| Kobe     | (besides the gas work at Kobe, also<br>the Kobe Amagasaki installation) |

"In November 1938 we received an order from the Henkeiko Baitotson  
Koshi for the construction of a tar distillation with a capacity of 140  
tons per year. The time for construction was 10 months.

"The firm has received a general report about the development of  
the fuel industry in Japan, on the 9th of December 1940 from their office  
at Tokyo. A copy of this report will be enclosed.



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"The firm had several films from our Japanese business, among them also serial pictures of a trip of the manager of the Tokyo office, Philipsen, from Tokyo to the installation in Mandschukuo. One film deals with the putting into operation of the gas works at Kobe. These films were taken in the years of 1938 to 1940.

"It is possible that these films are at a clay pit of the Gewerkschaft Otto, near Holzhausen in the Westerstal. Dr. Echstein will probably go there next week to find out if the films are still there. He will bring them back then, and will make them available."

"Dr. Stuhlmann will go to Detmold and prepare a substantial report from the available documents there. This report shall contain the total business activity of the firm in Japan in the field of construction of cokeries, by-product installations, fuel installations, etc. Furthermore, all the written or telephone information which we have received shall be worked over, insofar as they have anything to do with the construction of installations by competitors, or with the situation or development of the respective Japanese industry. Insofar as these quotations are not sure, we shall mark the degree of reliability.

"Finally interesting economic statements shall be collected from the documents of Dr. Lorenzen, which will deal mainly with Japanese installations and their works, the geographical accurately-marked place, and the different and always changing names. As far as the production and capacity of the installations of the different industries is available from the documents, we shall also report these (dealing with cokeries, gas works, fuel, nitrogen, and similar industries.

"We shall also look through all our files and anything that has anything to do with Japan shall be prepared in triplicate.

"Dr. Stuhlmann will need about one week to accomplish this work.

"The report, the tabulation and the circulars shall be available starting Saturday, the 30th of June, at the secretariat of the firm (Miss Chanoni), to be picked up.

"Our firm has an office in Tokyo. The manager is Ober-Engineer Nikolaus Philipsen. The firm is also associated with the German-Japanese Export firm K.K. Leybold, from where the orders to the suppliers have been sent. Besides us, also the following German firms have also worked in Japan, mostly also through Export firms:

|   |  |
|---|--|
| Firm Ibing,<br>Recklinghausen, Reitzensteinstr. 4<br>through the<br>Hamburg export firm, Illies | (By-product installations,<br>Benzol installations)                        |
| Heinrich Koppers,<br>Essen, Moltkestr. 29<br>(Bochnemann or Gapp)                               | (Cokeries and perhaps gas<br>plants for Fischer Tropesch<br>and gas works) |
| Firm Still (Dr. Schmidt)<br>Recklinghausen  | (By-product installations)   |
| Firm Uhde,<br>Dortmund, Deggingsstrasse   | (Nitrogen installations)   |
| Barag, Berlin, Giessen  | (Alkazid installations)  |
| I.G.  | (Nitrogen-, methanol-, and<br>maybe fuel installations)                    |

"Possibly also the firm Didier A.G., Berlin-Wilmersdorf, or rather Didier-Kogag-Hinselman, Essen (Dir. Melches) has put up construction in Japan.



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COPYDR. C. OTTO & COMP.  
G.m.b.H.  
BOCHUM  
TOKYO-OFFICE

Ph-K

Tokyo 9 December 1940

Firm

Dr. C. Otto &amp; Comp. G.m.b.H.

Bochum

Christstr. 9

Betr. :T.Dir.

Enclosed we are sending you an article called "Synthetic kerosene in Japan" (Kunst petroleum in Japan). The plans of the Japanese government with regard to the production of synthetic gasoline are laid down in this article. You can see from this program that the low temperature carbonization already plays an important part, and that there are already a great number of Japanese methods by which they produce low temperature tar.

It would be appropriate if we would strengthen our propaganda activity on this field, in order to get some business here. I ask you to consider this question in general at first, and let me know how far we have gone in the development work in this field.

Mit deutschem Gruss:

signed: Philipson.



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SYNTHETIC OIL IN JAPAN

The Japanese government has a seven-year plan for the development of the synthetic oil industry, which should accomplish that already in 1943 half of the total oil demand should be covered through the products in the country, with the assumption that 2,470,000 kl of gasoline and 2,860,000 kl of heavy oil will be used this year. It is intended that there will be obtained for the requirements of gasoline 1,520,000 kl as total from the synthetic oil (1,000,000 gasoline) and domestic natural gasoline as well as alcohol and for the same for heavy oil 1,280,000 kl from the synthetic oils (1,000,000 kl heavy oil) and from the domestic crude oil. This plan had been changed through the countries mobilization plan that the program has to be accomplished within five years, that means the end of 1941. There are three different methods for the manufacture of synthetic oils, which are the following: low temperature carbonization, Hydrogenation (direct liquification) and gasoline synthesis. According to this plan, the production in 1941 would be as follows:

(In 1000 kl)

| <u>Method</u>                    | <u>Yearly production</u> |                 |                  |
|----------------------------------|--------------------------|-----------------|------------------|
|                                  | <u>Number of plants</u>  | <u>Gasoline</u> | <u>Heavy oil</u> |
| Hydrogenation                    | 10                       | 602             | 418              |
| Gasoline synthesis               | 11                       | 390             | 210              |
| Low temperature<br>Carbonization | 70                       | 36              | 511              |
| Total                            | 91                       | 1028            | 1139             |

The necessary amount of coal for this is 8,800,000 tons (Hauptinsat 4,420,000 t, Chosen 1,020,000 t, Sachalin 120,000 t, Mandshukuo 2,220,000 t.)

According to the existing laws only such installations will be considered as Synthetic oil producers whose plants are equipped to produce more than 10,000 kl of synthetic oil through hydrogenation or gasoline synthesis per year for each installation, and if they can treat more than 100,000 tons of crude coal if they use the low temperature carbonization method.

According to research in August 1939, the following synthetic oil companies and their installations are existing:

Already in Operation:

|                       |   |  |
|-----------------------|---|--|
| Mitsubishi Yuka Kogyo | - | Uchihoro in Sachalin<br>(low temperature carbonization)      |
| Nihon Seitetsu        | - | Wanishi (low temperature carbonization)                      |
| Ube Yuka Kogyo        | - | Ube "  |
| Chosen Chisso Kogyo   | - | Eian "   |
| Chosen Sekitan Kogyo  | - | Asochi (low temperature carbonization,<br>and hydrogenation) |

Now in Construction:

|             |   |                             |
|-------------|---|-----------------------------|
| Misui Kozan | - | Ohmuda (gasoline synthesis) |
|-------------|---|-----------------------------|



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Toho Gas Kagaku K., Atsuta

Nissan Ekika Nenryo K., Wakamatsu

Karafuto Jinzo Sekiyu K., Uchibachi, etc.

The Manshu Jinzo Sekiyu K.K. is planning the construction of the Jyoran works in Mandschukuo.

Furthermore, Mitsubishi Yuka Kogyo K.K. is planning to take up hydrogenation in future, and an installation with a capacity of 50,000 tons of coal per year is in construction. The Eian works in Chosen was already constructed in 1931 and has accomplished the industrialization of the low temperature carbonization before all the other ones. In 1935 the capacity of this installation was doubled. At the present time they are also producing several chemical products from half coke, besides heavy oil.

The Agochi works of the Chosen Sekitan Kogyo K. are treating 100,000 tons of brown coal per year.

At Wanishi Steel works semi-coke is economically used as mixing material for smeltery coke.

The Ube Yuka Kogyo is producing the gas for the ammonia synthesis, and at the same time obtains low temperature tar by using of Koppers vertical-ovens. This installation was just recently expanded to be able to double its recent capacity.

In the last few days there has been a slant of the low temperature carbonization industry, that some of the producers do not only take up the carbonization as they have done until now but after it also hydrogenation or gasoline synthesis, or are also planned in the connection with the coke industry or some other chemical industry.

The obtained crude tar which results from the low temperature carbonization is further fractionated to gasoline, light oil, diesel oil, paraffin, pitch, etc. Furthermore the acid oil contained in the tar of about 30% is being used as starting point for synthetic resin. Semi-coke, which until now has mainly been used for the heating of homes or workshops, is now frequently used for the production of gas for the synthetic industry. Also low temperature tar is in many cases being used as raw material for the hydrogenation. A great stress is being put on the heating economy and output of the oven systems for the low temperature carbonization. Wanishi according to Mittetsu system, Ube Yuka Kogyo - Koppers system; Chosen-Eian, Mitsubishi-Uchihoro and Nissan-Wakamatsu according to the Lurgi system; Tokyo Gas Kagaku and Toho Gas Kagaku according to Tokyo Gas system.

## "2. Hydrogenation (liquifacation of coal).

According to this method light liquid fuel is produced whereby, the hydrogen is being added by the catalytic effect under high pressure (about 300 atm) and high temperature (400-500°) to the coal or tar. This method has been tested for a long time at Nenryo Kenkyusho (Research institut for fuels), Navy building office, physicist and chemical institution, SMR, Mitsui, Mitsubishi, Chosen Chisso, etc. since 1938 after the effect of the law in regard to synthetic oil producers and Reichsfuel company producers dealing with this have gone into action.

From the existing synthetic oil producers, the following work according to the hydrogenation method:



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Chosen Sokitan Kogyo K.K., Aruchi works,  
SMR., Rushun hydrogenation works,  
Manshu Yuka Kogyo K.K., Shiheigal works,  
Nissan Ekika Nenryo K.K., Wakamatsu works,  
Toho Gas Kagaku Yuka Kojo,  
Nippon Yuka Kogyo K.K., Kawasaki works  
Karafuto Jinzo Sekiyu K.K., Uchibuchi works  
Manshu Jinzo Sekiyu K.K., Kitsurin-Kojo.

Each installation has a yearly capacity of over 10,000 tons.

In 1930 Chosen Sokitan Kogyo K. constructed in Aruchi a coal liquification plant with a yearly production of 50,000 kl under management of the Navy and with purely domestic technique and after a Navy patent method and its own design. In 1938 the firm succeeded to put the installation partly in operation and to trade with liquid fuels. In future they are planning an increase of the yearly production up to 200,000 tons.

SMR also started constructing a testing installation at Fushun in 1936 with a yearly production of 20,000 tons after the direct liquification method of the Navy fuel office. In spite of the interruptions the SMR succeeded to put the installation into operation at the beginning of 1939, and to obtain crude oil of a better quality. This testing installation was the first one in Japan with the direct coal liquification method. That such results were achieved by pure Japanese technique has a great significance for the synthetic oil industry.

Manshu Yuka Kogyo K. is just constructing the low temperature tar-hydrogenation works at Shinigai, in order to produce 10,000 tons for the first installation and 40,000 tons for the second one.

Nissan Ekika Nenryo K. and Toho Gas Kagaku K. are planning to obtain 10,000 tons of gasoline by adding of hydrogen to the low temperature tar from the low temperature carbonization. The first mentioned firm is building a low temperature sulphur installation according to Lurgi system in Wakamatsu, with a yearly capacity of 100,000 tons of coal, which is to be increased to 200,000-300,000 tons. Semi-coke from the low temperature carbonization is being used for the manufacture of hydrogen and the remaining semi-coke is being sent to the ammonium sulfate plant at Toyama. The Nippon Yuka Kogyo K. is using the tar obtained from the cokery as raw material for hydrogenation.

Karafuto Jinzo Sekiyu K.K. was founded in May 1939 by the firms, Teikoku Nenryo Kogyo, Ohji Seidhi, Mitsui, Mitsubishi, etc. and is planning the production of gasoline by using the coal from the Uchibuchi mine after the direct liquification method.

They are also planning the development of the coal liquifacation method in Mandschukuo. In this connection the firm Mansu Jinzo Sekiyu K.K. was founded in Kitsurin under the joint investment of Manshu Tanko K. and Chosen Chisso Hiryo. This firm is planning a yearly production of 300,000 tons of petroleum after the direct liquifacation method.

### 3. Gasoline synthesis.

The so-called Fischer-method - gasoline synthesis by combining carbon monoxide with hydrogen - is characteristic as the reaction is obtained under the normal pressure and a comparatively low temperature of about 200°. In accordance with the promoting regulations of the synthetic oil industry the industrialization of this process was also brought up.

Under these conditions Mitsui Bussan has bought the patent for the Fischer



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process from Germany in 1936. In 1937 they founded a company by the name of Manshu Gosei Nenryo K.K. under the joint investment of Manchukuo, Mitsui, SMR, Manshu Taako and Manshu Sekiyu, and a large gasoline synthesis plant was constructed at Kinshu, where they are planning the production of 100,000 tons of gasoline a year from Fushin coal.

Another gasoline synthesis plant is in construction at Cruda by Mitsui Kusan. After completion 30,000 tons of gasoline per year will be obtained by using 240,000 tons of Miike-coal. The obtained gas will be manufactured in a way that coke will be produced by means of Koppers-coke-ovens and then water gas, and on the other side coal gas is not free from methane by means of a methane cracking installation, and water gas will be mixed with coal gas.

In 1938 Hokkaido Jinzo Sekiyu K.K. was founded as a subsidiary of Teikoku Nenryo Kenyo K.K. The first installation will be built at Takikawa, the second one at Rumoyo and the third one as an oil plant also at Rumoyo. In the first installation about 50,000 tons of synthetic oil by the Fischer process will be produced by the use of coke-oven gas, which will be obtained by high temperature coking, and synthetic gas as raw material, and on the other side about 20,000 tons of creosote oil will be obtained by rectification of high temperature tar. At the second installation the full gasification will be done by low temperature carbonization, and about 50,000 tons of synthetic oil produced. The produced synthetic oil together with the obtained low temperature gas which will be about 25,000 tons will be delivered to the third installation and rectified. Furthermore the hydrogen will be manufactured by using part of the coal, which will be used for hydrogenation at the third installation. These installation will be put into operation in 1941.

Also the steel works like Nippon Seitetsu, Showa Seitetsu etc. are planning the production of gasoline with the synthesis process by using coke-oven gas.

The Natural Gas Institution of Furuse succeeded in getting good results of a semi-industrial test for the manufacture of synthetic gas from natural gas, just based on their own ideas, so that a ten-fold expansion of the existing installation is planned.

#### "4. Shale oil industry.

On top of the coal layer at the Fushin mine is a shale layer of about 120,- 140 mm, and this buried quantity is estimated to be 5,4 milliard tons. In 1921 the shale oil low temperature carbonization was systematically put on an industrial basis at Fushin. In 1930 an installation with a capacity of 4,000 tons was put into operation. (80 distilling ovens with a daily capacity of 50 tons of shale oil). This production could be doubled later on due to improvements in the oven system. After many tests they also succeeded to obtain gasoline in larger amounts. Fushin shale oil is an oil with paraffin basis and contains a lot of solid paraffin and little asphalt, so that it is very suitable for the manufacture of paraffin, lighting oil and heavy diesel oil, etc. Besides gasoline also better quality lubrication oils, shale coke for electrodes, etc. is being manufactured. In any case the shale oil industry at Fushin plays an important part as substitute for oils, and under the present conditions an increase in the production of crude shale oil is planned.

#### "5. Fuels as substitute for petroleum.

This is mainly for oil substitutes for the starting of motor vehicles. Here one can mention alcohol, wood charcoal gas, city gas, natural gas, liquid gas, acetylene, etc.



SECRETSerial J-058.Notes regarding Fuel installations in Japan/Mandschukuo

Remarks: The undersigned has visited Japan and Mandschukuo in the summer of 1939. Only four of the installations were visited, which are: Wakamatsu, Ube, Fushun and Mike. The last three installations were only inspected superficially, that means without even inspecting the buildings and machinery.

Very few installations existed in Japan in the year 1939, which had a comparatively low production. The Imperial Fuel company had planned a huge program. This program has been published in several magazines during the following years, always with a lot of changes. A table from the year 1941 from German literature on the subject, is the basis for this. The only possibility for the outsider is to estimate on the basis of this table, and suppose that 20 to 30% of it has been accomplished by now, as the rest of the plans could not be accomplished on account of false technical assumptions and on account of lack of production possibilities for plant equipment.

Neither I nor the Lurgi have any of the documents at the present time, as all the files, including the handwritten notes have been taken away about eight weeks ago by the Commission of Major Abbot for the preparation of photostatic copies, and have not been returned as yet. The following statements will have to be made entirely from memory:

"A. Low temperature carbonization plants.1. Plant of the Chosen Chisso Kaisha in Eyan (North-Korea).

4 Lurgi Flushing-gas-ovens (Sulgasöfen), in use since 1930.  
 Coal throughput-----800 tons per day.  
 Tar Production-----About 80 " " "

First the tar was treated by distillation, but is probably now treated at a Hydrogenation plant in Mandschukuo.

This installation has most likely been enlarged, or an additional installation has been erected near there with a more favorable source of coal.

2. Plant of the Mitsubishi Mining Co. in Niihoro, at Sakhalin.

4 Lurgi Flushing-gas-ovens (Spulgasöfen), in use since 1933.  
 Coal throughput-----800 tons per day.  
 Tar Production-----90-100 tons per day.

Treatment of tar at first by distillation, now possibly by a hydrogenation plant.

A second, larger cokery with Lurgi Flushing-gas-ovens has probably been constructed near Niihoro in the meantime.

3. Plant of the Ube Nitrogen Works in Ube.

Watergas-production installation with vertical retorts, system Koppers.

Amount of ovens: 1 block of ovens,  
 Coal throughput-----About 400 tons per day.  
 Tar production-----About 15-20 tons per day.



SECRETSerial J-688.4. Plant of the Nissan Kagaku Kaisha in Wakamatsu.

1 Lurgi Flushing-gas oven, in use since 1941.  
 Coal throughput-----300 tons per day.  
 Tar production-----25 tons per day.

This installation has most likely been enlarged considerably in the meantime.

It was planned to treat the tar production of Wakamatsu and Ube at a hydrogenation plant which had to be constructed yet.

5. A smaller low temperature carbonization plant has been constructed at the Gas Works Osaka according to a Japanese system.6. Fushun, Owner, Mandschurian Railroad Company.

Shale oil coking. The first ovens were constructed in 1925 by the Delwig Fleischer Company. (Some kind of watergas generators). They have been changed by the Japanese later on, and have been further developed.

In 1939:

About 3,000,000 tons a year of oil bearing shale were put through, and about 200,000 tons a year of tar was produced.

It was planned to increase this production, and it is possible that about 4-500,000 tons a year of shale oil are produced this way.

B. Hydrogenation installations.

In 1939 they only had a large-scale testing plant at Fushun according to the system of the Japanese Navy, in operation. (Copies of the JG-Bergius method).

Production: Said to be 10,000 tons a year of gasoline from hydrogenation of coal.

Independent from this the Caeson Chisso Company was working on a plant near Kirin (Mandchuria) for the development of an own hydrogenation method. It was decided to construct hydrogenation plants in Kirin, Fushun and several other places of the Japanese islands, some of them near Ube, near Hailhero. Due to the heavy strain imposed on Japan by the manufacture of weapons, it is doubted, that any installations have been started or completed, except in Mandschukuo.

C. Fischer-Tropsch-Synthetic installations.1. Mike (Omuta).

Built by the Mitsui Company. Put into operation the end of 1939. Gas production with watergas generators from coke (System Koppers).

Yearly production: about 30,000 tons of gasoline, diesel fuel, and paraffin sludge per year.

2. Chinchow (Fushin) in South-Mandchuria.

Built by the Mitsui Company, put into operation the end of 1940.

Gas production, vertical chamber-ovens, System Didier,  
 Yearly production of about 30,000 tons of gasoline, diesel



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fuel and paraffin sludge per year.

Additional plants with Fischer-Tropsch had been planned at the island Hokkaido near Rumoi and in the coal region about 50 kilometers south of Rumoi. It is not known how far these projects have come true. It is possible that also coke ovens, smaller low temperature carbonization and gasification plants have been constructed in this area in connection with the local iron industry.

General.

Furthermore it was planned to construct plants for the manufacture of fuels in the coal area of North-China, mainly low temperature carbonization installations and hydrogenation works. How much of these plans has been accomplished is not known.

Signed:

Dr. Hubmann.

FFm. 14 June 1945.

CONCLUDED SALES OF PROCESSES OF DEGUSSA (DEPT. HIAG)  
RESP. OFFERS TO FOREIGN FIRMS.

Due to the fact that the files of the main administration have been destroyed through acts of war, there is no possibility to supply the demanded data shortly and in a fairly complete form, especially as the men working on these cases are partly on vacation and partly have not yet been able to resume their activities. The only possibility was, therefore, to get the demanded data from memory and from partly still existing correspondence. We are therefore including a tabulations for the completeness of which we cannot guarantee. Further checking and searching would be necessary, especially on the offers which were not concluded, but this work can be finished in the first week of July at the earliest.

Sales of processes.

|                                  |                 |  |
|----------------------------------|-----------------|--|
| 1. Acetone from acetylene        | 100 to/mo )     | Socem-France, Paris  |
| Butanol from acetylene           | 150 to/mo )     | Societe electrochimique<br>et metallurgique                            |
| Acetone cyanide hydride          | 40 ton/mo )     | British Industrial Sol-<br>vents Ltd., London                          |
| 2. Acetaldehyde from spirits     | 11000 to/yr)    | Plant at Hull.   |
| Acetic Acid from acetaldehyde    | 10000<br>to/yr) |  |
| Crotonaldehyde from acetaldehyde | 1650 tons/yr)   |  |
| Butanol from acetaldehyde        | 1600 tons/yr)   |  |
| Acetone from spirits             | 3000 to/yr. )   |  |
| 3. Formaldehyde                  | 50 to/mo        | Formalin A.B., Stock-<br>holm Statens Skogs In-<br>dustrier, Stockholm |
| Acetic acid from crude vinegar   | 130 to/mo       | Uddeholms A.B., Udde-<br>holm, Sweden (In con-<br>struction)           |
| Acetaldehyde from ethyl alcohol  | 1200 to/yr )    |  |
| Acetic acid from ethyl alcohol   | 500 to/yr )     |  |
| Crotonaldehyde from acetaldehyde | 600 to/yr )     |  |
| Butanol from crotonaldehyde      | 540 to/yr )     |  |
| Ketonizing of crude wood vinegar | 40 to/mo        | Industrie A.B., Mueck-<br>sole, Sweden.                                |
| Rectification of wood spirits    | 60 to/mo        | Formalin A.G., Stockholm   |
| Ketonizing of cono. acet. acid   | 45 to/mo        | Statens Skogs Indus-<br>trier, Stockholm.                              |



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- |   |                        |   |
|---|------------------------|---|
| 4. Acetone from acetylene<br>Pentacrythrite   | 200 to/mo<br>50 to/mo  | ) Societa Prodotti Es-<br>) plodenti Antarchici<br>(Spca) Milan                   |
| Formaldehyde  | 45 to/mo               | Italy, villadossola<br>plant of Soc It. prod.<br>Synt.                            |
| Formaldehyde  | 40 to/mo               | ) Ind. Chimiche e Fore-<br>) steli, Masocagno plant.                              |
| Hexamethylenetsuramine  | 27 to/mo               | Soc. Ital, Bakelito,<br>Sosto plant   |
| Formaldehyde  | 54 to/mo               |   |
| 5. 4 retorts at 10 fm ea.<br>Ketonizing of spirits<br>Rebuilding of wood carbonization<br>incl. Ketonizing of crude wood<br>vinegar and acetone treating  | 15 to/mo               | ) Spain, El Erati-Pamp-<br>) lona, Aciz plant<br>)<br>)<br>)                      |
| 6. Formaldehyde   | 70 to/mo               | U.S.A. Roche and Haas,<br>Baltimore, Md.  |
| 7. Formaldehyde<br>Hexamethylenetetramine   | 21 to/mo<br>13,5 to/mo | Japan. 'Edogawa'<br>Japan   |
| 8. Active coal installation   |                        | Turkey<br>Rumania, Carbonit union,<br>Bucharest, Sinaria<br>plant<br>Switzerland. |
| 9. Wood carbonization installation  |                        | Bamtlinsche Chemische<br>Fabriken, Perceny,<br>Czechoslovakia                     |
| 10. Formaldehyde and hexamethylenetetramine for use by France and Belgium<br>through the firm Sific A.G., Glarus, Switzerland.<br>According to up to now incomplete data the following offers were<br>made; |                        |   |
| Butanol 300 to/yr   | )                      | To Japan via Mitsubishi Shoji Kaisha,<br>Berlin W 9                               |
| Acetone 500 to/yr   | )                      |   |
| Acetic Acid 2000 to 1500 to/yr  |                        |   |



SECRET

Serial - J-058

FIGURE I

DEVELOPMENT OF SYNTHETIC NITROGEN  
PLANT CAPACITY IN JAPAN  
SINCE 1924

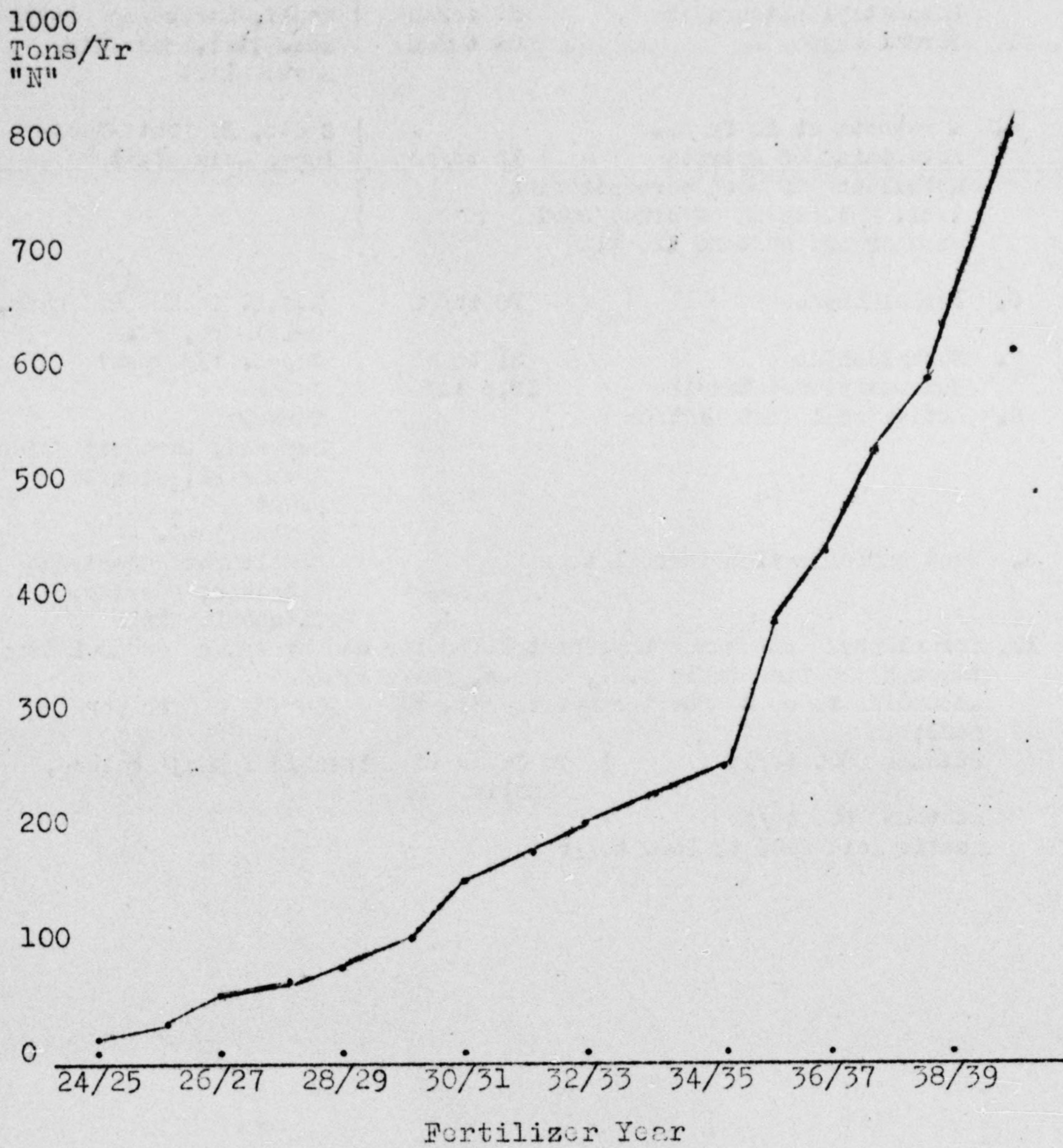


FIGURE I.



SECRET

TABLE I

SYNTHETIC & BYPRODUCT NITROGEN PLANTS - JAPAN

| <u>Company<br/>Japan</u>    | <u>Location<br/>City or Town</u> | <u>Built</u> | <u>Process</u>    | <u>Capacity</u>           |                                  | <u>Actual Production<br/>T/Yr. of N.</u> |
|-----------------------------|----------------------------------|--------------|-------------------|---------------------------|----------------------------------|--|
|                             |                                  |              |                   | <u>T/Yr.N<br/>1938/39</u> | <u>T/Yr.Sulphate<br/>1939/40</u> |  |
| Showa Kiryo<br>K.K.         | Kawasaki                         | 1930         | Showa             | 68,000                    | 330,000                          | 47,300 (1938)                            |
| Toyo Koatsu<br>Kogyo K.K.   | Omuda Miike                      |              | Claude            | 55,000                    | 277,000                          | 48,800 (1938)                            |
| Sumitomo Ka-<br>guka K.K.   | Niihame                          | 1935         | N.E.C.            | 47,500                    | 224,000                          | 34,200 (1938)                            |
| Ube Chisso<br>Kogyo K.K.    | Ube                              |              | Fausser           | 41,200                    | 240,000                          | 34,200 (1938)                            |
| Nissan Kagaku<br>Kogyo K.K. | Hiyabashi                        |              | Fausser &<br>I.G. | 25,000<br>(10,000)+       | 160,000                          | 11,350 (1938)                            |
| Denki Kagaku<br>K.K.        | Ohme (Aomi)<br>Omuda             |              |                   | 20,000                    | 100,000                          | 12,300 (1938)                            |
| Yahagi Kogyo<br>K.K.        | Nayoga                           | L933-38      | Uhde &<br>I.G.    | 21,000                    | 110,000                          | 11,380 (1938)                            |
| Nihon Suiso<br>Kagyo K.K.   | Onahama                          | 1939         | Uhde              | 20,000                    | 100,000                          | Started begin.1941                       |
| Nihon Kasei<br>Kagyo K.K.   | Kurosaki                         | 1939         | IG & Jap          | 34,000                    | 80,000                           | 6,500 (1938)                             |



Serial J-058

TABLE I

SYNTHETIC & BYPRODUCT NITROGEN PLANTS - JAPAN

| Process          | Capacity          |                          | Actual Production<br>T/Yr. of N. | Products  | Notes  |
|------------------|-------------------|--------------------------|----------------------------------|---|--|
|                  | T/Yr.N<br>1938/39 | T/Yr.Sulphate<br>1939/40 |                                  |   |  |
| Showa            | 68,000            | 330,000                  | 47,300 (1938)                    | 5000 T/Yr Nitric<br>(50 & 100%) Sul-<br>fate & Am.Nitrate |  |
| Claude           | 55,000            | 277,000                  | 48,800 (1938)                    | Sulfate &<br>Nitric                                       | 1938 IG received<br>order 4 Winkler<br>ovens, 2 delivered.                     |
| I.E.C.           | 47,500            | 224,000                  | 34,200 (1938)                    | Nitric, urea,<br>am.chloride,sulfate                      |  |
| Kauser           | 41,200            | 240,000                  | 34,200 (1938)                    | Nitric & Sulfate  |  |
| Kauser &<br>I.G. | 25,000            |                          |                                  |   |  |
|                  | (10,000)+         | 160,000                  | 11,350 (1938)                    | Nitric & Sulfate  |  |
|                  | 20,000            | 100,000                  | 12,300 (1938)                    | Urea & Sulfate  |  |
| Uhde &<br>I.G.   | 21,000            | 110,000                  | 11,380 (1938)                    | Nitric & Sulfate  | Plant I by Uhde<br>electrolysis, II<br>by IG-Wink may<br>now be 30,000 T of N. |
| Uhde             | 20,000            | 100,000                  | Started begin.1941               | Nitric & Sulfate  |  |
| I.G. & Jap       | 34,000            | 80,000                   | 6,500 (1938)                     | Nitric & Sulfate  | NH <sub>3</sub> absorb in H <sub>2</sub> O<br>and redistilled?                 |



SECRETTABLE I (Contd)

| <u>Company</u><br><u>Japan</u> | <u>Location</u><br><u>Cit, or Town</u> | <u>Built</u> | <u>Process</u> | <u>Capacity</u>                 |                                       | <u>Actual Producti</u><br><u>T/yr. of N.</u> |
|--------------------------------|--|--------------|----------------|---------------------------------|---------------------------------------|--|
|                                |  |              |                | <u>T/yr.N</u><br><u>1938/39</u> | <u>T/yr.Sulfate</u><br><u>1939/40</u> |  |
| Nihon Chisso Kiryo K.K.        | Minamata                               |              | Casale         | 25,000                          | 75,000                                | 8,580 (1938)                                 |
| Asahi Bomberg Silk K.K.        | Nobeoka                                |              |                | 6,200                           | 50,000                                | 2,000 (1938)                                 |
| Taki Kiryo K.K.                | Befu                                   | 1937         | I.G.           | 10,500                          | 50,000                                | 4,250 (1938)                                 |
| Teikoku Kogyo K.K.             | Atika                                  | 1939         | Uhde           | 10,000                          | 50,000                                | ?  |
| Nitto Kagaku Kogyo K.K.        | Hachinoje                              | 1939         | I.G.           | 10,500                          | 50,000                                | Good operation                               |
| Dai Nippon Tokyo Hiryo         | Tsurumi                                | 1939         | I.G.           | 10,500                          | 50,000                                | Good operation                               |
| Niigata Ryusan K.K.            | Ishiyama                               |              |                | 12,500?                         | 10,000?                               | 920 (1938)                                   |
| Gosei Kogyo K.K.               | Hikoshima                              |              |                | 2,600?                          | 10,000                                |  |
| Nippon Soda K.K.               | Nihongi                                |              |                | <u>1,500?</u>                   | <u>6,000?</u>                         | <u>1,500</u> (1938)                          |
| <u>TOTAL JAPAN PROPER</u>      |  |              |                | 421,000                         | 1,972,000                             | 235,420                                      |

+ Not included in total.



Serial J-058

TABLE I (Contd)

| Process       | Capacity           |                          | Actual Production<br>T/yr. of N. | Products           | Notes  |
|---------------|--------------------|--------------------------|----------------------------------|--------------------|--|
|               | T/yr. N<br>1938/39 | T/yr. Sulfate<br>1939/40 |                                  |                    |  |
| Casale        | 25,000             | 75,000                   | 8,580 (1938)                     | Nitric, sulfate    | Nitric equiv. to nitrate, etc. 9,300+N in 1936 |
|               | 6,200              | 50,000                   | 2,000 (1938)                     | Nitric, Sulfate    |  |
| I.G.          | 10,500             | 50,000                   | 4,250 (1938)                     | Sulfate            |  |
| Uhde          | 10,000             | 50,000                   | ?                                | Sulfate            | Started 1940 prob. VIAG expansion 100,000 Sul. |
| I.G.          | 10,500             | 50,000                   | Good operation                   | Sulfate            |  |
| I.G.          | 10,500             | 50,000                   | Good operation                   | Sulfate            |  |
|               | 12,500?            | 10,000?                  | 920 (1938)                       | Sulfate & Tech. N. |  |
|               | 2,600?             | 10,000                   |                                  |                    |  |
|               | 1,500?             | 6,000?                   | 1,500 (1938)                     | Sulfate-urea       |  |
| <u>PROPER</u> | 421,000            | 1,972,000                | 235,420                          |                    |  |

and in total.



SECRET

TABLE I (Contd)

| Compan,<br>Korea              | Location<br>Cit, or Town                | Built | Process | Capacity             |                         | Actual Production |   | Pr                        |  |
|-------------------------------|---|-------|---------|----------------------|-------------------------|-------------------|---|---------------------------|--|
|                               |   |       |         | T/Yr.N.<br>1938/39   | T/Yr.Sulfate<br>1939/40 | T/Yr. of N.       |   |                           |  |
| Chosen Chisso<br>Kiryo K.K.   | Konan                                   |       |         | 134,000              | 500,000                 | 81,000 (1938)     |   | B <sub>y</sub> -p<br>& C. |  |
| Kiujiki<br>Seitotsu K.K.      | North Koren                             |       |         | 300                  | 2,400                   |                   |   |                           |  |
| Chosen Kogbiku<br>Kogyo K.K.  | Junser                                  |       |         |                      |                         |                   |   | 100,0                     |  |
| Mitsui Kosan                  | ?                                       |       |         |                      |                         |                   |   | 10,0                      |  |
|                               | <u>TOTAL KOREA</u>                      |       |         | <u>134,300</u>       | <u>502,400</u>          | <u>81,000</u>     |   |                           |  |
| <u>Manchuria</u>              |   |       |         |                      |                         |                   |   |                           |  |
| Manshu Kagaku<br>Kogyo K.K.   | Dairen<br>(Kanseiishi)                  |       | Uhde    | 68,000               | 250,000                 | 34,000 (1940)     |   | Sulf<br>Nit.              |  |
| Miwami Manshu<br>Tetsudo K.K. | Fushun                                  |       |         | 1,200                | 6,000                   | 12,000 (1938)     | } | B <sub>y</sub> -p         |  |
|                               | Fushun Shale Oil                        |       |         | 14,000               | 10,000                  |                   |   |                           |  |
|                               |   |       |         | 5,000                | 20,000                  |                   |   |                           |  |
| Showa Seiko-sho               | Anzan<br>Honkeiko                       |       |         | 800                  | 4,000                   | ?)                | ) | B <sub>y</sub> -p         |  |
| Manshu Butan                  | ?                                       |       |         |                      |                         | ?)                | ) | Nitr                      |  |
|                               | <u>TOTAL MANCHURIA</u>                  |       |         | <u>89,000</u>        | <u>290,000</u>          | <u>47,000</u>     |   |                           |  |
|                               | <u>GRAND TOTAL</u>                      |       |         | <u>644,300</u>       | <u>2,764,400</u>        | <u>363,000</u>    |   |                           |  |
|                               | Grand Total (Synthetic<br>Only Approx.) |       |         | 500,000 <sup>+</sup> |                         |                   |   |                           |  |

+ Could be 634,000 T/Yr. if Chosen Chisso not byproduct.



TABLE I (Contd)

Serial - J-058

| Process | Capacity       |                | Actual Production<br>T/Yr. of N. | Products                  | Notes   |
|---------|----------------|----------------|----------------------------------|---------------------------|---|
|         | T/Yr.N.        | T/Yr.Sulfate   |                                  |                           |   |
|         | 1938/39        | 1939/40        |                                  |                           |   |
|         | 134,000        | 500,000        | 81,000 (1938)                    | By-product sulfate & C.   | 40,000 T Nitric in 1937.                            |
|         | 300            | 2,400          |                                  |                           | Iron works & coke Oven.c                            |
|         |                |                |                                  | 100,000 T/Yr.Urea         | In 1938 but not 1939 data (From Nitric plant lists) |
|         |                |                |                                  | 10,000 T/Yr.Nitric        |   |
|         | <u>134,300</u> | <u>502,400</u> | <u>81,000</u>                    |                           |   |
| de      | 68,000         | 250,000        | 34,000 (1940)                    | Sulfate, nitric, am. Nit. | 3,500 T. HNO <sub>3</sub> (1937)                    |
|         | 1,200          | 6,000          | 12,000 (1938)                    | By-product sulfate        |   |
|         | 14,000         | 10,000         |                                  |                           |   |
|         | 5,000          | 20,000         | ? )                              | By-product sulfate        |   |
|         | 800            | 4,000          |                                  |                           |   |
|         | <u>89,000</u>  | <u>290,000</u> | <u>47,000</u>                    | Nitric 1,800 T/Yr.        |   |
|         | 644,300        | 2,764,400      | 363,000                          |                           |   |

thetic  
(Approx.)

500,000+

00 T/Yr. if Chosen Chisso not byproduct.



SECRET

Serial - J-050

TABLE IIPERSONNEL INTERROGATED

| <u>Name</u>          | <u>Position</u>                   | <u>Japanese Contacts</u>                                      |
|----------------------|-----------------------------------|---|
| Prof. Martin         | Ruhr Chemie                       | In Japan 1936 negotiated license on Fisher-Tropsch Synthesis. |
| Dr. Krauch           | Government official               | Had discussions 1944-45 with Japanese on new processes.       |
| Dr. Goldberg         | I.G. Sparte I official            | Continuous contacts with Japanese.                            |
| Herr Bachmeyer       | I.G.                              | Continuous contacts with Japanese.                            |
| Dr. Pier             | I.G. Research Dir.                | Technical discussions with Japanese.                          |
| Dr. Ringer           | I.G.                              | Contract negotiations on hydrogenation 1944-45.               |
| Dr. Buetofisch       | Head of ARSYN                     | Some contacts on recent contracts.                            |
| Herr Uhde            | Head of Uhde Co.                  | Sold plants to Japanese.                                      |
| Herr Kochler         | Uhde Co.                          | Sold plants to Japanese.                                      |
| Dr. Munzing          | I.G. & Ahrens Co.                 | In Japan 4-1/2 yrs., nitrogen plants.                         |
| Dr. Braus            | I.G. & Ahrens Co.                 | In Japan 2 years.   |
| Dr. Dietmann         | Govt. Official                    | Asst. to Krauch, friend of Faessler.                          |
| Dr. Oetken           | Gebechen Lurgi                    | In Japan 1939, plant construction low temp. carbonization.    |
| Mr. Hubmann          | Lurgi                             | In Japan 1939, plant construction low temp. carbonization.    |
| Herr Ruckes          | Lurgi                             | In Japan 1939, plant construction low temp. carbonization.    |
| Dr. Steinle          | Head of Linz Nitrogen             | In Japan several years.                                       |
| Dr. Giesen           | I.G. Leuna                        | Contacts with Japanese on methanol.                           |
| Dr. Mueller Cunradi  | I.G. Leuna                        | Sold cone ovens to Japan.                                     |
| Dr. Haver            | Benzol Vergand                    | Negligible.   |
| Dr. Ambross          | Buna Production Chief             | Some contacts in Germany.                                     |
| Dr. Pflaumer         | I.G. Leuna                        | Some contacts on explosives.                                  |
| Herr Grassle         | I.G.                              | 4 yrs. in Japan nitrogen plants.                              |
| Dr. D. Grosse        | Banag                             |   |
| Dipl. Ing. Pohle     | Banag                             |   |
| Dir. Bernd von Arnim | Brennerci & Chem. Werke, Tornesch |   |
| Dr. Menzel           | Brennerci & Chem. Werke, Tornesch |   |
| Dir. Clemm           | Deutsche Solvay Werke             |   |
| Dr. Klebert          | I.G. Leverkusen                   |   |



SECRET

TABLE III

SYNTHETIC OIL PLANTS - JAPAN

| <u>Town or Cit.</u>                 | <u>Territor.</u>       | <u>Company</u>                         | <u>Process</u> | <u>Oper. Started</u> | <u>Feed</u>    | <u>Capacity, T/Yr.</u> | <u>Product</u>    |
|-------------------------------------|------------------------|--|----------------|----------------------|----------------|------------------------|-------------------|
| Miike (Omuta)                       | Kiushu                 | Mitsui Mining                          | Min-Fischer    | 1940                 | Syn.gas (coke) | 30,000-50,000          | Gasoline Catalyst |
| Chinchow (Fushin)                   | S.Manchuria            | "                                      | "              | 1943                 | "              | 30,000                 | Gasoline Wax      |
| Rumoi (50 KM East)(Takikawa)        | Hokkaido               | Hokkaido Sekiya (Hokkaido S,n.Oil Co.) | Jinso          | after 1941           | "              | 25,000-30,000          | "                 |
| Seratchi                            | "                      | "                                      | "              | ?                    | "              | 20,000                 | "                 |
| Fushun                              | Manchuria              | "                                      | "              | ?                    | "              | 20,000                 | "                 |
| Fushun                              | Manchuria              | S.M.R.                                 | Jap Nav.       | 1939                 | Coal           | 10,000-30,000          | Gasoline          |
| Agochi                              | Bet. Yuki & Seishin/N. | Korean Mining Co.                      | "              | "                    | Coal           | 50,000                 | "                 |
| Kirin                               | "                      | Chosen Chisso                          | "              | End 1941             | BC or LTC Tar  | 100,000-300,000        | "                 |
| Naihoru                             | "                      | So.Saghalin Coal Mining                | "              | "                    | Coal           | 10,000-100,000         | "                 |
| Kawasaki                            | "                      | Jap.Liq. Ind.                          | "              | "                    | Coal           | 10,000                 | "                 |
| Szupingkai (Bet. Mukden & Hainking) | Manchuria              | Manchu.Liq.Ind.                        | "              | "                    | LTC Tar        | 10,000-50,000          | "                 |
| Mukden                              | "                      | "                                      | Jap Army       | 1944?                | LTC Tar        | 50,000                 | "                 |



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TABLE III

## SYNTHETIC OIL PLANTS - JAPAN

| Process              | Oper. Started | Feed            | Capacity, T/Yr. | Products                       | Troubles                            | Expansion Plans   |
|----------------------|---------------|-----------------|-----------------|--------------------------------|-------------------------------------|---|
| Fischer              | 1940          | Syn. gas (coke) | 30,000-50,000   | Gasoline, Diesel, Catalyst Wax |                                     | 70% finished 1939 (act. 20,000)                           |
| "                    | 1943          | " "             | 30,000          | Gasoline, Diesel, Wax          |                                     | Expansion to 100,000 planned. Possible exp. to 150,000 T. |
| Jinso (Tokkaido Co.) | after 1941    |                 | 25,000-30,000   |                                |                                     |   |
| "                    | ?             |                 | 20,000          |                                |                                     | Projected   |
| "                    | ?             |                 | 20,000          |                                |                                     | Projected   |
| Jap Navy             | 1939          | Coal            | 10,000-30,000   | Gasoline                       | Below capacity, (lack coal)         | May be 100,000 T now.                                     |
| "                    |               | Coal            | 50,000          | "                              | "                                   | Perhaps 200,000 T.  |
| ning Co.             |               |                 |                 |                                |                                     |   |
| isso                 | End 1941      | BC or LTC Tar   | 100,000-300,000 | "                              |                                     | 20,000 T/an. Actual?                                      |
| in ning              |               | Coal            | 10,000-100,000  |                                | Below capacity, Lack coal           |   |
| Ind.                 |               | Coal            | 10,000          |                                | " "                                 |   |
| liq. Ind.            |               | LTC Tar         | 10,000-50,000   | "                              | " "                                 |   |
| Jap Army             | 1944?         | LTC Tar         | 50,000          | "                              | Corrosion in Preheater and Catalyst | 300 atm gas phase and sump                                |



SECRETTABLE III (Contd)

| <u>Town or city</u> | <u>Territory</u> | <u>Company</u>          | <u>Process</u>  | <u>Oper. Started</u> | <u>Feed</u> | <u>Capacit, T/Yr.</u> | <u>Product</u> |
|---------------------|------------------|-------------------------|-----------------|----------------------|-------------|-----------------------|----------------|
| Hokkaido            |                  |                         | Jap Army        | 1944?                | LTC Tar     | 50,000                | Gasoli         |
| Kinsei              |                  |                         | " "             | "                    | " "         | 50,000                | "              |
| South Sakhalin +    |                  |                         | I.G.            |                      |             | 72,000                | Av. Gasol      |
| Mukden              |                  | Nichiman-<br>Sekitan    | HIAG<br>(Varga) | 1941                 |             | 3,000                 | Gasoli         |
| Nagoya              |                  | Tohokagaku<br>Kogyo     | Hydro           | 1940                 |             | ?                     |                |
| Ube<br>Wakamatsu, ) |                  | Nissen Liq.<br>Fuel Co. |                 |                      | Tar         |                       |                |
| Uchibuchi +         |                  | Karafuto<br>Jinso Sek.  |                 | 1941 ?               |             | 200,000 ?             | Gasoli         |

+ May be same project.



Serial J-058

TABLE III (Contd)

| <u>Process</u> | <u>Oper. Started</u> | <u>Feed</u> | <u>Capacit, T/Yr.</u> | <u>Products</u> | <u>Troubles</u> | <u>Expans.Plans</u>                                   |
|----------------|----------------------|-------------|-----------------------|-----------------|-----------------|---|
| Jap Army       | 1944?                | LTC Tar     | 50,000                | Gasoline        |                 |   |
| " "            | "                    | " "         | 50,000                | "               |                 |   |
| I.G.           |                      |             | 72,000                | Av. Gasoline    |                 | Project Jan. 1945 on Utibuti Coal.                    |
| HIAG (Varga)   | 1941                 |             | 3,000                 | Gasoline        |                 |   |
| aku Hydro      | 1940                 |             | ?                     |                 |                 |   |
| liq.           |                      | Tar         |                       |                 |                 | ) Plant planned to hydrogenate tar from these plants. |
| k.             | 1941 ?               |             | 200,000 ?             | Gasoline        |                 | Very questionable.                                    |



SECRETSerial J-05.8.  
Appendix.U.S. STRATEGIC BOMBING SURVEY  
OIL, RUBBER AND CHEMICAL DIVISION

27th June 1945

FROM: GEORGE CALINGAERT.

TO : W. C. ASBURY.

SUBJECT: GERMAN SHIPMENTS OF ETHYLENE DIBROMIDE TO JAPAN.

"There is only one plant in Germany making ethylene dibromide, this is Brenneri und Chemische Werke Tornesch G.m.b.H., in Tornesch (Holstein) 20 km. north-west of Hamburg. The bromine is consigned to the plant by the Brom Syndikat and converted into ethylene dibromide, at a stipulated cost. Over-all production of the plant agrees quite well with the known production of the two tetraethyllead plants on the basis of their making only aviation 1-T Ethyl fluid.

"Information was obtained from the Plant Director, Bernd von Arnin, and his assistant, Dr. Menzel.

"The plant has a capacity of 500 tons of ethylene dibromide per month, but its actual production fluctuated most of the time between 200 and 450, depending on demand. It was believed at the plant that as much as 2,000 tons of ethylene dibromide had been purchased by Wifo, presumably for storage in Stassfurt. In general all shipments were made to either one of the two tetraethyllead plants, Froese and Gapel, on shipping instructions from Brom Syndikat. As far as the people at the plant know, their receipts of bromine and instructions for shipment were based purely on tetraethyllead production, which in turn depended on the availability of gasoline to which to add it.

"Information was obtained both verbally and from the shipping records regarding shipments consigned to Japan. Actual shipments from the plant to the shipping agent were as follows:-

| <u>1942</u> | <u>Tons</u> |
|-------------|-------------|
| January     | 60          |
| February    | 55          |
| April       | 88          |
| May         | 56          |
| June        | 15          |
| August      | 55          |
| October     | 15          |
| November    | 300         |
| December    | 100         |
|             | <u>744</u>  |

| <u>1943</u> | <u>Tons</u> |
|-------------|-------------|
| January     | 200         |
| February    | 78          |
| March       | 136         |
| August      | 46          |
| September   | 54          |
|             | <u>514</u>  |

"These were all shipped in regular 400 kgs. drums. The most of transportation and exact destination was not disclosed to the plant, but the Tornesch people said they understood that about one-third of the material reached Japan.



SECRET

Serial J-05E..

## Appendix.

"There is a letter from the Brom Syndikat to Tornesch dated 31 March 1944 asking Tornesch how much they would charge to repack 500 tons of ethylene dibromide for Japan from regular drums to somewhat smaller drums. The only specification was that the outside diameter of the drums be not over 50 cms. The length was optional but should preferably not be too short, and the transfer agent was to be notified regarding the exact length of the drums used. Tornesch answered back on 4 April 1944 stating that the job would be difficult but feasible, the cost unknown, and the time would depend on the possibility of procuring drums. There was no further correspondence on the subject, and the Tornesch people stated that this was never done.

"(The above seems to suggest that the difficulties of shipping were increasing, that the last 500 tons shipped since January 1943 had not yet left the country by April 1944, and that plans were being made to ship by submarine, necessitating the small diameter drums to go through the conning tower).

"Earlier correspondence dated September and December 1942 covers the contract for the Japanese shipment and names Mitsui Bussan as the final consignee, and the drums were to be numbered ST 2017, and further numbered from 1 on.

"Of the 1200 tons shipped out of Tornesch none was ever returned to Tornesch, nor were the drums apparently used in the German tetraethyllead plants, since in that case the empties would have found their way back to Tornesch, which was not so.

Comments.

"It seems clear from the above that the Japanese had, or were contemplating, a source of tetraethyllead different from the U.S.A. Since no evidence was uncovered anywhere that the Japanese obtained process information on tetraethyllead from the Germans, it seems more probable that the Japanese contrived to develop a process on their own. This is not too difficult, based on the literature and the patents, especially if economy and safety are of no great importance.

"Of the 1200 tons shipped by Tornesch, 500 either never left the country, or did not leave until quite late. Of the previously shipped 750 odd tons, if we assume, as stated in Tornesch, that about one-third reached Japan, this corresponds to 400 tons of tetraethyllead as 1-T fluid. Assuming also that the Japanese use 4.5 cc. TEL per gallon (1.2 cc. per litre) this amount of dibromide will account for 1,000,000 bbls. of aviation gasoline.

"An estimate can also be made of the corresponding tetraethyllead production, and therefore of the size of the plants. It seems fair to assume, at least in the first approximation, that the 750 tons of ethylene dibromide ordered corresponded to the expected tetraethyllead production for that year. This means a yearly TEL production of 1200 tons, or 100 tons per month. This corresponds to a rather small plant of the size first built in France, and also in Germany prior to the German expansion program.

Conclusions:

"The shipment of ethylene dibromide from Germany to Japan is conclusive proof that the Japanese have their own production of tetraethyllead. Additional information on the subject including even additional clues as to possible plant locations might be obtained from the analysis of captured fluid: the Research Laboratory of Ethyl Corporation in Detroit is equipped to make a very close scrutiny of samples of fluid and to detect indices of the process used for manufacturing.



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For instance, whether any  $\text{NaPb}$  or  $\text{Na}_2\text{Pb}$  is used in the manufacture, or whether ethyl chloride or ethyl bromide is used. Also, whether other metals are used. Such information might suggest a plant location, depending on the availability of some of these intermediates.

Note: This was confirmed today by material found in the files of Associated Ethyl Co. Ltd., in London: In 1939 Asano Bussan attempted to obtain from Associated Ethyl the process for making tetraethyllead. They explained that Nippon Soda and Hodasgaya Soda had a pilot plant in Japan proper for tetraethyllead. Asano Bussan was planning to develop their production in conjunction with Manshu Salt Co. There is also a reference in Oil & Gas Journal 15 August 1940, to Japanese ethyl dibromide plant of Dai Nippon Salt Co. at Kamata near Tokyo.

"F.P. Kerschbaun

Team 78, USSBS Bad Nauheim,

26 June 45

JAPAN SULFURIC ACID PLANTS

Information obtained from:

Dr. Oetken, Dr. Marquardt  
Lurgi GmbH., Frankfurt/Main.

The following plants for sulfuric acid are known to us. Total production is 2,000,000 contact acid per annum and about same quantity sulfuric acid from chamber or tower plants. Figures in monohydrat for years 1938-1941.

Names of Japan Companies change often and it is impossible to give exact production figures.

A) Contactplants

| <u>a) Island Honshu</u>       | <u>Monohydrat</u> | <u>Location</u>      |
|-------------------------------|-------------------|----------------------|
| <u>Company</u>                | <u>production</u> |                      |
| 1) Kwansai Ryusan             | 100 tato          | Anagasaki bei Osaka  |
| 2) Dei Nihon Tokkyo Hiryo KK  | 50 "              | Osaka                |
| 3) Nissan Kagaku              | 100 "             | Owada bei Osaka      |
| 4) Nihon Senryo Seizo KK      | 30 "              | Kasugade bei Osaka   |
| 5) Taikoku Jinzo Hiryo        | 50 "              | Otake                |
| 6) Nihon Kogyo                | 50 "              | Nagoya               |
| 7) Yahagi Kogyo               | 200 "             | Nagoya               |
| 8) Ishihara Sangyo KK         | 240 "             | Yokkaichi bei Nagoya |
| 9) Nissan Kagaku Kogyo        | 50 "              | Oji-Tokyo            |
| 10) Showa Hiryo KK            | 20 "              | Kawasaki/Tokyo       |
| 11) Toryu Kagaku Kogyo KK     | 30 "              | Yokohama             |
| 12) Dai Nihon Tokkyo Hiryo KK | 50 "              | Nakagawa/Tokyo       |
| 13) Kaigun Kosho (Marino)     | 1 "               | bei Tokyo            |
| 14) Nihon Seiren KK           | 50 "              | Komatsugawa/Tokyo    |
| 15) Torjo Kagaku              | 20 "              | Tokyo bezw. Yokohama |
| 16) Nihon Kogyo               | 100 "             | Hitachi              |
| 17) Nippon Soda               | 10 "              | Takoka bei Toyama    |
| 18) Nippon Senryo             | 10 "              | Kasugade bei Osaka   |
| 19) Tokuyama Soda             | 100 "             | Tokuyama             |
| 20) Nippon Seitetsu KK        | 50 "              | Hirohata bei Himeji  |
| 21) Nihon Suiso Kogyo KK      | 300 "             | Onahama              |
| 22) Ubechisso                 | 300 "             | Ube                  |
| 23) Titan KKK                 | 100 "             | Ube                  |
| 24) Nihon Ryusan KK           | 50 "              | Ube                  |
| 25) Kurehara Shinken KK       |                   | Takahagi             |
| 26) Nihon Kogyo KK            | 50 "              | Saganuseki bei Oita  |
| 27) Niigata Ryusan KK         | 100 "             | Niigata              |
| 28) Shinko Jinken KK          | 50 "              | Otake bei Hiroshima  |



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| <u>Company:</u>  | <u>Production</u> | <u>Location</u>               |
|--|-------------------|-------------------------------|
| 29) Showa Kogyo KK   | 30 tato           | Hibi bei Okayama              |
| 30) Showa Sangyo   | ?                 | Yokohama                      |
| 31) Tokyo Jinzo Kenshi   | 50 "              | Yoshiwara bei Shisuka         |
| 31a) Teikoku Jinzo Hyno  |                   | Kisugara                      |
| b) <u>Island Shikoku</u>                                       |                   |                               |
| 32) Sumitomo   | 650 "             | Bosshi NRS Nihara             |
| c) <u>Mandschukuo</u>  |                   |                               |
| 33) Fushun Colliery  | 150 "             | Fushun                        |
| 34) Nihon Kogyo  | 100 "             | Hulutao                       |
| 35) Manshu Enko  | 50 "              | Hulutao                       |
| 36) Manshu Kagaku Kogyo  | 200 "             | Dairen                        |
| d) <u>Kiushu</u>   |                   |                               |
| 37) Tojo Koatsu KK   | 300 "             | Ohnuta                        |
| 38) Showa Jinken KK  | 20 "              | Nishiki bei Fukushima         |
| 39) Konoshima Jinzo Hiryo                                      | 50 "              | Konoshima bei Okayama         |
| 40) Konoshima Kagaku Kogyo                                     | 50 "              | Konoshima bei Okayama         |
| B) <u>Chamber-and Towersystem</u>                              |                   |                               |
| a) <u>Island Honshu</u>  |                   |                               |
| 41) Shora Hiryo  | 210 u.300 "       | Tokyo/Yokohama                |
| b) <u>Korea</u>  |                   |                               |
| 42) Kanobo   | 45 "              | Heijo                         |
| 43) Sangyo Kagako  | 50 "              | Chinnampo                     |
| c) <u>Island Shikasaki</u>                                     |                   |                               |
| 44) probably<br>Sumitomo and<br>many others.                   | 400 "             |                               |
| C) <u>Plants producing ammonisulfat without sulfuric acid.</u> |                   |                               |
| 45) Nippon Kasei KK  | 300 "             | Kies Kurasaki auf<br>Kiushiu. |

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"HEADQUARTERS  
U.S. STRATEGIC BOMBING SURVEY

26 June 1945

REPORT ON VISIT TO WALTER STEINLE

"1. On Sunday, 24 June 1945, message from Mr. W.C. ASBURY was received by the ORC Division at Bad Nauheim, requesting immediate contacting of Walter Steinle, report on this contact to be got back to London in time to reach Mr. Asbury before his departure to the States on 27 June.

"2. Lt. Jacobi left Bad Nauheim at noon, Sunday 24 June, travelling by jeep to Linz, the presumed location of Steinle. The village of Miesbach 40 miles east of Munich was reached at 2200, where Lt. Jacobi spent the night. On Monday, 25 June, trip continued to Linz which was reached at 1200.



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"3. Upon arrival at Linz, Lt. Jacobi proceeded to Stickstoffwerke Ostmark, where Steinle was known to have been the director. At this plant, information was obtained that Steinle had been removed from the management because of his being 'Reichsdeutscher' as well as old party member (1931), and had left for the mountain village of Kematen near Kremsmuenster, some 30 miles SW of Linz. This village was reached at 1530 and Steinle's house was located there. Steinle and his family were not at home; neighbors gave information that Steinle could be found at a certain farm a few miles up the mountains, however, he was not found there. Lt. Jacobi then returned to Steinle's house, and waited, until Steinle and family returned home at 1900. Steinle was then interrogated from 1900 until 2200. (For interrogation see following pages).

"4. At 2200 Monday 25 June, Lt. Jacobi proceeded from Kematen to Munich, arriving there at 0330 Tuesday, June 25 where the balance of the night was spent. On Tuesday morning, Lt. Jacobi contacted airstrip R 74 and made arrangements for trip to London to leave Munich at 1500, the same day, to reach London by late evening Tuesday 26 June.

REPORT ON INTERROGATION OF WALTER STEINLE

"1. Walter Steinle, 48 years old, until recently technical director of Stickstoffwerke Linz, is a chemical engineer, originally employee of the I.G. Farben concern, who spent from December 1936 until February 1938 in Japan on behalf of the I.G. Farben. From the time of his return from Japan until June 1939, Steinle worked at Leuna; thereafter he took on the job of starting up the Stickstoffwerke Ostmark where he has been ever since, until removed recently by the AMG.

"2. During his stay in Japan, Steinle worked for 5 months at the office of Ahrens in Tokyo, studying the Japanese N industry and handling contacts with Japanese interests wishing to acquire from the I.G.N. plants, N plant plans or N plant equipment. Steinle believes that, during this time, he gained a fair idea of the Japanese N industry. After this period, Steinle headed the setting up of the KUROSAKI plant together with Dr. Braus. Beside this plant, Steinle has some knowledge of the plants at Kobe (TAKI plant) and the NAHAGI works at Nagoya.

"3. Steinle estimates the present Japanese N production at a maximum of 400,000 tons of synthetic N per year plus approximately 60,000 tons per year (15%) of nonsynthetic N (from coking). However, he emphasizes that these figures are only comprising his estimate of the home islands production (Japan proper) not Manchukuo. With regard to production of definite plants, Steinle was only willing to give estimates of those plants personally familiar to him as follows:

|                   |                 |                       |
|-------------------|-----------------|-----------------------|
| Kobe (Taki works) | Nagoya (Nahagi) | Kurosaki (Mitsubishi) |
| 20,000 tons       | 30-40,000 tons  | 50-60,000 tons        |
|                   |                 | 1945 production.      |

"4. Heko sure production was started according to the Ureac system at the Kurosaki plant in 1937, as well as at all other Japanese N works, since it is Steinle's belief that this was in accordance with instructions issued by the Japanese government to all N works. Steinle, however, did not feel in a position to give an estimate of the present Japanese Hekosaure capacity, since this was kept with unpenetrable secrecy by the Japanese officials.

"5. Regarding the SUNAKAWA plant (Toyo Katsukogyo), plans were sold by the I.G. Farben for this plant about the end of 1940 for an installation with an annual capacity of 200,000 tons of Ammonium Sulphate or 40-50,000 tons of Nitrogen.

"6. During peacetime, Japan purchased for agricultural uses alone 250,000 tons of N per year. Steinle estimates total Japanese consumption today at 500-600,000 tons of N per year.



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"7. Regarding the question of the relative vulnerability, Steinle expresses himself as follows: Within the N industry the medium concentrated nitric acid production is, of course, the most vulnerable on account of the easily damaged and hard-to-replace-rapidly absorption towers. As to production of highly concentrated acid from medium concentrate, Steinle concurs with Braus that such installation would probably be invulnerable (a) on account dispersal into many small plants in Japan and (b) since Steinle is quite certain that a comprehensive underground program for small chemical production installations has been carried out by the Japanese. However, it is also to be considered, that the Japanese, just as did the Germans, have built medium concentrated nitric acid and high-concentrated acid plants in liquid form from primarily N plants. In both the above cases, the primary N plant should be the most vulnerable spot in this group, since it houses on one hand the source of the 'ausgangsproduct' for nitric acid, namely the N, or on the other hand, the N plant plus the medium concentrated nitric acid plant. Hence the primary N plant should be attacked.

"8. Steinle estimates Japanese Methanol capacity at approximately 400,000 tons per year at present. Edogawa works are the biggest Japanese methanol producer, with an approximate production of 100,000 tons per year. (Muenzing worked this plant and should be able to give all data and plans on it.)

"9. Steinle is quite certain that there are no plants of any kind in the chemical sector on Hokkaido, the northernmost Japanese chemical plant being the Hatsincho N plant, referred to in my report on the Graessle interview of 24 June 1945.

"10. Steinle does not believe the I.G. people turned over to the Japs the processes for Glycol, metgylamine nitrate and hydrazine hydrate, unless this was done quite recently under Nazi government pressure.

"11. Already in 1937-38, Mitsubishi was interested in combined methanol, nitrogen and oil hydro plants, and Steinle believes that they have at least a pilot plant of this kind running. Does not know location.

"12. Steinle does not believe that Japan has the Tetrathyl process, and he is quite definite that the Japs have not got the Iron Carbonyl process.

"13. Steinle is convinced that the Japanese have the processes of TABUN AND SARIN or any other gas of Dyrenfurth production, since the Japanese work spying was most excellent, and even he (Steinle) knows all about Tabun and Sarin, even though he was in no way concerned with their production which was supposedly super-secret for everyone. Steinle got his information through unguarded gossip of Dyrenfurth employees, and feels that the Japanese spies must have done at least as well as he did without even trying.

"14. As to fuel production, already in 1938 a Fischer synthesis works of 200,000 tons annual production had been planned, and according to Steinle's belief, put into being. However, as to hydrogenation, Steinle is certain that nothing whatever had been started by 1939. A lot of questions had been asked by the Japanese, but there was no unified effort since the Japanese navy, Mitsubishi, and some other interests each competed with and worked against each other trying separately to develop a process of their own; Steinle is quite certain that the hydro development in Japan did not go beyond the question-asking stage by the time of the outbreak of the war. However, though hydrogenation may still be in its infancy, Japan today must dispose of very large stocks of hi-grade crude imported for storage at the time when this was still possible; this crude is now being refined, most probably in underground installations, as quite generally speaking,



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Steinle is convinced that the Japanese moved as many of their low-pressure installations as possible underground on Kyushu.

"15. With regard to comparative vulnerability, in view of the foregoing, Steinle considers the Japanese N production installations as the most vulnerable target system, since they are comparatively few, exposed, hard to replace, needed for nitric acid production in addition, whereas hydro plants cannot be far enough developed as yet for Japan to depend upon, and synthetic production of hi grade fuel generally speaking should still be of secondary importance in Japan on account of the large stocks of hi-grade crude being probably refined underground.

"16. Steinle does not believe that crippling the chief north-south RR line of Japan would effectively cripple war production or moving of goods of all kinds, since due to its peculiar geographic position, all producing parts of Japan can efficiently be serviced by coastwise shipping which has always been very extensive. Bearing out this point is the fact brought out in the interrogation of Grassle on the Hatsinohe plant that, even though the plant is located on the main rail line, already in 1939 a special pier was started to service the eventual need of the plant, and a few miles up the beach from the plant, a big harbor installation was planned for which Steinle has already then (1939) seen the drawings.

"17. Steinle thinks that Undo built between four and six plants in Japan with a total capacity of 60,000 tons per year. The best informed people at Undo in addition to Koehler and Blauhut is the commercial head of the firm at Dortmund office.

"18. Short appraisal of Steinle: He is an early Nazi party member and makes no secret of this fact. He is very cautious and careful in his statements which appear well considered. He does not exaggerate his knowledge in order to make a good impression. He seems a scholarly man well informed on the topic definitely defined by him as only extending to Nitrogen production.

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"FORWARD HEADQUARTERS  
U.S. STRATEGIC BOMBING SURVEY  
OIL DIVISION

FIELD TEAM NO. 78

24 June 1945

Interrogation of shop supervisor Karl Grassle, 47 years old, normally working at I.G. works at Oppau, also heavy construction and maintenance chief at Heydebrek.

"Grassle is a nitrogen high pressure and butyl maintenance expert and shop chief. He was interrogated in the house of relatives in Eisenberg in the Rheinpfalz on 23 June 1945.

"1. Grassle spent 4 years, 1936-1940, in Japan installing and operating 'N' works for the I.G. He worked for a period of approximately one year each at the

- a. Taki works at Kobe
- b. Kurasaki plant, on which we have all details from Braus.
- c. Nagoya II
- d. Hatsinohe in northern Honshu

"2. The capacity of the Hatsinohe works in 1940 when Grassle left this plant was 15,000 tons per year of  $\text{NH}_3$  or 50,000 tons per



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year of ammonium sulphate. The plant had 2 ovens worked with two gas generators and its two compressors had a capacity of 4,000 cubic meters per hour. Grassle does not believe that this plant has been expanded since, though this is only his personal belief. For layout plans and plant location see enclosures 1 and 2. (Not included).

"3. According to Grassle, Nagata II had the same capacity as Hatsinohe though a different gas source, which was kept a secret from Grassle, but he believed it was installed by Uhde.

"4. In the year 1940, Grassle visited Hokkaido, the northernmost island, on a summer vacation trip. He is quite positive that there is neither a nitrogen or a hydrogenation plant on Hokkaido. In the year 1940 he noted no industrial developments whatsoever on Hokkaido, even though he kept his eyes open for just that, and no plan of building there had come to his knowledge.

"5. On account of the short time at the writers disposal, it was not possible to obtain a lay-out plan on the Kurasaki or the Taki works from Grassle on the occasion of this visit with him. Since it requires considerable time to refresh his memory; should such plans be desired, they will be obtained on the next visit with Grassle.

"FORWARD HEADQUARTERS  
U.S. STRATEGIC BOMBING SURVEY      SDT/wnw  
OIL DIVISION

FIELD TEAM NO. 78

18 June 1945

"Interview with Karl Krauch, Reichsamt fuer wirtschaftsausbau and Generalbevollmaechtigte fuer Sonderfragen der Chemischen Erzeugung, on his farm near Heidelberg, by Mr. Asbury and Mr. Turner.

JAPAN

"Sources of Information:

Krauch's contacts with Japs only on Hydro.  
Ruhl still in Japan; Fessler dead.  
Goldberg, (Lud) best generally informed on Jap industry.  
Also possible sources: Karl Mueller, Adolf Mueller, Bachmeyer, Muensig, Uster, Bonn, Bueteufisch.

"NITROGEN:

"Guesses total production 250,000 tons including Manchuria: Goldberg would have exact figure. More damage to Japan by bombing N than any other chemical industry. More effective to bomb primary fixation ( $\text{NH}_3$ ) than nitric acid due to few large plants and greater difficulty in repair. These conclusions by analogy from German situation.

"EXPLOSIVES:

"Principally TNT; also hexogen and picric acid. Estimate toluene (or TNT) supply at 100,000 tons; from coke ovens; thinks Japs made no synthetic; were not given IG process. Were not given German processes for new explosives (penta, etc.)

"AVIATION GASOLINE:

Thinks most critical of all Jap supplies, and should have first priority in bombing. Conclusion reached from analogy to German situation, and nature of Jap inquiries concerning processes. Japs did



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Not make iso-butyl alc. from CO and H.

"METHANOL:

Developed own process; got 'experience' from Germans. Thinks third most critical product (aviation gasoline first, ammonia second).

"MISCELLANEOUS:

Japs' oil-chemical plants on small scale compared with Germany and oil chemicals not integrated in single plants.

Soda industry probably not critical.

IG gave Japs no information on TEL; other German firms may have. Probably no Et... Dibromide shipped to Japs.

Germany gave Japs no poison gas processed.

GERMANY"UNDERGROUND AND DISPERSAL PLANTS:

Did not think it feasible to put large, complete synthetic plants underground. Only possible plan under which oil industry could have continued to supply under bombing would have been to build many small (20,000 gals) dispersed plants, but expenses would have been beyond possibilities, and transportation difficulties enormous. Hitler told Krauch in June 1944, it was regrettable that the oil-chemical industry had been built for peace (large units for efficiency) rather than for war (scattered).

"TARGET SELECTION:

Krauch expected attacks on oil plants at the outset of war and urged that more plants be built. The military felt such attacks unlikely and further shortage of steel prevented additional plants being built. Bombing of the synthetic plants was decisive as it knocked out aviation gasoline production. Krauch did not think we would have done better to have diverted part of this bombing effort to either lubricating oil plants or synthetic rubber plants. Lubricating oil plants were more dispersed and easier to replace. Further, there larger stocks (in terms of days forward supply) of rubber and lube than of aviation gasoline.

Asked what other targets would have been more effective, Krauch said that if the heavy machinery used in open-pit mining of Brown Coal had been bombed, this would have shut down this industry and with it a large part of Germany's electric power, synthetic oil and chemical production. It could have taken 6 - 8 months to replace this equipment.

"NITROGEN:

We were correct in attacking munitions production at the source, that is, primary nitrogen fixation. Ammonia production was highly concentrated in a few plants and these being high-pressure equipment, took longer to replace than other plants such as for nitric acid production. We suggested that the damage to high-pressure equipment was often superficial and that the principle apparatus was left intact when the debris of the buildings was removed. Krauch agreed but said that when the larger sized bombs were used the main equipment itself was knocked out. Attack on ammonia plants affected nitric acid production directly since during the last year of the war there was no ammonia production going into fertilizer which could be diverted.