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15 February 1946

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From: Chief, Naval Technical Mission to Japan.
To : Chief of Naval Operations.

Subject: Target Report - Evaluation of the Effectiveness of Allied Offensive Mining Operations Against Japanese Shipping in Chinese and Southwest Pacific Waters.

Reference: (a)"Intelligence Targets Japan" (DNI) of 4 Sept. 1945.

1. Subject report, covering Target S-98(N) of Fascicle S-1 of reference (a), is submitted herewith.

2. The investigation of the target and the target report were accomplished by Lieut. J. F. Dexter, USNR, assisted by Lieut. W.W. Woodworth, USNR, as interpreter and translator.

C. G. GRIMES
Captain, USN

30686

RESTRICTED S-98(N)

EVALUATION OF THE EFFECTIVENESS OF ALLIED OFFENSIVE MINING OPERATIONS AGAINST JAPANESE SHIPPING IN CHINESE AND SOUTHWEST PACIFIC WATERS

"INTELLIGENCE TARGETS JAPAN" (DNI) OF 4 SEPT. 1945

FASCICLE S-1, TARGET S-98(N)

FEBRUARY 1946

U.S. NAVAL TECHNICAL MISSION TO JAPAN

SUMMARY

SHIP AND RELATED TARGETS

EVALUATION OF EFFECTIVENESS OF ALLIED OFFENSIVE MINING OPERATIONS AGAINST JAPANESE SHIPPING IN CHINESE AND SOUTHWEST PACIFIC WATERS

The mining of the Yangtze River by U. S. Forces was very successful in disrupting and delaying river traffic which was vital to the maintenance of Japanese troops in that part of China. The railroads were relied upon to replace river traffic, but facilities were not adequate to entirely replace river transportation. The closing of SHANGHAI prevented the unloading of troop transports and heavy military equipment. This shipping was re-routed to ports north of SHANGHAI, thus necessitating rail transportation south. Japanese mine sweeping facilities on the Yangtze were not able to cope with the situation.

The mining of HONGKONG caused considerable delay in shipping. However, at the time of the mining, HONGKONG was not a major base and the interruption of normal shipping procedure, while it was a nuisance, was not considered by the Japanese to have been of particular strategic importance.

The mining of SAIGON followed two weeks after a devastating bombing attack. The bomb damage to the docking facilities at SAIGON was so great that the port was never again used as a major convoy stop or supply base. The mining was considered a nuisance, but had little strategic value.

Camranh Bay was mined at the same time as SAIGON. This mining was effective in preventing the use of the bay as a convoy refuge against submarines.

The continuous mining of all ports used by the Japanese in Siam, the Malay States, SINGAPORE, and Burma created a critical supply situation which the Japanese were unable to handle. Sweeping facilities were inadequate in all areas. The Bangkok area was closed to all steel ships from the summer of 1944 to the end of the war. Maintenance of supply by junk and wooden barge was not successful because of active aerial and submarine warfare.

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REFERENCES

Personnel Interrogated:

Part I.

Captain S. IKEDA, Senior Staff Officer, Japanese Naval Base Command, SHANGHAI
Captain HONDA, Japanese Naval Attache at NANKING
Comdr. T. SHIMURA, Staff Officer, Japanese China Sea Fleet
Captain S. IMANUARA, Harbor Master, SHANGHAI
Lt. Comdr. S. NORITAKE, Officer in Charge of Minesweeping, SHANGHAI Area

Part II.

Vice Admiral FUJITA, Commander South China Fleet (came to HONGKONG in April 1945)
Captain SHIMONOUGHI, Chief of staff to Admiral FUJITA (came to HONGKONG in March 1944)
Lt. Comdr. YAMAKAWA, Operations Officer in Charge of Mine Sweeping (came to HONGKONG in March 1944)
Captain KURA, Harbor master in HONGKONG since March 1944

Part III.

Comdr. Tadao KUSUMI, Staff Officer Eleventh Naval Base, SAIGON

Part IV.

Comdr. Tadao KUSUMI, Staff Officer Eleventh Naval Base, SAIGON

Part V.

Rear Admiral Katsuya SATO, Naval Attache at BANGKOK
Comdr. Takao INAMI, Assistant Naval Attache at BANGKOK
Major General R. OHARA, Commanding General, 18th Area Army

Part VI.

Comdr. Eiichi INO, Communications Staff Officer (came to SINGAPORE from Truk in December 1943)
Lt. Comdr. Sakae OZAKI, Torpedo Staff Officer (came to SINGAPORE from YOKOSUKA in October 1944)

Part VII.

Vice Admiral OKOOCHI, Denshichi, Head of S. W. Area Fleet
Rear Admiral Kuraji HAYAKAWA, Director of Cavite and Manila Naval Ship Yards, 8 October 1943 to 14 January 1945
Rear Admiral Naoji DOI, Director of General Affairs, Toyokawa Navy Yard, 25 August 1942 to 5 May 1944. Inspector of Navy Yards and Installations 5 May to 30 June 1944. Head of Japanese 32nd Naval Force at DAVAO, Mindanao
Rear Admiral Inokichi MATSUMOTO, Member of Naval Engineering Bureau, TOKYO, 1939-1941. Chief of Naval Construction, Sasebo Naval Base. (Primarily concerned with construction of air strips, dams, barracks, etc.)
Rear Admiral Tadayuki MATSURA, Had varied experience as captain of tankers, cruisers, merchant ships. CO of 12th Harbor, Wewak, New Guinea. Harbor Master of 31st Port, Manila.

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INTRODUCTION

This report covers the effectiveness of the allied offensive mining campaign executed against Japanese shipping in Chinese and Southwest Pacific waters. It is based upon information obtained in SHANGHAI, NANKING, HONGKONG SAIGON, BANGKOK, and SINGAPORE. The results of the U. S. mining of Japanese nome waters has been investigated by U. S. Strategic Bombing Survey.

Information is not complete or accurate enough to make a satisfactory evaluation of the allied mining effort in the areas covered. The reasons for this inadequacy are:

1. All records of ship movements, tonnages of cargo transported, dates when harbors were closed because of mines, and lists of ships sunk or damaged by mines had been destroyed. Most of the information is from memory or personal notes.

2. Poor communications and lack of cooperation between Japanese commands. Information concerning the mining in areas adjacent to the particular ports visited could not be obtained.

THE REPORT

Part I - MINING OF THE YANGTZE RIVER

The Yangtze estuary was first mined by U. S. aircraft in early February 1944. This initial mining was followed by a continuous attack until the summer of 1945. The river was mined at several locations extending from the mouth up to HANKOW. The Japanese discovered the mines in the Yangtze estuary on 15 February 1944, a few days after they had been laid, when RYOGA MARU was sunk by a mine at a point 500 meters above the middle Ground buoy.

The mining of the Yangtze River was not anticipated and no minesweeping equipment was on hand at the time of the first minelaying. Magnetic bars were obtained from Japan for the construction of the catenary type of sweep, but no technical information concerning sweeping was received. It is the opinion of the Japanese command at Shanghai that minesweeping methods were not effective, as many ships were sunk or damaged in channels which had been swept and declared safe. A channel was usually closed to all traffic from one to two weeks after a mining operation. Six sets of Type 5 diamond loop magnetic sweep gear were received in May 1945, but this equipment was never put into service.

The Japanese assumed that magnetic type mines only were laid in the Yangtze. However, distant explosions of mines during sweeping operations led to the belief that acoustic mines might have been used. This fact was never established definitely. So called "noise bombs" were dropped in the Kiukiang area in an attempt to sweep the suspected acoustic mines, but the effectiveness of this sweep was doubtful and it was not used extensively. No mines were reported swept by the noise bomb method.

U. S. drifting mines were laid by aircraft in the Upper Yangtze River. The Japanese believed that a great number of drifting mines had been laid, but the type of mine and how they were placed in the river was never discovered. Several ships are believed to have been sunk near HANKOW by the American drifting mines. Underwater explosions in areas where mine laying airplanes had not operated caused considerable consternation among the Japanese, and had a demoralizing effect on civilian crews of river craft. These explosions were probably the U. S. drifting mines which self-explode when the batteries are exhausted.

Because of the inadequate minesweeping equipment, the Japanese were unable to maintain a clear channel from SHANGHAI to HANKOW, and the Yangtze was closed for long periods during the summer and fall of 1944. By late spring of 1945, the situation became so critical that all steel hulled ships were held at SHANGHAI and not permitted to navigate the river to HANKOW. Thus, river traffic was confined to small wooden junks and barges. Therefore, the movements of troops and heavy equipment by the river route was prohibited. The railroad facilities were inadequate to handle the material normally carried by river transportation. It is the opinion of the Japanese interrogated that the mining of the Yangtze River, together with bombing and strafing, effectively interfered with the supply of material to troops in central and south China. The military situation, especially the Japanese drive into south China, was said to have been affected greatly by the mining of the Yangtze River. The movement of food from the Yangtze valley to Japan was also affected to some extent. When the Yangtze estuary was closed, ships were re-routed to north China and Korean ports. This resulted in further overloading of the already hard pressed railroads between SHANGHAI and the northern ports. An attempt was made to use AMOY, south of SHANGHAI, as a port, when the Yangtze was closed to shipping. These plans were not successful because of inadequate port facilities and the fact that AMOY was considered to be too close to the front lines.

The ships sunk or damaged by mines in the Yangtze River are listed in Enclosure (C). A report of Japanese minesweeping is also included therein. This information was supplied by the Japanese personnel interrogated.

Part II-- MINING OF HONGKONG

In April 1943 a submarine laid the first mines in the HONGKONG area, and in November of the same year and in January 1944 there were aerial mining attacks. The Japanese interrogated maintained that all records concerning mining had been destroyed and that since they were not on hand at the timeoof the first mining, they knew nothing about it.

The next mining attack was in June 1944. This mine field was discovered in mid-July when a mine exploded spontaneously. The mines were assumed to be an aircraft-laid magnetic type. Mine sweeping operations were started immediately. Two sets of Type 3 magnetic bar sweep gear were available. The mine sweeping procedure was the responsibility of the local area commander. No technical information concerning magnetic mines or sweeping methods was received from Japan or other commands.

Observation posts were set up on islands adjacent to shipping channels and on small boats anchored off the fairways. These observation posts were effective in reporting the presence of mine laying aircraft, but the location of the mine field could not be determined accurately. When mining aircraft were reported, the channel over which the airplanes flew was closed to shipping and a channel 300 meters wide was swept thru the danger areas. Eight passes were made by the sweepers before an area was considered safe. One to two weeks was required to make a complete sweep. The swept channel was marked by buoys and was indicated on charts. These charts were sent out to the ships before they entered the danger area, but in some instances when there was not sufficient time to prepare charts, pilots were transferred to incoming ships. However, traffic was difficult to control and several ships were damaged when they ran out of the swept channels.

Mine sweeping was considered effective although a ship was occasionally hit in channels that were believed clear. The fact that acoustic mines were being laid was not discovered by the Japanese. About 40 mines were swept from July 1944 until the end of the war.

Mining caused considerable delay and interference in shipping in the HONGKONG area. Several months were required to repair damage to ships caused by mines, and in several instances repairs could not be made at all because of lack of materials. When mines were laid, ships enroute to HONGKONG were usually rerouted to TAKAO to HAINAN. The ships sunk or damaged are listed below.

Ships Sunk - 4

1. HAKUUN MARU — Navy Sweeping Boat — 450 tons

   Location..... East Lamma Channel
   Date.....June 1945
   Personnel lost.....5

2. DAIHATSU — Navy Barge — 10 tons

   Location.....KAPSHIN MUN (Throat Gates)
   Date.....July 1944
   Personnel lost.....7

3. SAGA — Gun Boat — 800 tons

Location.....Stone Cutter Island
Date.....September 1944
Personnel lost.....6
Remarks.....Ship was hit by two mines.

4. Name Unknown — Army Transport — 80 tons

Location.....Stone Cutter Island
Date.....November 1944
Personnel lost.....Not known

Ships Damaged - 6

5. KOTO MARU — Canton River Boat — 1000 tons

Location.....Green Island
Date.....April 1945
Extent of Damage...Damage to bottom; two months to repair.

6. YAMASACHI MARU — Navy Transport — 4000 tons

Location.....Green Island
Date.....February 1945
Extent of Damage...Damage to bottom; two months to repair.

7. YAMASACHI MARU — Navy Transport — 4000 tons

Location.....Green Island
Date.....April 1945
Extent of Damage.....Second mine hit caused damage to machinery; ship never repaired.

8. YOKAI MARU — Army Transport — 2500 tons

Location.....Green Island
Date.....February 1945
Extent of Damage.....Damage to bottom; undergoing repairs at end of war.

9. ANKOKU MARU — Transport — 10,000 tons

Location.....Green Island
Date.....October 1944
Extent of Damage.....Damage to bottom; temporary repairs taking 2 wks.

10. RISSHO — Oil Tanker — 4000 tons

Location.....Tathong Channel
Date.....March 1945
Extent of Damage....Damage to machinery; undergoing repair at war's end. The Japanese in HONGKONG maintained that they knew nothing concerning the mining in the Canton Area.

Part III - MINING OF SAIGON

The mining of the Saigon River and Cape St. Jacques at the entrance to the Saigon River was anticipated by the Japanese Command. Several observation stations were set up along the river and at the cape to spot mine-laying air-

craft and the locations of the mines.

The first mines were laid on 25-26 January 1945. The low flying aircraft were easily tracked and the areas in which mines were laid could be determined by cross bearing from the observation stations. Magnetic mines were assumed to have been laid. The mined areas were marked by buoys. The fields were so located that ship traffic could avoid them; therefore, the SAIGON area was not blocked by this or subsequent mining raids.

Two weeks previous to the mining operation the dock areas at SAIGON were destroyed by bombing. The bombing was so effective that SAIGON was never used again as a convoy or supply base and no large ships entered the area thereafter. Thus, the mining was of little strategic value.

The disposition of mine sweeping gear in the French Indo-China area was as follows:

SAIGON	15 sets (Type 3 magnetic bar sweep)
CAMRANH BAY	2 sets
TOURANE	1 set
HAIPHONG	2 sets

Mine sweeping operations were started in SAIGON immediately following the January mining. Ocean going fishing trawlers with civilian crews were employed in sweeping. No mines were swept during these operations. It was believed that the mines buried themselves in the soft mud bottom to such a depth that they could not be actuated by the magnetic bars pulled along near the bottom. A channel 800 meters wide was swept through the mined areas. Mines which fell outside the established channel were not swept.

One 800 ton escort vessel (No. 61 Escort) was sunk by a mine on 9 February 1945. Due to poor navigation, this ship ran outside of the channel and into a mine field. It was the only ship hit by mines in the SAIGON area. The loss of this vessel decreased convoy escort efficiency somewhat, but the effect was not considered important.

In the opinion of the Eleventh Naval Base Command, the mining of SAIGON was little more than a nuisance. A very little shipping was available in 1945, and SAIGON was no longer a major base at the time of the mining.

No information was available regarding submarine mine-laying along the French Indo-China Coast. The naval command at SAIGON did not know that such fields had been laid. It is possible that mine hits on ships which were sunk in these mines fields were reported as torpedo hits. Data on ships which were sunk in area were not available. No information could be obtained concerning the mining of HAIPHONG and adjacent areas.

Part IV - MINING OF CAMRANH BAY

Two mining operations were made against Camranh Bay, French Indo-China; one in January 1945, and one in March 1945. Each of these fields was accurately spotted by cross bearings from observation stations. Both fields were laid outside the ship channel.

Mine sweeping facilities at Camranh Bay consisted of two sets of Type 3 magnetic bar sweep gear and four fishing trawlers. However, a bombing raid in early January destroyed three of these vessels and badly damaged the fourth. No replacements were available and the mine fields were not swept.

Although the mines were said to be in the channel, no large ships were permitted to enter Camranh Bay. This channel is used as convoy refuge for sea traffic to and from SINGAPORE. This is important and convenient

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Although the mines were said to be outside the channel, no large ships were permitted to enter Camranh Bay. This bay was used as convoy refuge for sea traffic to and from SINGAPORE. The loss of this important and convenient

refuge was considered serious by the Japanese naval command at SAIGON because of the active submarine campaign along the French Indo-China coast. Coastal shipping consisting of small wooden barges and junks was not prohibited from using Camranh Bay, but this shipping had little military importance.

Part V - MINING OF BANGKOK, SIAM

The first mines in the Gulf of Siam were laid at KOH KHAN by submarine in October 1942. The 2000 ton Japanese ship SIDNEY MARU, while travelling in this area, was damaged by an unexplained underwater explosion. It was not until the beginning of 1944, when the extensive aerial mining campaign was started, that the Japanese concluded that the SIDNEY MARU was hit by a submarine-laid mine. These submarine fields in the Gulf of Siam laid in 1942 were not discovered and ships hit in the areas where these fields had been laid were probably reported as being attacked by torpedoes. No information was available to determine if this was the case.

The persistent aerial mining campaign was started in January 1944. All ports and anchorages in the Bangkok area were mined repeatedly until June 1945. The Japanese and Siamese Navies cooperated in an attempt to sweep the mines, but because of the great number of mines and inadequate sweeping equipment, the task was hopeless. By the summer of 1944 no steel hulled ships were permitted to enter the Bangkok area. An attempt to maintain supply by railroad and wooden barges was made but the requirements could not be met.

The Siamese Navy was responsible for the sweeping of mines laid in the Bangkok area. The Japanese supplied permanent bar magnets, but it was the responsibility of the Siamese to develop the methods and sweeping technique.

Thirty wooden fishing trawlers displacing about 30 tons each were available for sweeping duties. Ten of these ships operated at a time; the remainder were held as a reserve. The sweep vessels were manned by civilian crews with Siamese naval officers commanding. Navy enlisted men were assigned to each ship to handle the sweep gear.

In the summer of 1944 a single ship sweep pulling two permanent bar magnets spaced 6 meters apart was devised. Figure 1 illustrates this type of sweep. Two ships operated together, one following the lead ship and overlapping the swept path of the first ship, providing a swept channel about 10 meters wide. Twelve passes were made over an area before it was declared clear of mines. Sweeping speed was 2 to 3 knots, and never more than 4 knots. This type of sweep was used for five months with presumably good results.

On 15 January 1945 a mine exploded directly below a mine sweeper, sinking the ship. This accident was not explained. On 29 January another sweeper was sunk by a mine exploding amidships. At this time it was suspected that some sort of accoustic mine was being used. However, the single ship sweeper continued sweeping.

In early March 1945, three mines were observed to explode ahead of the sweeper when a magnetic mine was exploded by the bar magnets. These mines exploded a few seconds after the magnetic mine was swept; one exploded about 500 meters ahead of the sweep ship, one at 1000 meters, and the third at 1300 meters. At Koh Sichang Anchorage it was reported that a mine exploded spontaneously during a bombing attack on shipping. These explosions were assumed to be acoustic mines but no countermeasure was available. Sweeping continued until 20 March 1945. At this time the third mine sweeper was destroyed by a direct mine hit, killing 3 persons. The civilian crews refused to continue with the single ship type of sweeping and operations were discontinued.

A scheme was tried whereby single bar magnets were suspended from a float and set in the river to drift down over the mine field. Twelve to fifteen bars were drifted at a time. A few mines were observed to explode, but this

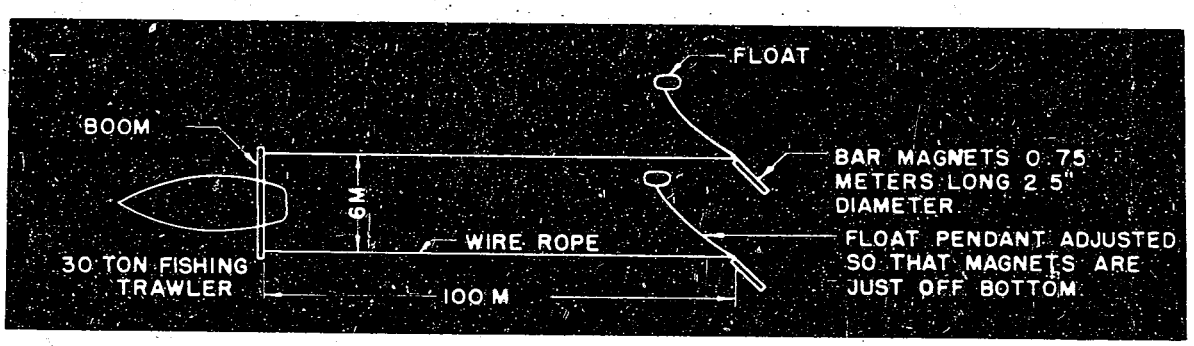

Figure 1
SINGLE BOAT SWEEP

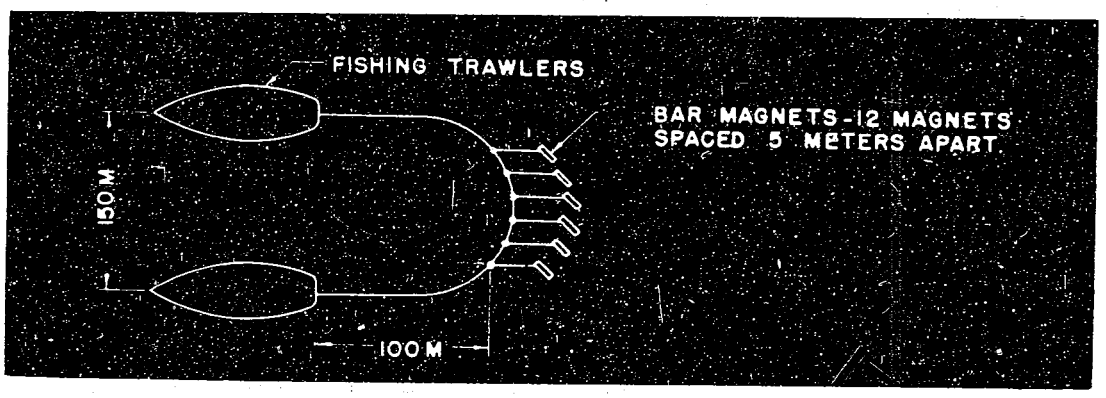

Figure 2
TWO BOAT SWEEP (MODIFIED TYPE 3 GEAR)

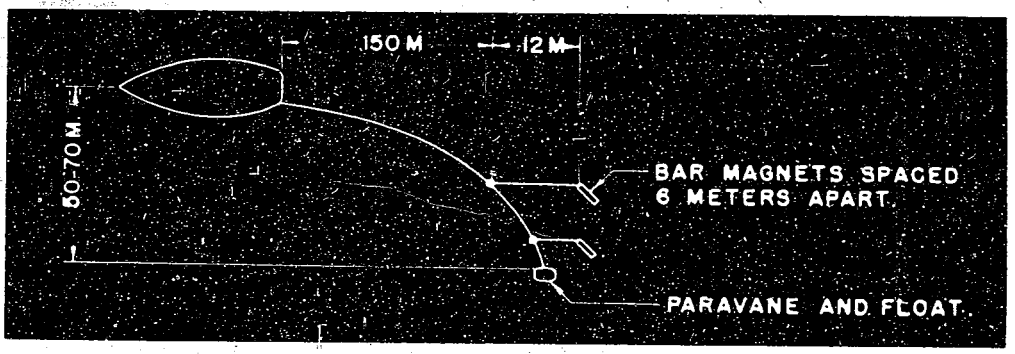

Figure 3
EXPERIMENTAL SINGLE BOAT SWEEP

method was considered inadequate and was discontinued after two attempts.

Civilian crews supplemented by Navy personnel were obtained to man four ships, and the single ship type of sweeping was resumed. During sweeping operations, all personnel were stationed topside as a safety precaution. On 10 May the fourth sweeper was blown up and two persons were injured. During this period no information concerning acoustic mines or countermeasures was received from the Japanese.

After the fourth sweeper was sunk, the two-ship sweep was used (see figure 2). This sweep, similar to the Japanese Type 3, had been suggested earlier by the Japanese, but was not used because ships powerful enough to pull the Type 3 sweep were not available. The Type 3 sweep was modified to utilize 12 bar magnets instead of the usual 36. Two sets of this gear were fitted to the four most powerful trawlers. This sweep was effective, but the danger from acoustic mines still existed. On 28 May the fifth sweeper was sunk when a mine exploded 5 meters astern. A single ship sweep shown in figure 3 was designed so that the sweeper did not have to enter the mine field. No mines were swept using this method, however.

The Japanese Navy had taken over supervision of mine sweeping in April 1945. It was not until July that acoustic mines were considered as a definite threat by the Japanese, but no information was ever received concerning the design or disposal of this type of mine. Previous experience indicated that an explosion some distance from acoustic mines sometimes caused firing. Experiments were undertaken to develop an explosive sweep. The first experiment consisted of exploding 10 kilograms of dynamite about 900 meters from a mine field. In the second experiment 30 kilograms of dynamite were exploded. No mines were fired in either attempt and the experiments were abandoned.

Therefore, no attempt was made to sweep mines magnetically or acoustically in the fields in which minesweeps had been lost. The two-ship sweep was resumed in the fields that were thought not to contain acoustic mines. However, on 17 July the sixth sweeper was sunk and three persons injured. Magnetic sweeping continued until the end of the war in areas believed to be clear of acoustic mines. Several mines were swept magnetically, but no more acoustic mines were observed to explode. The sweeping did not effectively clear Koh Sichang Anchorage or the river leading to BANGKOK.

The fact that dummy mines were laid in the spring of 1945 was not discovered by the Siamese or Japanese. All mines laid were assumed to be active.

In March 1944 the Japanese recovered two American mines from the Sittang River in Burma. One of these mines was dispatched to the Naval Base at SINGAPORE. The other was sent to BANGKOK for study. Information from this study was used to determine the 6 meters spacing for the magnetic bars used in sweeping. In March 1945 two more mines were recovered from the beach at CHUMPORN and sent to BANGKOK for study. One mine blew up during the investigation, killing the group of experts who were making the examination. As no experts were available to disassemble the second mine, it was dropped into deep water. The type of mines that were recovered was not known.

The effects of the mining on Japanese shipping is illustrated in the ship clearance record shown in Enclosure (A). This enclosure lists the ships which entered BANGKOK port and Koh Sichang Anchorage.

It will be noted that by the end of 1944 few large ships entered BANGKOK; the majority of ships were wooden hulled barges of less than 500 tons displacement.

The mining of BANGKOK, together with submarine warfare, caused a collapse of normal supply routes between SAIGON, BANGKOK, and SINGAPORE. The railroad between SAIGON and BANGKOK was used to move a small amount of goods between

those ports, but in January 1945 the docking facilities in SAIGON were destroyed, and it was abandoned as a major base. The SINGAPORE-BANGKOK railroad was greatly overtaxed. Bombing of the railroad further reduced its efficiency. The following table is an estimate of the depreciation of rail capacity:

	Jan. 1945	Feb. 1945	June 1945
BANGKOK-SINGAPORE Line	70%	50%	30%
SIAM-BURMA Line	70%	50%	30%

The transportation of fuel to the BANGKOK area by railroad and tanker was abandoned late in 1944 and an attempt was made to bring fuel by barge into the port of HATIEN, French Indo-China, to be transfered to the BANGKOK railroad. Transportation capacity was not sufficient to handle the requirements. However, against a monthly consumption of 176,000 gallons, only 130,000 gallons could be supplied through HATIEN; thus a shortage of about 20 percent resulted. The 20 percent shortage was made up from reserve stocks. The reserve stocks were sufficient to supply the demand from January to March 1945. The fuel situation became critical during April and an attempt was made again to ship fuel from SINGAPORE to HATIEN and BANBACON by barge. Two shipments were made, one in May and another in June. About 80 percent of the requirements for a three month period were brought in by these shipments.

The tables in Enclosure (B) are approximate tonnages of materials received and shipped by BANGKOK. These figures are not accurate, but serve to indicate the decline in shipping.

Transportation of rice from BANGKOK to SINGAPORE was severely curtailed during the latter part of 1944. Rail shipments had been disrupted by bombing attacks and transportation by steel ships was prohibited by the mining blockade.

An attempt to load large ships by lighter at TACHIN was made, but air and submarine attacks caused this scheme to fail. The large ships were replaced in January 1945 by 150 ton wooden barges which were loaded at TACHIN, moved down the coast to SINGORA, and the cargo shipped to SINGORA by railroad. About 10,000 tons per month were loaded; 5000 tons per month were received at SINGORA.

The continued mining along the coast of Siam, the Malay States, and Burma crippled the transportation of vital goods: rice to SINGAPORE, fuel and military equipment to Siam and Burma. It was impossible to determine accurately the effect of the mining on the Burma campaign, but it is the opinion of the Eighteenth Area Army General Staff in BANGKOK that the blockade of these areas contributed greatly to the critical condition in Burma at the end of the war.

A list of the ships sunk or damaged in BANGKOK and the Gulf of Siam is given below.

SHIPS SUNK IN RIVER CHAO PHYA

Name	Tonnage	Date Sunk
S. S. VALAYA	1311	13 January 1944
Lighter	245	4 February 1944
Coastal S. S. ANGHIN	300	22 March 1944
S. N. T. CHANG	863	6 January 1945
Fishing Boat	31	15 January 1945
Fishing Boat	30	18 January 1945
Fishing Boat	25	29 January 1945
Tug Boat	20	2 February 1945

KUIRUI MARU	800	24 February 1945
Custom House Boat	20	28 February 1945
Local Motorboat	10	26 March 1945
Local Motorboat	10	10 May 1945
Fishing Boat	30	28 May 1945
Fishing Boat	30	17 May 1945
Coastal Minesweeper	500	11 October 1945

SHIPS SUNK OR DAMAGED IN GULF OF SIAM

Name	Tonnage	Date Sunk
SIDNEY MARU (Damaged, transport)	5435	November 1942
R. S. N. gunboat (Damaged)	1000	12 February 1945
R. S. N. Sloop (Damaged)	1000	2 June 1945
KAYO MARU(Sunk,* transport)	2500	March 1944

*at Soh Sichang

Part VI - MINING OF SINGAPORE AREA

The information obtained in SINGAPORE, as in other areas, is very incomplete. All records had been destroyed; therefore an accurate evaluation of the mining effort in this area cannot be made.

No information was available concerning the effects of the British defensive mines laid in 1941. SINGAPORE was first mined by Allied aircraft in January 1945 and subsequently in February, March, April and May. Observation stations had been set up in the Singapore straits to spot mine fields but the stations were not effective. The fields were usually discovered when a ship was hit by a mine. After a field was discovered, all channels were closed and sweeping operations commenced. The harbor was closed to all ship traffic for about three days after the discovery of a field. During the next seven days only small vessels were given clearance, and it was not until three weeks after sweeping commenced that the port was declared safe. Accurate dates of closure were not available. Sweeping equipment consisted of Type 3 magnetic bar sweep gear. About 300 persons were engaged in mine countermeasures at SINGAPORE.

The mining of SINGAPORE was said to have interfered considerably with the transportation of fuel and bauxite to Japan and of military supply to the Burma area. It is impossible to evaluate this interference in terms of percentages and tonnage lost. The mines added to the already difficult supply situation caused by active submarine and air attacks. The rail traffic up the Malay Peninsula was greatly overtaxed because of mining of ports and submarine and aerial warfare, but again the congestion due to mines alone cannot be evaluated.

The ships sunk or damaged by mines in the areas under the SINGAPORE command are listed in Table I.

The ships which were damaged were usually sent to SINGAPORE for repairs. Dry dock facilities and skilled labor were the great bottleneck. The average time for repairs was about two weeks after the damaged ship was placed in dry dock.

The ports (other than SINGAPORE) and channels closed by mines are listed below. This information is not complete as all records were destroyed.

Port	Period Closed
RANGOON	Almost continuously since 1943
MERGUI	Almost continuously since 1943

BANGKOK	Continuously since 1943
KOH SICHANG	Closed intermittently
CHUMPORN	Closed intermittently
SINGORA	Closed intermittently
PENANG	November 1944 to August 1945 North channel only. South channel closed for two weeks after mine laying.
PALEMBANG	14 August 1944 to 10 September 1944

Channel	Period Closed
Singapore Strait	For about ten days in December 1944 January 1945, April 1945
Banka Strait (near Banka Island)	For two weeks in June 1945
Banka Strait (near Tobo Ali)	For ten days in July 1945
From Labu Pt. to Dapur Lighthouse	For ten days in July 1945
Within four mile radius of 000°-2'S, 104°-30'E (Buhala Strait)	For one week in May 1945

Part VII - MINING OF MANILA

Japanese officers (see "References") were interrogated at Luzon Prisoner of War Camp No. 1 where they were being held as war crimes suspects. Not one of them would admit that he had ever heard of the Allied mining campaign. Consequently, no information was obtained.

SHIPS DAMAGED BY MINES IN AREAS UNDER THE SINGAPORE COMMAND

TABLE I

Name of Ship	Type of Ship	Tonnage	Extent of Damage	Position	Date of Loss or Damage
(a) Burma Area					
TAKAO MARU	Transport	500	sunk	Rangoon River	23-4-1943
SANKYO MARU	Transport	500	sunk	Rangoon River	22-4-1943
KISO MARU	Transport	400	sunk	Rangoon River	8-1944
Special Submarine Chaser	Anti-sub Patrol ship	100	heavily damaged	MERGUI	10-1944
(b) Sumatra Area (including Banka Straits and Berhala Straits)					
IKUTA MARU	Transport	2000	sunk	Palembang R. right bank, 3000 meters upstream from payung 1.	Unknown
TAIKO MARU	Transport	500	sunk	Palembang R. 600 meters up stream from Singris Island	Unknown
NICHINAN MARU	Transport	5500	slightly damaged	Palembang River, near UPAN	Unknown
KYOEI MARU	Transport	800	slightly damaged	Mouth of Palembang R.	Unknown
NANPO MARU	Transport	250	sunk	Mouth of Palembang R.	Unknown
2 TONGKANGS	Transport	100 (each)	slightly damaged	Near KUNBANG (?)	Unknown
SUMIRE MARU	Transport	1000	slightly damaged	Near Banka Is.	Unknown
HASU MARU	Transport	2000	slightly damaged	Berhala Strait. 1-02 S, 103-32 E.	Unknown
YOSHINO MARU	Transport	3000	sunk	Berhala Strait.	Unknown
WAIKA MARU	Transport	400	sunk	East coast of Sumatra, near Clifton Bank Buoy	Unknown
SHONAN MARU	Transport	Unknown	sunk	Mouth of Belawang Harbour	7-1944
BUKUN MARU	Transport	Unknown	sunk	Mouth of Belawang Harbour	8-1944
(c) Penang Area					
No. 13 BANSHU MARU	Transport	Unknown	sunk	Penang Harbour	Unknown
No. 20 Submarine Chaser	Anti-submarine Patrol ship	unknown	slightly damaged	Penang Harbour	Unknown
(d) Singapore Area					
No. 3 KYO MARU	Transport	150	sunk	SINGAPORE	Unknown
No. 3 NANMEI MARU	Oil tanker	834	sunk	SINGAPORE	Unknown
SARAWAK MARU	Oil tanker	4000	sunk	SINGAPORE	Unknown
KOGA MARU	Transport	1200	considerably damaged	SINGAPORE	Unknown
No. 2 TOSHI MARU	Anti-submarine Patrol ship	170	considerably damaged	SINGAPORE	Unknown
No. 2 KUROSHIO MARU	Transport	900	considerably damaged	SINGAPORE	Unknown
CHORAN MARU	Transport	5300	considerably damaged	SINGAPORE	Unknown
KAZAN MARU	Transport	5300	considerably damaged	SINGAPORE	Unknown
ISE	Battleship	45,000	slightly damaged	Singapore Sts.	Unknown
HYUGA	Battleship	45,000	slightly damaged	Singapore Sts.	Unknown
HATSUTAKA	Minelayer	700	slightly damaged	Singapore Sts.	Unknown
KUROSHIMA	Minelayer	500	slightly damaged	Singapore Sts.	Unknown
HIKAWA MARU	Hospital Ship		slightly damaged	Singapore Sts.	Unknown
(e) Java Area					
No. 1 KASHIWA MARU	Transport	300	sunk	Batan Bay	4-1945
HUYO MARU	Transport	1900	slightly damaged	Batan Bay	10-1945

ENCLOSURE (A)

SHIP CLEARANCES FROM BANGKOK

Prepared by Bangkok Harbor Master's Office

* * * * *

Editors Note

The following letters are substituted in the table for purposes of condensation:

A - Thai Navigation Company Ltd.

B - Thai On Company Ltd.

C - Japanese Army

D - Messrs. Osaka Syosen Kaisya Ltd.

E - Messrs. Mitsui Bussan Kaisha Ltd.

F - Messrs. Mitsubishi Shoji Kaisya

G - Messrs. Toa Kaiun Kabusiki Kaisya

H - Messrs. Nittai Kaiun Kabusiki Kaisya

* * * * *

CLEARANCES IN 1942

No.	Name	Ton Registered	Owner	Trips
	THAI			
1	M.V.BHANURANGSI	7,380	A	19
2	S.S.BANGNARA	9,045	A	15
3	S.S.SUDDHUDIB	5,621	A	7
4	S.S.VALAYA	10,439	A	13
5	Lighter SINDHU WATANA	8,932	B	22
	Total	41,417		76
	JAPANESE			
1	S.S.181	638	C	1
2	S.S.145	1,152	C	1
3	S.S.855	280	C	1
4	S.S.214	3,230	C	1
5	S.S.272	3,583	C	1
6	S.S.176	2,707	C	1
7	S.S.156	8,834	C	2
8	S.S.812	3,409	C	1
9	S.S.524	8,484	C	2
10	S.S.642	4,266	C	1
11	S.S.628	12,774	C	3
12	S.S.448	6,426	C	2
13	S.S.HUKKO MARU	1,354	C	2
14	S.S.IIDA MARU	1,310	C	2
15	S.S.38	5,907	C	3

No.	Name	Ton Registered	Owner	Trips
16	S.S.74	1,881	C	1
17	S.S.18	3,918	C	2
18	S.S.12	7,548	C	4
19	S.S.103	2,984	C	1
20	S.S.86	4,702	C	2
21	S.S.112	2,995	C	1
22	S.S.784	2,767	C	1
23	S.S.KASUGA MARU	2,331	C	1
24	S.S.652	4,484	C	1
25	S.S.492	3,312	C	2
26	S.S.792	3,315	C	1
27	S.S.796	12,884	C	4
28	S.S.359	2,290	C	1
29	S.S.566	4,044	C	2
30	S.S.759	9,669	C	3
31	S.S.781	1,081	C	1
32	S.S.741	5,808	C	4
33	S.S.128	3,284	C	1
34	S.S.348	2,496	C	1
35	S.S.805	7,732	C	4
36	S.S.675	3,192	C	3
37	S.S.270	3,294	C	1
38	S.S.458	2,258	C	1
39	S.S.577	5,856	C	3
40	S.S.72	3,885	C	1
41	S.S.693	580	C	1
42	S.S.665	1,488	C	2
43	S.S.476	4,051	C	1
44	S.S.699	709	C	1
45	S.S.82	3,958	C	2
46	S.S.655	1,762	C	1
47	S.S.104	2,698	C	1
48	S.S.66	1,822	C	1
49	S.S.356	1,992	C	1
50	S.S.807	2,114	C	2
51	S.S.707	3,162	C	3
52	S.S.731	2.116	C	2
53	S.S.783	2,116	C	2
54	S.S.724	6,460	C	2
55	S.S.520	4,261	C	1
56	S.S.390	4,253	C	1
57	S.S.47	4,020	C	3
58	S.S.341	2,087	C	1
59	S.S.720	4,737	C	1
60	S.S.2017	655	C	1
61	S.S.148	2,792	C	1
62	S.S.58	3,084	C	1
63	S.S.705	3,960	C	2
64	S.S.164	3,422	C	1
65	S.S.TAKAMISAN MARU	1,099	C	1
66	S.S.2014	4,665	C	3
67	S.S.TATIKAZE	1,200	C	1
68	S.S.37	360	C	2
69	S.S.595	1,365	C	1
70	S.S.783	6,348	C	6
71	S.S.411	1,325	C	1
72	S.S.HAKAZE MARU	2,400	C	2

No.	Name	Ton Registered	Owner	Trips
73	S.S.TATIBANA MARU	3,862	C	1
74	S.S.280	4,326	C	1
75	S.S.139	3,708	C	1
76	S.S.976	4,508	C	2
77	S.S.420	4,343	C	1
78	S.S.HUZIKAWA MARU	4,968	C	1
79	S.S.218	3,565	C	1
80	S.S.694	3,259	C	1
81	S.S.890	3,524	C	1
82	S.S.464	2,490	C	1
83	S.S.754	2,930	C	1
84	S.S.90	7,508	C	4
85	S.S.674	2,721	C	1
86	S.S.934	3,202	C	1
87	S.S.884	2,298	C	1
88	S.S.2 SHOFUKU MARU	1,425	C	3
89	S.S.40	3,188	C	1
90	S.S.260	4,253	C	1
91	S.S.KOA MARU	439	C	1
92	S.S.BANSYO MARU	2,226	C	3
93	S.S.342	9,426	C	2
94	S.S.198	4,259	C	1
95	S.S.TAI SEUN HONG	1,297	C	1
96	S.S.722	4,320	C	1
97	S.S.501	1,344	C	1
98	S.S.324	2,304	C	1
99	S.S.KENSAN MARU	3,413	C	1
100	S.S.758	3,199	C	1
101	S.S.677	1,855	C	5
102	S.S.569	91	C	1
103	S.S.SAIHO MARU	2,885	C	1
104	S.S.HAKODATE	3,226	C	1
105	S.S.ZANPO MARU	2,695	C	1
106	S.S.5	1,174	C	2
107	S.S.HUKUEI MARU	3,273	C	3
108	S.S.2013	1,152	C	1
109	S.S.510	7,446	C	2
110	S.S.964	4,272	C	1
111	S.S.914	2,261	C	1
112	S.S.426	3,348	C	1
113	S.S.KINMON MARU	4,692	C	3
114	S.S.213	292	C	1
115	S.S.167	415	C	1
116	S.S.203	443	C	1
117	S.S.195	871	C	1
118	S.S.752	1,830	C	1
119	S.S.730	3,838	C	1
120	S.S.20	4,170	C	1
121	S.S.TETUWA MARU	1,089	C	1
122	S.S.635	1,000	C	1
123	S.S.TESIO MARU	187	C	1
124	S.S.BANSYU MARU	188	C	1
125	S.S.463	391	C	1
126	S.S.BATAVIA MARU	10,924	D	4
127	S.S.GANGES MARU	2,733	D	1
128	S.S.TUKUBA MARU	7,724	D	4
129	S.S.HIMALAYA MARU	3,187	D	1

No.	Name	Ton Registered	Owner	Trips
130	S.S.MEXICO MARU	3,560	D	1
131	S.S.SYDNEY MARU	6,450	D	2
132	S.S.MEISYO MARU	6,328	E	4
133	S.S.HAKUBASAN MARU	16,280	E	4
134	S.S.AKAGISAN MARU	5,576	E	2
135	S.S.ZYUNYO MARU	3,872	E	1
136	S.S.SAMARANG MARU	2,496	E	1
137	S.S.SYOTO MARU	6,158	F	2
138	S.S.HIBARI MARU	11,589	F	3
139	S.S.BELGIUM MARU	12,645	F	3
140	S.S.GYOKO MARU	9,960	F	3
141	S.S.418	3,951	F	1
142	S.S.FLORIDA MARU	10,953	F	3
143	S.S.SANKISAN MARU	8,322	F	3
144	S.S.DURBAN MARU	4,383	F	1
145	S.S.SAINEI MARU	5,836	F	2
146	S.S.PEIAN MARU	2,599	F	1
147	S.S.SEKIHO MARU	3,276	F	1
148	S.S.NITIREN MARU	3,364	F	1
149	S.S.SIRAHA MARU	3,552	F	1
150	S.S.HALLAND MARU	4,266	F	1
151	S.S.MURORAN MARU	3,251	F	1
152	S.S.ANZAN MARU	3,966	F	1
153	S.S.NORWAY MARU	4,229	F	1
154	S.S.NORFOLK MARU	4,019	F	1
155	S.S.SUNGSHAN MARU	6,248	G	4
156	S.S.LUSHAN MARU	6,024	G	4
157	S.S.962	4,488	G	2
158	S.S.268	2,520	G	1
159	S.S.292	10,218	G	3
160	S.S.809	1,065	G	1
161	S.S.SINKOKU MARU	2,244	G	1
162	S.S.50	4,008	G	2
163	S.S.TAZAN MARU	3,188	G	2
164	S.S.ASO MARU	3,644	G	2
165	S.S.SAN -A- MARU	1,901	G	1
166	S.S.SETUZAN MARU	1,112	G	1
167	S.S.GYOYU MARU	1,377	G	1
168	S.S.SUGIYAMA MARU	2,722	H	1
169	S.S.BIWA MARU	2,099	H	2
170	S.S.MANTAI MARU	8,518	H	2
171	S.S.YAMAHAGI MARU	6,626	H	2
172	S.S.KUSUYAMA MARU	3,778	H	1
173	S.S.ZYUYO MARU	3,407	H	1
	Total	669,350		284

* * * * *

I - Sanko Kabusiki Kaisya

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CLEARANCES IN 1943

No.	Name	Ton Registered	Owner	Trips
	THAI			
1	M.V.BHANURANGSI	13,120	A	32
2	S.S.SUDDHADIB	11,242	A	14
3	S.S.BANGNARA	10,251	A	17
4	S.S.VALAYA	12,045	A	15
	Total	46,658		78
	JAPANESE			
1	S.S.SYDNEY MARU	3,225	D	1
2	S.S.BATAVIA MARU	10,924	D	4
3	S.S.KOHSO MARU	1,992	D	1
4	S.S.BELGIUM MARU	8,430	D	2
5	S.S.AWA MARU	2,643	D	1
6	S.S.KAIFUKU MARU	1,930	D	1
7	S.S.KOKUYO MARU	2,750	D	1
8	S.S.SANKISAN MARU	8,322	F	3
9	S.S.TATSUHA MARU	3,603	F	1
10	S.S.SHOUN MARU	2,600	F	1
11	S.S.TETUWA MARU	1,098	F	1
12	S.S.SHINKYO MARU	3,127	F	1
13	S.S.MURORAN MARU	3,251	F	1
14	S.S.KOKI MARU	3,221	F	1
15	S.S.SAINEI MARU	8,754	F	3
16	S.S.SYOUN MARU	2,600	F	1
17	S.S.BIZEN MARU	2,750	F	1
18	S.S.CEYLON MARU	2,995	F	1
19	S.S.SHINO MARU	4,900	F	1
20	S.S.KENEI MARU	5,942	F	2
21	S.S.TAZAN MARU	6,376	G	4
22	S.S.TUKABA MARU	3,852	G	2
23	S.S.MANTAI MARU	4,256	G	1
24	S.S.KIMMON MARU	3,130	G	2
25	S.S.TAMON MARU	4,900	G	1
26	S.S.BIZAN MARU	2,025	G	1
27	S.S.SUNGSHAN MARU	1,562	G	1
28	S.S.NITTO MARU	1,278	G	1
29	S.S.TOSEI MARU	3,352	H	1
30	S.S.MANTAI MARU	4,259	H	1
31	S.S.SIGA MARU	1,568	H	2
32	S.S.SUGIYAMA MARU	2,722	H	1
33	S.S.YAMAHAGI MARU	3,313	H	1
34	S.S.OYO MARU	3,323	H	1
35	S.S.YAMAZURN MARU	1,518	H	1
36	S.S.KYURYU MARU	801	H	1
37	S.S.OYO MARU	3,231	E	1
38	S.S.ZYUYO MARU	3,407	E	1
39	S.S.ISUZUGAWA MARU	2,472	E	1
40	S.S.MEISHO MARU	1,582	E	1
41	S.S.KYOKUSAN MARU	3,908	I	1

No.	Name	Ton Registered	Owner	Trips
42	S.S.TEHIWA MARU	2,178	C	2
43	S.S.SHOFUSU MARU	475	C	1
44	S.S.BANSU MARU	1,984	C	1
45	S.S.SIGA MARU	3,136	C	4
46	S.S.SHINSEI MARU	1,505	C	1
47	S.S.792	9,942	C	3
48	S.S.146	4,452	C	1
49	S.S.2068	1,200	C	1
50	S.S.665	744	C	1
51	S.S.138	2,560	C	2
52	S.S.962	2,244	C	1
53	S.S.BANSYO MARU	1,984	C	2
54	S.S.MIYASURU MARU	1,092	C	1
55	S.S.RUNOZAN MARU	1,401	C	1
56	S.S.BANSYU MARU	1,966	C	2
57	S.S.TOZAN MARU	1,594	C	1
58	S.S.HUKUEI MARU	1,091	C	1
59	S.S.TUKUBA MARU	1,931	C	1
60	S.S.KENZUI MARU	2,528	C	1
61	S.S.HUKUTAI MARU	3,817	C	1
62	S.S.202	2,962	C	1
63	S.S.524	4,242	C	1
64	S.S.LUSHAN MARU	1,507	C	1
65	S.S.GYOYU MARU	1,377	C	1
66	S.S.TETUWA MARU	1,089	C	1
	Total	206,897		90

* * * * *

J - Mitsubishi Kesen Kaisha

K - Nittai Kaium Kabusiki

L - Toa Kaiun Kabusik Ltd.

M - Mitsui Sanpaku Kaisha

N - Kaigun Kusha Kabu Ltd.

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CLEARANCES IN 1944

No.	Name	Ton Registered	Owner	Trips
	THAI			
1	M.V.BHANURANGSI	6,560	A	16
2	S.S.VALAYA	803	A	1
3	S.S.BANGNARA	6,030	A	10
4	S.S.SUDDHADIB	8,833	A	11
	Total	22,226		38
	JAPANESE			
1	S.S.HUKUEI MARU	1,091	J	1

No.	Name	Ton Registered	Owner	Trips
2	S.S.SAINEI MARU	2,918	J	1
3	S.S.SIGA MARU	787	K	1
4	S.S.CHILE MARU	4,269	K	1
5	S.S.KYURYU MARU	6,408	K	8
6	S.S.MANTAI MARU	4,259	K	1
7	S.S.KENSUI MARU	2,528	I	1
8	S.S.BATAVIA MARU	2,731	D	1
9	S.S.SAINAN MARU	1,807	L	1
10	S.S.CHEFOO MARU	1,803	L	1
11	S.S.313	360	E	1
12	S.S.8	60	M	1
13	S.S.313	720	M	2
14	S.S.NAMIHIRA MARU	60	M	1
15	S.S.KOSEN SANGO	360	N	1
16	S.S.JUNYO MARU	3,872	C	1
17	S.S.BANSYU MARU	2,949	C	3
18	S.S.313	360	C	1
19	S.S.BANSU MARU	392	C	1
20	S.S.JIFUKU MARU	150	C	1
21	S.S.KAFUKU MARU	40	C	1
	Total	37,924		32

* * * * *

O - Rua Lum Liang Company Ltd.

P - East Asiatic Company Ltd.

Q - Watanapol Phanish Company

R - Siamese Royal Navy

S - British Navy

T - Messrs. Nittai Kaiun Kabusiki Keisha (Under British Navy)

U - Messrs. Huyashikane Shoten Company

* * * * *

CLEARANCES IN 1945

No.	Name	Ton Registered	Owner	Trips
	SIAMESE			
1	S.S.SUDHADIB	1,606	A	2
2	M.V.BHANURANGSI	2,870	A	7
3	S.S.NARIS	245	A	1
4	M.V.NIBHA	1,494	A	6
5	M.V.PAKPANANG	785	A	5
6	S.V.PHATANA	657	A	3
7	M.V.LACON	1,105	A	5
8	S.S.BANGNARA	1,206	A	2
9	S.V.PRASIDHI AMPORN	115	O	1
10	S.V.PUANG NGEUN	687	O	3

No.	Name	Ton Registered	Owner	Trips
11	S.V.THONGTANI	360	O	2
12	S.V.THANYA WATANA	486	O	1
13	S.V.CHAMPADA	225	O	2
14	M.V.DERN RUA 4	1,386	O	1
15	M.V.SURASUKDI NAVA	27.58	O	4
16	M.V.PRASIDHISINDHU	463.36	O	3
17	S.V.KENG RENG	90	P	3
18	S.V.KRUNG THEP	190.88	P	1
19	S.V.KRUNG KAO	1.60	P	1
20	S.S.DUSIT		P	2
21	S.V.WATANAPOL 1	174	Q	2
22	[illegible] (Prong)		R	
	Total	12,802.28		59
	BRITISH			
1	J.E. 42 J.L. 46	150	S	1
2	L.C.T. 1331		S	1
3	L.C.T. 1240		S	1
4	LACH KATRINE	600	S	1
5	Mine Sweeper BYMS	2,204	S	1
6	S.S.LULLING		S	0
7	BYMES 2204		S	1
8	L.T.C. 277		S	1
9	L.S.T.		S	1
10	LOCH RUTHVEN		S	1
11	EMPIRE SHETLAND		S	1
12	EMPIRE PATTERN	370	S	2
13	H.M.S.NITH		S	1
14	EMPIRE PACIFIC	984	S	1
15	S.S.WOSANG		S	2
16	S.S.PAKHOI		S	1
17	S.S.NINGHAI		S	1
18	S.S.NEWCHANG		S	1
19	L.S.T. 371		S	1
20	EMPIRE PALACE		S	1
21	L.S.T. 3028		S	2
22	L.S.T. 3501		S	2
23	E.VINCENT		S	1
24	L.S.T. 538		S	1
25	L.S.T. 3006		S	1
26	L.S.T. 3033		S	1
27	EMPIRE PEGGY		S	1
28	L.C.T.		S	1
29	S.S.CHANTUNG		S	1
30	M.S.JENNING		S	1
	JAPANESE			
1	S.S.BANSYU MARU	983	C	1
2	No. 702	150	C	1
3	No. 709	150	C	1
4	No. 707	150	C	1
5	No. 711	300	C	2
6	No. 713	150	C	1
7	No. 1 SINGI MARU	150	C	1
8	No. 10 SINGI MARU	150	C	1

No.	Name	Ton Registered	Owner	Trips
9	No. 2 SINGI MARU	150	C	1
10	No. 13	150	C	1
11	No. 715	150	C	1
12	S.S.DAI-ICHI MARU	162.96	C	2
13	S.S.KATSUGA MARU	81.48	C	1
14	M.V.NANSHIN MARU 63	80	U	1
15	M.V.NANSHIN MARU 59	80	U	1
16	S.S.KYURYU MARU	801	T	1
17	S.S.YAEI MARU	600	T	1
18	M.S.KAMISHIMA MARU	500	T	1
19	S.S.GYOHO MARU	600	T	1
20	S.S.SHIGA MARU	1,370	T	1
21	S.S.NANSHIN		T	1
22	S.S.RAWANG MARU	198	T	1
23	S.S.KINEKUNI MARU	60	T	1
24	S.S.ROKKO MARU	60	T	1
25	M.S.KAMEYAMA MARU		T	1
26	M.S.TAKATIHO MARU		T	1
27	S.S.BOGOTA MARU	1,226.10	T	2
28	M.V.MEI MARU		T	1
29	M.S.SYUNAN MARU		T	1
30	No. 3 Juho MARU		T	1

ENCLOSURE (B)

ESTIMATE OF TONNAGES OF MATERIAL ENTERING AND LEAVING BANGKOK FOR THE YEARS 1943-1945

* * * * *

BANGKOK, Jan. 23, 1946.

Subject: Report on the quantity of Japanese military supplies carried in and out of BANGKOK area during the period from 1942 to the cessation of hostilities.

Regarding the above, I have the honour to reply to your query as per attached sheets. However, I extremely regret to inform you that as the Japanese HQ. was established at BANGKOK in February 1943 for the first time, I am unable to report the quantity of munitions arriving in or leaving BANGKOK area before the above date. Moreover, in consequence of the increase of the Japanese forces located in Siam, and the completion of the organization of the Japanese HQ., the quantity of munitions in question was increasing proportionally. Accordingly, it is impossible to give an exact figure showing the transport condition as affected by the blockade of BANGKOK Port by mines as well as by the damages to the railway by bombing, of which please take note.

In this connection, I beg to add that the strength of the Japanese forces regularly stationed in Siam area was as follows:

From Feb. 1943 to Oct. 1943	1 inf. bn. (400 men per battalion)
From Nov. 1943 to Dec. 1943	4 inf. bns. (400 men per battalion)
From Jan. 1944 to June 1944	5 inf. bns. (400 men per battalion)
From July 1944 to Nov. 1944	7 inf. bns. (400 men per battalion)
From Nov. 1944 to Jan. 1945	9 inf. bns. (400 men per battalion)
From Feb. 1945 to Mar. 1945	1 div.(4th div.) increased 10,000 men
From June 1945 to Aug. 1945	2 divs.(37th Div. and 22nd Div.) increased. (10,000 men per division) (6,000 men in 22nd Div.) (3,000 men of 22nd Div. in F.I.C.)

I beg to remain, Sir,

Yours most respectfully,

Major-General R. OHARA
The 18th Area Army.

WU/RK

LIST SHOWING THE STATUS OF MUNITIONS ARRIVING IN OR LEAVING BANGKOK AREA
TABLE NO. 1 (ARRIVING)

		SINGAPORE						SAIGON				BURMA
		Ammo Arms	Raw Materials for Arms *	Motor-car & Its Parts	Fuel	Clothing	Medical Materials	Ammo Arms	Fuel	Medical Materials	Coal	Raw Materials #
		Ton	Ton	Ton	Ton	Bale	Bale	Ton	Ton	Bale	Ton	Ton
1943	1 - 3	35	20	9 (parts)	900							
	4 - 6	65	20	9	900							
	7 - 9	90 (55)	20 (10)	9	900	500						
	10 - 12	110(75)	50 (30)	9	900	1500		100				50
1944	1 - 3	120(60)	50 (25)	9	900	1500	200	150			500	200
	4 - 6	140	30	9	1500	1500	800				1500	400
	7 - 9	410	40	100 (cars)	880		1510					400
	10 - 12	170	70	10 (cars)			600					400
1945	1 - 3	250	70	6 (cars)			3500 (1000)			3300		150
	4 - 6	1950 (100)*	100	7 (cars) (5) #	(600)¢		4000 (2000)	550	300@	5200		50
	7 - 8	550	100				1000 (1000)	120		2420		

Shipped by barge from TACHIN to BANGKOK.
* Mainly oxygen, carbide, raw rubber, coke, and hemp.
¢ 300 ton brought to BANGACON from SINGAPORE.
300 ton brought from HAITEN to BANHACON.

@ 300 ton from SINGAPORE to HATIEN and from HAITEN to BANGKOK via R.R.
() indicates quantity shipped by sea-transport.

LIST SHOWING THE STATUS OF MUNITIONS ARRIVING IN OR LEAVING BANGKOK AREA
TABLE NO. 1 (LEAVING)

		SINGAPORE			SAIGON				BURMA			
		Raw Materials*	Rations	Medical Materials#	Ammo Arms	Raw Materials*	Rations	Medical Materials#	Ammo Arms	Fuel	Rations Clothing	Medical Materials#
		Ton	Ton	Bale	Ton	Ton	Ton	Bale	Ton	Ton	Ton	Bale
1943	4 - 6		13000 (5000)									
	7 - 9		39000 (15000)									
	10 - 12		39000 (15000)						70			
1944	1 - 3		39000 (15000)			100			140			
	4 - 6	100	39000 (15000)			200			140	160		
	7 - 9	100	29000 (5000)	100		300			160	240		
	10 - 12	200	23000	350		400	3000		300			
1945	1 - 3	100	11000	300	100	200	6000	50	1200	200		180
	4 - 6	50	18000 (12000)¢	1900	400	100		100	900		6000	1800
	7 - 8		3500 (2000)¢	150	50	50			150		2000	150

Mainly articles made of leather.
* Mainly tungsten and teak timber.

¢ Sent by Junks and Wooden Barges from TACHIN to SINGAPORE.
() indicate quantity shipped by sea-transport.

ENCLOSURE (C)

MINING OPERATIONS IN YANGTZE AREA

* * * * *

5 November 1945

REPORT ON SHIPS SUNK OR DAMAGED AT YANGTZE ESTUARY BY AMERICAN MINES

Date	Location	Name of Vessel	Tonnage	Type of Vessel	Extent of Damage
15/2/44	295° & 2700 meters from Middle Ground	HYOGA MARU	5308	transport	Sunk. One missing, 10 wounded.
17/2/44	308° & 2900 m from Middle Ground	ZUIHO MARU	5136	transport	Stranded. Slightly damaged.
20/2/44	313° & 3750 m from Middle Ground	NISSHO MARU	6008	transport	Stranded. Slightly damaged.
6/7/44	30° & 3300 m from small beacon at KIUTAN	KOSAN	150	tugboat	Sunk. One Slightly wounded.
7/7/44	304° & 4300 m from Middle Ground	SUZUHIRA MARU	108	transport	Sunk. One Slightly wounded.
16/7/44	12° & 1.5 nautical miles from Blockhouse	TAIKYO MARU	5400	transport	Slightly damaged.
24/7/44	147° & 2450 m from Blockhouse	SHINNEISHO (HSINNINSHAO)	3387	transport	Stranded and damaged.
10/8/44	343° & 4300 m from Middle Ground	KYOEI MARU	71	transport	Sunk. Personnel loss slight.
30/8/44	313° & 130 m from Northeast Knoll	YAMADA MARU No. 5	61	transport	Sunk. Personnel loss slight.

ENCLOSURE (C), continued

Date	Location	Name of Vessel	Tonnage	Type Of Vessel	Extent of Damage
1/9/44	128° & 1600 m from Fooching	TIENTSIN MARU	2349	transport	Sunk. 186 killed, 18 seriously injured, 26 slightly wounded.
3/9/44	Southeast Knoll	HASU	1100	destroyer	Minor damage. 3 slightly wounded.
3/9/44	East anchorage at Woosung	SAINAN MARU	2700	transport	Sunk.
10/9/44	3° & 8,250 m from light beacon of outer breakwater at Woosung	HOEI MARU No. 2	600	transport	Sunk.
10/3/45	Below S. E. Knoll	SB No. 108	1000	Army transport	Slightly damaged.
17/3/45	133° & 1400 m from S. E. Knoll	BANSEI MARU	3130	transport	Stranded.
18/3/45	298° & 2400 m from same	YORIHIME MARU	526	transport	Slightly damaged.
19/3/45	At S. E. Knoll	HABUSHI	860	Coast defense ship	Damaged and unable to navigate.
22/3/45	Middle Ground	Sub-Chaser No. 23	455		Slightly damaged.
3/4/45	294° & 14,400 m from HENGSHA levelling post	MARUKO MARU	3000	transport	Sunk.
4/4/45	1500 m above Middle Ground	TAMON MARU No. 12	47	motor junk	Sunk.
5/4/45	260° & 8600 m from HENGSHA levelling post	BINAN MARU	2000	transport	Sunk

ENCLOSURE (C), continued

Date	Location	Name of Vessel	Tonnage	Type of Vessel	Extent of Damage
5/4/45	110° & 8300 m from light-house No. 11 on breakwater at Woosung	KABAN MARU	600	transport	Slightly damaged but later sunk.
6/4/45	1000 m above Middle Ground	ISE MARU No.2	116	motor junk	Sunk.
10/4/45	Blockhouse	TSUBAKI	1400	destroyer	Slightly damaged
10/4/45	Blockhouse	Mine-sweeper No. 21	750		Damaged. Unable to navigate.
10/4/45	272.5° & 9750 m from HENGSHA levelling post	KARIN MARU	3000	transport	Sunk.
12/4/45	334° & 7500 m from KIUTAN levelling post	KOHO MARU No. 2	530	general purpose ship	Sunk. 3 killed & wounded
15/4/45	254° & 8200 m from HENGSHA levelling post	SONJO MARU	600	general purpose ship	Sunk.
27/4/45	Below Block-house	MIKAZUKI MARU	1120	transport	Sunk.
15/5/45	114° & 10700 m from light-house on Woo-sung break-water	KOKO MARU	1520	transport	Stranded and damaged.

ENCLOSURE (C), continued

REPORT ON SHIPS SUNK OR DAMAGED BY AMERICAN MINES LAID IN KIUKIANG AREA

(Report by the Japanese Navy Liaison Office at KIUKIANG on November 14, 1945)

Name	Type	Tonnage	Date	Location	Extent of Damage
REIZAN	steamship	around 4000	18/1/45	CHICHUN Reach	Sunk
MINKA	steamship	around 5000	19/1/45	CHICHUN Reach	Sunk
SHINYO	steamship	around 1000	28/1/45	CHICHUN Reach	Sunk
ROZAKAN	steamship	around 1000	9/2/45	CHICHUN Reach	Sunk
IZUMI MARU No. 3	motor fishing boat	around 100	5/7/45	CHICHUN Reach	Sunk
IZUMI MARU No. 5	motor fishing boat	around 100	5/7/45	CHICHUN Reach	Sunk
SHANKO No. 4	sounding boat	around 100	5/3/45	WUSUSH Reach	Sunk
	fishing boat		18/3/45	WUSUSH Reach	Sunk
SUMIYOSHI MARU No. 20	motor fishing boat	100	1/4/45	WUSUSH Reach	Sunk
NANKO	tug boat	100	12/5/45	WUSUSH Reach	Sunk
	lighter	50	12/5/45	WUSUSH Reach	Sunk
	lighter	50	15/3/45	WUSUSH Reach	Sunk
	lighter	50	15/3/45	WUSUSH Reach	Sunk
NEIHA	steamship	around 4000	31/12/45	KIUKIANG Reach	Slightly damaged
KYCKUA	steamship	around 1000	25/1/45	KIUKIANG Reach	Slightly damaged
KINJO	tug boat	around 500	25/1/45	KIUKIANG Reach	Slightly damaged
SENZAN	tug boat	around 100	28/1/45	KIUKIANG Reach	Slightly damaged
RYUZAN	steamship	around 4000	27/1/45	HUKOU Reach	Sunk
HITOSE	repair ship	around 1000	14/2/45	HUKOU Reach	Sunk
MATSUNAGA	steamship	around 1000	14/2/45	HUKOU Reach	Sunk

ENCLOSURE (C), continued

Name	Type	Tonnage	Date	Location	Extent of Damage
HAKUSAN	steamship	around 1000	14/2/45	HUKOU Reach	Sunk
	lighter		8/2/45	HUKOU Reach	Sunk
KAGI	tug boat	around 500	18/2/45	CHANGCHIACHOW North Channel	Sunk
	motor boat	50	15/3/45	CHANGCHIACHOW North Channel	Sunk
KORI	steamship	100	28/5/45	ERHTAOKOU	Sunk
	lighter	50	28/5/45	ERHTAOKOU	Sunk
SUGI MARU	tug boat	100	14/6/45	near OCHENG	Sunk

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REPORT ON SHIPS SUNK BY AMERICAN MINES
AT TENSHENCHIAO (TIENCHEN CHOW)

(TENSHENCHIAO is located at 20 nautical miles above KIANGYIN.)

Name	Type	Tonnage	Date	Location	Extent of Damage
SUMA	gunboat	500	19/3/45	168° & 7520 m from big tree at TENSHENCHIAO	Sunk
KOZAN MARU	transport	2966	19/3/45	207.5° & 2810 m from big tree at KOUAN	Sunk
HEIWA MARU No. 2	motor junk	70	20/3/45	305° & 1870 m from big tree at TENSHENCHIAO	Sunk
BANRI MARU	motor junk	70	20/3/45	157° & 2400 m from big tree at TENSHENCHIAO	Sunk
TENRI MARU	motor junk	70	21/3/45	199° & 2700 m from big tree at TENSHENCHIAO	Sunk
KOUN MARU	transport	3485	6/4/45	238° & 310 m from LUNGWANGMIAO	Sunk
MONKICHI MARU OKAWA MARU MANRI MARU SANO MARU KAIKO MARU	Additional ships reported by Comdr. IZUTSU.		7/3/45 7/3/45 7/3/45 Unknown Unknown		Sunk Sunk Sunk Damaged Damaged

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ENCLOSURE (C), continued

REPORT ON SHIPS SUNK OR DAMAGED AT HANKOW BY AMERICAN MINES

Name	Type	Tonnage	Date	Location	Extent of Damage
KYOHO No. 5		25	1/5/45	YANGLO	Heavily damaged
AKASHI No. 3	fishing vessel	45	5/5/45	SANKIANGKOU	Sunk
ASAHI MARU	fishing vessel	Unknown	5/45	SANKIANGKOU	Unknown
Unknown ship	fishing vessel	Unknown	5/45	SANKIANGKOU	Unknown
Unknown ship	fishing vessel	Unknown	5/45	SANKIANGKOU	Unknown

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REPORT ON MINE-SWEEPING WORK AGAINST AMERICAN MINES AT YANGTZE ESTUARY

(All sweeping by motor fishing boat)

Sweeping Period	Days required	Location	Sweepers	Personnel	Mines disposed of	Mines self-exploded	Sweeping equipment
16/2/44 to 10/3/44	22	Middle Ground area below WOOSUNG Length-5030 m Width-1000 m	10	190	3		5 sets of magnetic loops Type 3
6/7/44 to 14/7/44	9	Between Bridge & KORANCHIN, off PAOSHAN. Length-7 nautical miles Width-400 meters Between quarantine buoy & KUTOAN below WOOSUNG Length-23 nautical miles Width-400 meters	11	210	4	3	5 sets of magnetic loops Type 3
8/8/44 to 11/8/44	4	Between KORANCHIN and entrance below WOOSUNG. Length-37 nautical miles Width-400 meters	9	155			6 sets of magnetic loops
30/8/44 to 6/9/44	8	Between PAOSHAN & KUTOAN below WOOSUNG. Length-30 nautical miles Width-400 meters	12	280	2	1	3 sets of magnetic loops

ENCLOSURE (C), continued

Sweeping period	Days required	Location	Sweepers	Personnel	Mines disposed of	Mines self-exploded	Sweeping equipment
10/9/44 to 13/9/44	4	Between PAOSHAN buoy & KORANCHIN, off PAOSHAN Length-6500 meters Width-2000 meters	6	140	-	-	3 sets of magnetic loops
26/10/44 to 30/10/44	5	All anchorage below WOOSUNG	10	190	-	-	One set of currency detonation set. 3 sets of magnetic loops
23/12/44 to 31/12/44	8	Between Blockhouse & KUTOAN Spit Length-24 nautical miles Width-400 meters	8	200	-	-	3 sets of magnetic loops
29/3/45 to 14/8/45	About 120	Between KUTOAN Spit & Bridge. Length-30 nautical miles Width-600 meters	12 max 4 min average-10 ships	250 max 180 min average 200 men	35	8	5 sets of magnetic loops one set of currency detonation set

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REPORT ON MINE-SWEEPING WORK AGAINST AMERICAN MINES AT KIUKIANG

Location	Period (Working Days) Ships Prohibited to pass	Vessels employed	Men employed	Mines disposed of	Mines self-exploded	Equipments
CHI-CHUN Reach	15/4/45 (1 day)	WG-1*	5	0	0	Acoustic bomb-23 Type 2
CHI-CHUN Reach	16/4/45 to 21/4/45 (6 days)	WG-4	20	0	0	No. 3-Type sweeping equipment 2 sets
CHI-CHUN Reach	25/4/45 to 2/5/45 (8 days)	WG-4	20	0	1	No. 3-Type sweeping equipments 2 sets
WUSUSH Reach South Channel	22/2/45 to 25/2/45 (4 days)	WG-4	20	0	1	No. 3-Type sweeping equipments 2 sets
WUSUSH Reach South Channel	2/4/45 (1 day)	WG-1	5	1	1	Acoustic bomb-10
WUSUSH Reach South Channel	3/4/45 to 6/4/45 (4 days)	WG-4	20	0	1	No. 3-Type sweeping equipment 2 sets
WUSUSH Reach South Channel	30/4/45 (1 day)	WG-1	5	0	0	Acoustic bomb-10

* WG=Wooden Gunboat

ENCLOSURE (C), continued

Location	Period (Working days) Ships Prohibited to pass	Vessels employed	Men employed	Mines disposed of	Mines self-exploded	Equipments
WUSUSH Reach South Channel	1/5/45 to 2/5/45 (2 days)	WG-4	20	0	0	No. 3-Type sweeping equipments 2 sets
KIUKIANG Reach	26/1/45 (1 day)	WG-3	10	0	0	Same equipment 1 set
KIUKIANG Reach	5/2/45 to 6/2/45 (2 days)	WG-6	20	0	0	Same equipment 2 sets
KIUKIANG Reach	5/4/45 (1 day)	WG-1	5	0	0	Acoustic bomb-20
KIUKIANG Reach	12/4/45 (1 day)	WG-1	5	0	1	Acoustic bomb-10
KIUKIANG Reach	15/4/45 to 16/4/45 (2 days)	WG-1	5	0	0	Acoustic bomb-10 Depth Charge-4 Drum type-100 kg. 25 meters 15 meters depth
KIUKIANG Reach	19/4/45 to 25/4/45 (7 days)	WG-4	20	4	0	No. 3-Type sweeping devices 2 sets
KIUKIANG Reach	18/5/45 (1 day)	WG-1	5	0	0	Acoustic bomb-45
KIUKIANG Reach	20/5/45 to 24/5/45 (5 days)	WG-4	20	0	0	No. 3-Type sweeping devices 2 sets
KIUKIANG Reach	29/2/45 to 4/3/45 (5 days)	WG-5	20	0	0	No. 3-Type sweeping devices 2 sets
KIUKIANG Reach	2/6/45 (1 day)	WG-1	5	0	0	Acoustic bomb-10
CHANG CHIA CHOW North Channel	26/2/45 to 29/2/45 (4 days)	WG-5	20	0	0	No. 3-Type sweeping devices 2 sets
CHANG CHIA CHOW North Channel	16/3/45 (1 day)	WG-2	10	0	0	Acoustic bomb-6
HU-KOU Reach	28/1/45 to 31/1/45 (4 days)	WG-5	20	0	0	No. 3-Type sweeping equipment 2 sets
HU-KOU Reach	16/2/45 to 19/2/45 (4 days)	WG-7	20	0	0	No. 3-Type sweeping equipment 2 sets
HU-KOU Reach	21/2/45 to 24/2/45 (4 days)	WG-5	20	0	0	No. 3-Type sweeping equipment 2 sets

ENCLOSURE (C), continued

Location	Period Ships pass	Vessels employed	Men employed	Mines disposed of	Mines self-exploded	Equipments
HU-KOU Reach	26/2/45 to 1/3/45 (4 days)	WG-5	20	0	0	No. 3-Type sweeping equipment 2 sets
HU-KOU Reach	11/3/45 to 15/3/45 (5 days)	WG-5	20	1	0	No. 3-Type sweeping equipment 2 sets
HU-KOU Reach	19/3/45 to 20/3/45 (2 days)	WG-1	5	0	0	Acoustic bomb-8
HU-KOU Reach	23/3/45 (1 day)	WG-1	5	0	0	Acoustic bomb-8
HU-KOU Reach	23/3/45 to 26/3/45 (4 days)	WG-4	20	0	0	No. 3-Type sweeping equipment 2 sets
HU-KOU Reach	12/4/45 (1 day)	?	?	0	1	Acoustic bomb-6
KIUKIANG Reach	15/2/45 (1 day)	?	?	0	1	Acoustic bomb-6

Location	Period Navigation Closed (1945)		Port Service
	For Ironclad	For Wooden Ship	
From KIUKIANG to SHIHHUIYAO	From the end of January to the end of April, and in May (8 days)	In April (9 days) In May (2 days)	Not affected
From KIUKIANG to ANKING CITY	In November (5 days) In February (16 days) In March (14 days) In April (2 days)	In March (2 days) In April (2 days)	Not affected

WG-Wooden Gunboat

Note: The navigation around CHANG CHIA CHOW North Channel was closed in the end of March, but the CHANG CHIA CHOW South Channel was opened for navigation. Therefore, the navigation between KIUKIANG and ANKING was not affected by American mines.

ENCLOSURE (C), continued

REPORT ON MINE-SWEEPING WORK AGAINST AMERICAN MINES AT HANKOW

District	Period	Vessels mobilized	Number of crews	Results
YANGLO	February, 1945 (7 days)	4 small size	20	2 mines destroyed
SANCHIANGKOU	May, 1945 (7 days)	4 small size	20	No mines destroyed
PAHOCHEN	April, 1945 (5 days)	4 small size	20	2 mines destroyed
HANKOW	From January to May, 1945	Unknown	Unknown	Total 114 mines destroyed

Note: (a) Five days in May, 1945 the navigation between HANKOW and SHIHHUIYAO was closed.

(b) The navigation of ironclads and wooden-vessels was considerably checked. However, the harbor services were not much affected by American mines.

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REPORT ON MINE-SWEEPING WORK AGAINST AMERICAN MINES AT TENSHENCHIAO

The mine-sweeping work in this area was done for 86 days between March 13 and June 7 this year.

Swept areas above KOUAN.....3 nautical miles
Swept areas below LIENCHENGCHOW.....3 nautical miles
Length.....26 nautical miles
Width.....500 meters

Motor fishing boats employed.....8
Men employed.....140
Mines disposed of.....8
Magnetic loops used.....3 sets
(Presumably Type 3.)

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INTERFERENCE BY AMERICAN MINES ON JAPANESE MILITARY ACTIVITIES

The waterway between KOUAN and LIENCHENGCHOW was closed between 20 and 31 March 1945.

No other channel was available.

Due to the closure of the said channel, supplies from SHANGHAI stopped, and loading and unloading work at wharves were suspended.

Due to the suspension of water traffic, the activities of bandits became brisk.