

~~5/10~~
/ /
④

This document contains information affecting the national defense of the United States within the meaning of the Espionage Act, 50 U.S.C., 31 and 32 as amended. Its transmission or the revelation of its contents in any manner to an unauthorized person is prohibited by law.

DECLASSIFIED

E.O. 11652, Sec. 3(E) and 5(D) or (B)

By NIN 750120
CR/9 NARS, Date 8.23.76

JAPANESE USE OF INDUSTRIAL INSTALLATIONS
IN HONGKONG

I. SUMMARY

The Japanese have made use of industrial installations in the Hongkong area almost exclusively to further their military effort. Most of the industries in Hongkong either contribute directly to production for military requirements or indirectly facilitate such production, although the individual contribution of many of them is not significant. A few industries which are essentially civilian consumption goods industries are permitted to operate so long as they cater to minor military needs and do not interfere with problems of military supply.

The shipyards, machine shops, and aircraft assembly plants contribute most to the military effort. The storage areas and warehouses, the communications and transportation facilities, and other small plants are operated directly by the military or naval authorities, while the miscellaneous industries supporting daily life in Hongkong are indirect contributors.

Shipbuilding activities in Hongkong consist of the production of wooden vessels by about ten small shipyards in the Hongkong area, and of repairs to merchant vessels and some construction at the six large dockyards. Current estimates forecast construction of some 54,000 gross tons of wooden shipping in 1944, which, expressed in equivalent steel tonnage, will be a net gain of approximately 27,000 tons of shipping. In contrast, the actual production of steel vessels for 1944 will probably be less than 10,000 gross tons, by yards which have a normal capacity of over 200,000 gross tons per year. In the period since the occupation, these yards have completed approximately 50,000 gross tons, most of which was in process at the time the Japanese took possession of the shipyards. Much of the fabricated steel and steel scrap from outdated machinery and stores has been sent to Japan for use there. The dockyards have been continuously busy on repairs to merchant and naval vessels, but since mid-1943 this work has been retarded by shortages of all types of supplies, especially steel plate. Twenty-four instances of air photography during 1943 showed an average of 32,500 tons of shipping in drydock at any one time; 17 instances of air photography in 1944 showed an average of 30,000 tons in repair at one time.

The value of the shipyards is enhanced by the local metal industries which facilitate both construction and repair of ships. There are about six metal works and engineering plants in this area which make parts and castings for ship repair, including drive shafts, and other parts, cranes, and small diesel engines. In the wooden shipbuilding program, three of the engineering companies have played an important role by building 200 HP diesel engines for the wooden vessels. Two of these plants are believed to be in operation, one of them producing about 50 marine engines per month in March 1944.

Aircraft assembly plants appear to be quite active, with the arrival of several shipments of aircraft parts noted within a brief period. These, on the basis of incomplete data and rough estimates, might indicate that parts and re-

replacements for 175 new planes and 175 planes already based there were possibly to be assembled in Hongkong for one branch of the Japanese airforce for the given period.

The Japanese have operated the two public power-generating plants in Hongkong and Kowloon for use primarily by industries, as civilian use has been severely restricted and the use of electrical appliances prohibited entirely. The effectiveness of these two power plants, with a total generating capacity of 84,000 kilowatts, has been increasingly limited by the decline of Japanese shipping since mid-1943, since the power plants are dependent upon an external fuel supply, either of petroleum or coal. Operation of the electric generators in the shipyards has been maintained, probably at the expense of the public power plants.

The Japanese have made full use of the pre-war storage facilities in the Hongkong area, both for local supplies and for temporary storage before transshipment, and when these proved insufficient, or were demolished, they established numerous open-air and underground storage dumps. Stocks of food stuffs, ammunition, and military supplies, as well as raw materials, scrap metal, and manufactured goods which filled the godowns of Hongkong and Kowloon, amassed by the British before the Japanese attack, have since been used or shipped away from Hongkong. These godowns, as well as many other buildings which have been converted to storage, have been used heavily by the Japanese authorities since the occupation. Food processing, distribution, and storage facilities have been utilized by the Japanese, although it is not known to what extent.

Three oil companies had bulk terminals in the Colony, with an estimated total storage capacity of 1,206,959 barrels, for gasoline, kerosene, lubricants, and fuel oil. Allied air raids have inflicted extensive bomb damage to these terminals and probably not more than half the pre-war petroleum storage capacity remains. In addition to these bulk terminals, the Japanese have created package storage dumps of aviation and motor gasoline and some other products in caves, air-raid tunnels, and open, camouflaged areas all over the Colony.

Part of the Japanese activity around Hongkong has been to increase extensively the area and facilities of the Kai Tak Airdrome, which has been almost doubled in size. Among the additions made since the occupation are an aircraft assembly plant, a new 3,000' concrete runway, extensions to the original concrete runway, a new seaplane ramp, and new storage buildings and service areas. In this construction work, the Japanese used cement from a local cement company.

Transportation and communications in and around Hongkong serve to keep Japan in touch with the outlying parts of the occupied areas to the south. The pre-war radio facilities have been greatly increased and cable connections extended over a greater area. Use of docks and shipping at Hongkong continues to account for the movement of an important volume of military supplies and transshipment freight. The railroad to Canton, the only rail connection with China, has been of some aid in securing local food and fuel supplies but through

service has been interrupted most of the time since the occupation, either through Chinese guerrilla activity or Allied bombing raids. The major contribution of this railroad has been in moving troops and military supplies into the South China area.

There are many small miscellaneous industries and a few small mines which are supposed to be operated either by Japanese or under Japanese supervision, including iron and lead mines. Other minor industries which contribute directly to the military effort are the factories which produce equipment and daily necessities for the Japanese army and navy, such as the rubber factories, the sugar refineries, the tobacco factories and the food processing industries. Many smaller industries are under direct supervision and control of the military, while information on others is too inadequate to permit of ready realization of their usefulness to the occupying forces. A number of important buildings in the downtown area serve as headquarters for the local Japanese naval, gendarmerie, military administration, and control organizations.

JAPANESE USE OF INDUSTRIAL INSTALLATIONS IN HONGKONG

TABLE OF CONTENTS

	Page
I. Summary.....	i
II. Introduction.....	1
III. Principal Installations Used for War Purposes...	2
A. Shipbuilding and Repair.....	2
Table I - Pre-War Facilities of Hongkong's Principal Shipyards.....	2
1. Kowloon Docks of the Hongkong-Whampoa Dock Company.....	3
2. Taikoo Dockyard and Enginerring Company.	7
3. The Royal Naval Dockyard.....	10
4. Cosmopolitan Dock of the Hongkong-Whampoa Dock Company..	12
5. Aberdeen Docks of the Hongkong-Whampoa Dock Company.....	13
6. W. S. Bailey Shipyard.....	14
7. Wooden Shipbuilding in Hongkong.....	15
Table II - Wooden Shipbuilding Yards in Hongkong.....	16
B. Machine and Metal Works.....	18
1. Liu Ho Ko Engineering Works.....	18
2. South China Iron Works, Ltd.....	19
3. Rikukawa Sono Iron Works.....	20
4. Hip Tung Wo Engineering Company.....	20
5. Kin Sun Company.....	21
6. Nam Tsam Flashlight Factory.....	21
7. Chiap Hua Steel and Iron Manufacturing Company.....	21
8. Smaller Workshops.....	22
a. Ling Nan Hardware Company.....	22
b. China Can Company, Ltd.....	22
c. Hongkong University Workshops.....	22
C. Aircraft Assembly Plants.....	23
1. Kai Tak Airdrome.....	23
2. Laichikok.....	24
3. Tai Hang Rubber Factory.....	24
D. Public Utilities.....	26
1. Electric Plants.....	26
a. Hongkong Electric Company, North Point.....	26
b. China Light & Power Company, Hok Un.	27
2. Gas Plants of the Hongkong and China Gas Company, Ltd.,.....	29
a. West Point Plant.....	29
b. Wanchai Plant.....	29
c. Kowloon Plant.....	29
d. Ma Tau Kok Plant.....	29

- E. Storage Facilities for Petroleum and Military Supplies..... 30
 - 1. Petroleum Storage Dumps (Table III)..... 30
 - 2. Storage Dumps of Military Supplies (Table IV)..... 33
 - 3. Petroleum Installations..... 35
 - a. The Texas Company (China) Ltd..... 35
 - b. Standard-Vacuum Oil Company..... 35
 - c. Asiatic Petroleum Company..... 36
 - 4. Hongkong and Kowloon Wharf & Godown Company..... 37
 - a. Kowloon Wharves and Godowns..... 37
 - b. Laichikok Godowns..... 39
 - 5. Holt's Wharf..... 39
 - 6. China Provident Loan and Mortgage Company..... 40
 - 7. Dairy Farm Ice and Cold Storage Company... 40

- F. Transportation Facilities..... 42
 - 1. Kai Tak Airdrome..... 42
 - 2. Kowloon-Canton Railroad..... 46
 - a. The Railroad..... 46
 - b. Kowloon-Canton Railroad Machine Shops and Repair Yards..... 48
 - 3. Hongkong Tramways, Inc..... 49
 - 4. Victoria Peak Tramways..... 50
 - 5. Wharves and Piers in Hongkong and Kowloon. 50
 - a. Coaling Camber, Kowloon..... 51
 - b. Typhoon Anchorage, Kowloon..... 51
 - c. Piers and Wharves (Table V)..... 52
 - (1) Hongkong Ferry Pier, Kowloon Point..... 52
 - (2) Pedder's Wharf, Victoria City..... 52
 - (3) Hongkong and Yaumati Ferry Piers, Kowloon..... 52
 - (4) Hongkong and Yaumati Ferry Piers, Victoria..... 53
 - (5) Blake Pier..... 53
 - (6) Tsun Chen Wan Wharf..... 53
 - (7) Table V-Dimensions, water depths, etc..... 54

- G. Communication Facilities..... 56
 - 1. Radio Installations in the Crown Colony... 56
 - a. Kowloon Radio Installations..... 56
 - (1) Hung Hom Station (Table VI)..... 56, 57
 - (2) Kai Tak Airdrome Radio Stations... 57
 - (3) Tsim Sha Tsui Signal Station..... 58
 - (4) Government Radio Receiving Station..... 58
 - b. Hongkong Radio Installations..... 59
 - (1) Cape D'Aguiar (Table VII,..... 59, 60
 - (2) Victoria Peak Station..... 60
 - (3) Other Radio Stations (Table VIII). 60, 61
 - c. Japanese Radio Installations, Hongkong-Kowloon..... 62
 - (1) Navy Radio Studios..... 62
 - (2) Port Security Office.. 62
 - (3) Holland House..... 63

	<u>Page</u>
c. Japanese Radio Installations (Cont.)	
(4) Tytam Peninsula Installations.....	63
(5) Gloucester Hotel.....	63
(6) Marina House.....	63
(7) Government Radio Office.....	63
d. Near-by Islands.....	64
(1) Stonecutter's Island (Table IX)...	64
(2) Tai O (Taiho) Radio Station.....	64
(3) Gap Rock Light House.....	65
2. Telephone, Telegraph Cables.....	65
a. Hongkong Government Telephone System..	65
b. Hongkong Telephone Company, Ltd.,.....	65
c. Cable and Wireless, Ltd.....	66
d. Cable Landing House.....	67
H. Construction Materials.....	68
1. Green Island Cement Company, Hok Un, Kowloon.....	68
2. China Brick Works.....	70
3. Green Island Brick Company.....	70
IV. Miscellaneous Industrial Installations.....	71
A. Mines.....	71
1. Lin Ma Hang Lead and Silver Mine.....	71
2. Ma On Shan Iron Mine.....	72
3. Needle Hill Wolfram Mine.....	73
4. Hongkong Clay & Kaolin Company, Ltd.,.....	73
B. Rubber Factories.....	74
1. Canton Brothers Rubber Company..	74
2. Fung Keong Rubber Manufacturing Company...	74
3. Continental Rubber Manufacturing Company..	75
4. Hongkong Rubber Manufacturing Company.....	75
5. China Rubber Tyre Company, Ltd.....	75
C. Taikoo Sugar Refinery.....	76
D. Hongkong Brewery.....	78
E. Hongkong Rope Company, Kennedy Town and Mataukok.....	79
F. Drugs and Chemicals.....	80
1. Union Drug Factory, Tokwawan.....	80
2. Sun Ah Chemical Factory.....	80
3. Hongkong Industrial Chemical Company.....	80
4. Hsi Huan Serum Factory.....	80
5. Hongkong Carbide Company.....	80
6. Far East Oxygen and Acetylene Company.....	80
7. Hung Hom Chemical Factory.....	81
8. A. S. Watson Company.....	81
G. Chung Hua Book Company.....	82
H. Hongkong Match Company.....	83

	Page
I. Garden Biscuit Company.....	84
J. Tobacco Factories.....	85
1. Orient Tobacco Company.....	85
2. British-American Tobacco Company, Ltd.	85
3. Nanyang Brothers Tobacco Compnay, Ltd.	85
K. Chang Hwa Radio Company.....	86
L. Hume Pipe Company, Ltd., Tsun Chen Wan.....	87
M. Safety Industrial Company, Ngau Chi Wan....	88
.....	
N. Buildings in Hongkong and Kowloon Used by the Japanese.....	89
1. Supreme Court Building.....	89
2. King's Building.....	89
3. Hongkong-Shanghai Bank Building.....	89
4. Hongkong Club.....	89
5. China Building.....	89
6. Peninsula Hotel.....	89

II. INTRODUCTION

The purpose of this study is threefold: (1) to summarize comprehensively the available intelligence on Japanese use of Hongkong's installations; (2) to present this intelligence in a form that will be useful as a basis for planning thorough air and ground attacks designed to neutralize Hongkong as a Japanese base; and (3) to indicate the blanks in the available intelligence, which should be filled in by planners of operations before the planning of attacks is carried to the final stage.

The various installations and their use by the Japanese are described by categories in as complete detail as possible depending on the information available in Washington. No direct attempt is made to point out the significance of particular installations as targets of attack, although the description of the extent and nature of their use will indicate to operational planners the importance of such targets subject to supplementation and verification with fuller information available in the field.

This study is not presumed to be in final form. In fact, it is hoped that its obvious inadequacies will stimulate other intelligence agencies who may have further information on specific installations, mentioned or omitted herein, to offer their criticisms and suggestions to OSS for a revision of this study.

III. PRINCIPAL INSTALLATIONS USED FOR WAR PURPOSES

A. Shipbuilding and Repair

Hongkong has the most extensive shipbuilding and repair facilities of any port in the occupied areas. Singapore, the only port capable of drydocking battleships, lacks steel shipbuilding facilities of any kind. The shipbuilding and repair facilities in Shanghai run a close second to those in Hongkong but are not fully equal in the accommodations available for large merchant and naval vessels.

By mid-1944, Japan's ocean-going tonnage had been so reduced by Allied air and submarine attack that she was unable to import raw materials in sufficient quantity to maintain 1943 levels of industrial output. The total shipping observed in Hongkong Harbor for the third and fourth quarters of 1943 was, respectively, 112,275 and 110,752 tons. For the first and second quarters of 1944 the totals were 79,987 and 71,950 tons. Of these totals one-third of the tonnages observed was either under repair or construction. In view of this apparently deteriorating shipping position, one would expect the Japanese to make full use of Hongkong's shipbuilding and repair facilities. Instead, however, steel shipbuilding in Hongkong has been sporadic. Production for 1944 will probably not amount to more than 10,000 gross tons, even though the port's capacity under moderately efficient circumstances is roughly 200,000 gross tons per year. Hongkong's drydocks and marine railroads have been used but not to an extent even approaching capacity. Facilities of the principal shipyards are summarized in Table I. It is improbable that any major extension of these facilities has been made since the Japanese occupation.

TABLE I

PRE-WAR FACILITIES OF HONGKONG'S PRINCIPAL SHIPYARDS^{1/}

<u>Shipyards</u>	<u>Drydocks</u>	<u>Marine Railroads</u>	<u>Building Ways</u>
Kowloon Docks	691'x86'x30' 433'x50'x20' 264'x48'x13'	650'ex240'x40'cr 525'ex200'x38'cr	two 800'x80' four 450'
Taikoo Dockyard	787'x93'x32'	1030'ex280'x30'cr 1039'ex362'x26'cr 993'ex253'x26'cr	four 500' one 300'
Royal Naval Yard	574'x95'x37'		
Cosmopolitan	462'x81'x26'	250'x35'cr	two 250'
Aberdeen	428'x81'x26' 334'x64'x15'		

1. British Empire Dock Book, CB 4134A, 1942.

Although the British left several steel ships in process of construction at the time of the evacuation, the Japanese have failed to finish more than about six of these. The Kowloon Docks completed two "Empire" class vessels in the fall of 1943 (almost two years later), and steel supplies for some of the others were either used for repair work or shipped to Japan. Two gun boats and a tugboat had been launched at the Taikoo Yards by December 1943.

All of the large dockyards have been in constant use for repair of steel ships, both merchant and naval types. The extent of operations has been governed by labor, steel, other parts and supplies, and fuel supplies. Information about activities at the Royal Naval Yard is limited but the yard had been used for repairs to cruisers and destroyers and a few commercial vessels. Smaller naval craft and some destroyers have been repaired at the other yards. At the Taikoo Yards six merchant ships spent from one to six months each in drydock and on the slipways for repairs between March 1942 and December 1943. Armed trawlers from 70' to 150' in length were continuously under repair at this yard, averaging one a week during the period from August 1942 to November 1943.

The facilities and activities of the six major shipyards are discussed individually.

Wooden shipbuilding, since early 1943, has come to form an important part of Japan's program for replacing shipping losses, especially for providing ships to carry supplies between Japan proper and the Asiatic mainland and between outlying points of the Occupied Areas. Many small shipyards in the southern regions and ports on the mainland take part in this program, but activity in the many shipyards of Hongkong suggests that it is one of the main centers of wooden ship construction.

1. Kowloon Docks of the Hongkong and Whampoa Dockyard Company

The Kowloon Docks, which cover 88 acres ^{1/} on the north shore of Hung Hom Bay, are a modern well-equipped shipyard with extensive facilities (Figures 1 and 2). There are three drydocks, two patent slips, and eight slipways. The largest dock is capable of accommodating cruisers while the medium dock can handle destroyers. The yard is divided into two separate units (Figure 3), the East Yard and the West Yard, each having building berths and drydocks. Vessels up to 10,000 tons could be built, and vessels up to 24,000 tons could be repaired. According to Lloyd's Shipping Register ^{2/} this shipyard is the only one in Greater East Asia, outside of Japan, which manufactures steel castings. The Japanese have not fully exploited the building capacity of this shipyard but currently there are reported to be four "F"-type freighters, 200' in length, on the building ways. Work is very slow, however, and

1. Industrial Objectives in Occupied China, Hongkong; 8 February 1943. Dept. of Foreign and Domestic Commerce.

2. Report by Charles MacPherson, Lloyd's representative, Sept. 1942.

efforts seem to have been concentrated on only two of these. Fairly extensive use has been made of the drydock facilities for repair of commercial vessels. In October 1943 six cargo ships from 2,000 to 7,000 tons were seen under repair at this yard.

The pre-war facilities of this shipyard are described below.

Dry Docks:

#1 (691' x 86' x 30') is equipped with two electric traveling cranes, one eight and one ten tons. The dock could be emptied in 4½ hours. Built of granite, it was capable of accommodating cruisers or other ships to 28,000 tons.

#2 (433' x 59' x 20') is equipped with ten ton sheerlegs on dock side. The dock could be emptied in 3 hours. It was built of granite, large enough to accommodate destroyers.

#3 (264' x 48' x 13') has rails alongside dock for two five-ton steam locomotive cranes. The dock could be emptied in 1-1/4 hours. Built of granite.

Marine Railroads:

#1 (650' ex. length with a cradle 240' x 40') has 1,200 tons lifting power. The wooden cradle is controlled by steam-operated hauling machinery. Ships up to 255' can be handled.

#2 (525' ex. length with a cradle 200' x 38') has 1,000 tons lifting power. The wooden cradle is controlled by steam-operated hauling machinery and can handle vessels up to 221'.

Launch slip:

One launch slip 175' x 25'.

Building Berths:

In the East Yard there were three concrete building berths suitable for ships up to 800'. Each berth was equipped with from three to five aerial ropeways, capable of handling weights up to 4 tons. Electric winches fitted with hoisting and transporting gear were set under each ropeway at the upper end of each berth. Jib derricks were stationed at convenient positions on each side of the ship under construction. An electric winch at the base of each derrick was capable of lifting 3 tons.

West Yard - Five building ways. Four of these reported as 450' in length. The fifth may have been dismantled by the Japanese.

Engine Manufacturing Facilities:

Before the war this yard was equipped to manufacture Diesel engines. It is probable that the Japanese have maintained this operation.

Shops:

The Fitting and Machine Shops were fitted with all types of lathes (including a large crankshaft lathe), planers, milling machines, boring and drilling machines, screw-cutting and turret lathes, and gear-cutting machines. The shop is adequate for all classes of repairs.

A large Boiler Shop was fitted with all necessary machinery, and boilers up to 17' in diameter have been built in the past.

The Pattern and Joiner Shops were equipped to take care of all classes of work for machinery castings and ships fittings.

The Forge was well equipped and any class of forging from the smallest item to the largest shafts and crank webs could be undertaken.

Foundry:

Iron castings up to 20 tons, brass castings up to 5 tons, and steel castings up to 5 tons could be made. A small cupola was available for smaller castings.

Electric repairs of all kinds up to rewinding of the largest armatures could be handled.

Copper and Plumbing Shops were capable of handling all classes of repair work.

The Welding Plant was equipped for all repairs, afloat or ashore, by both the acetylene and electric arc processes.

Compressed air was available at all parts of the works.

The Galvanizing Plant had equipment for one small hot bath and one large electric bath. These works were experienced in heavy Diesel repairs.

Power:

From the evidence available, it is not clear whether the yard has its own generating plant or not. There appear, however, to be two transformers, one in the East Yard and one in the West Yard. One authority, in describing the West Yard, states that it was equipped with three 350 k.w., 6-phase rotary converters, converting through suitable transformers from a high tension bulk supply of 2,200-volts, 3-phase 60-cycles to 250 volts D.C. The East Yard power house was supplied by A.C. 2,200-volts, 2-phase, 60-cycle transformed to 220-volts 2-phase for power and 100 volts for lighting.

Employment:

In December 1943 there were 2,000 workmen.¹ In February 1944 employment was reported to be 61 Japanese, 4,702 Chinese,

1. 14th AF Daily Int. Extract, Dec. 1943.

22 Indians. 1/ Hours were said to be from 900 to 1810. A report in May says there was a total of 4,840 workers. 2/

Construction and Repair:

It would appear that the Japanese on the fall of Hongkong took over the construction of two "Empire" class vessels which the British were building. Work on these appears from reports to have dragged along into the fall of 1943. It would seem that in January 1944 it was decided to build four vessels of the new standardized type "F" freighter. The vessels were reported to be numbered 18, 19, 20, and 21. Dimensions are given as 200' in length and 30' beam. In April 1944 it was reported that it had been decided to concentrate efforts on #18 and #19.

The yard seems to have been continuously in use for repairs. Two merchant ships were undergoing repair in March 1944.

Bomb Damage Assessment:

On 25 August 1943 there was a direct hit on the boiler shop, and the machine and carpenter shops were partially destroyed. Two vessels of 3,000 and 7,000 tons were damaged.

On 1 December 1943 partially destroyed drydock, forge, and boatshed. Two cranes were damaged and the turntable destroyed.

In the raid of 17 December 1943 there was a direct hit on No. 1 drydock. The blacksmith, engine, and electrical shops were damaged.

The docks were slightly damaged by an air raid in January 1944 and a recently launched ship was sunk.

Figure 1 is a ground plan of the Kowloon Docks area. Following is a key to the sketch:

1. AA and AAMG positions.
2. AAMG position.
3. Sentry post.
4. AA position.
5. Sentry post.
6. Sentry's quarters.
7. Sentry post.
8. Sentry's quarters.
9. Gasometer.
10. Japanese working staff's quarters.
11. Foundry (Casting house?).
12. Workers' kitchen.
13. Cooks' quarters.
14. Japanese quarters.
15. Japanese quarters.
16. Painters' workshops.
17. Electric generating room.
18. Wind-pumping station.

1. 14th AF Daily Int. Extract, Feb. 1944.

2. P-222. Kweilin Intelligence Summary #58, 21 July 1944.
(52232)

- 19. Japanese quarters.
- 20. Hole-punching workshop.
- 21. Electric generating room.
- 22. Blacksmiths' workshop.
- 23. Fitter's workshop.
- 24. New shipbuilding yard (yard for building new ships?)
(Slipway?)
- 25. 100-ton crane.
- 26. Upper floor - furniture workshop (joiners' workshop.
Ground floor - sawmill.
- 27. Lavatory.
- 28. Bathroom pumphouse.
- 29. Bathroom.
- 30. Lumber store.
- 31. Hot water boiler.
- 32. Main dock.
- 33. Electrical workshop.
- 34. Pump house.
- 35. (?)
- 36. Coal dump.
- 37. Gas welding workshop.
- 38. Electric light room.
- 39. New engine room.
- 40. Electric cable room.
- 41. New engine room.
- 42. Gasometer.
- 43. Coal store.
- 44. Office.
- 45. Blacksmiths' workshop.
- 46. First Aid post.
- 47. Divers' Room.
- 48. Funnel-bldg. room.
- 49. Sampan workshop.
- 50. Pier.
- 51. Blacksmiths' workshop.
- 52. Kitchen.
- 53. No. 2 Dock.
- 54. Main engine workshop.
- 55. Main engine workshop.
- 56. Main electric generating house.
- 57. Coppersmiths' workshop.
- 58. Upper floor -- head office; ground floor -- store.
- 59. No. 3 dock.
- 60. Stores.
- 61. Slipway engine room.
- 62. Guard Room.
- 63. Gendarmerie Detachment.
- 64. Store room.
- 65. Boiler shop.
- 66. Hole-punching room
- 67. Upper floor -- boiler repair office; Ground floor -- iron
plates shop.
- 68. New store room.
- 69. Boiler repair store.
- 70. Lavatory.
- 71. Bending and Punching workshop.

2. Taikoo Dockyard and Engineering Company

The Taikoo Dockyard (Figure 4), at Quarry Point on the northeast shore of Hongkong Island, is the second largest shipyard in Hongkong with regard to total building capacity.
(52232)

With the largest drydock in this area (Figure 5), it is capable of handling the smaller aircraft carriers and cruisers of the Imperial Japanese Navy. There are, in addition to the drydock, three marine railways and five building slips, all of which are described below. Fitting out is carried on along the seawall between the drydocks and the building berths (Figure 6).

Although this shipyard is extensively equipped to build vessels of from 8,000 to 10,000 tons, very little construction work has been done since the Japanese occupation. This is due to shortage of materials, tools, fuel, and labor. Two gunboats and one tugboat have been launched, and work on one vessel of 2,000 tons has been begun.

Drydock:

787' x 93' x 32'. Equipped with a 25-ton electric traveling crane. Time to pump out dock 3 hours. Built of granite and concrete.

Fitting Out Berth:

2,500' long, 40' draft. Served by 100-ton stationary crane with 70' reach, and small locomotive and floating cranes.

Marine Railroads:

#1 1030' extreme length. Cradle 280' x 30'. Lifting power 2,700 tons. Type of hauling machinery - electric. Cradle constructed of steel.

#2 1039' extreme length. Cradle 362' x 26'. 4,000 tons lifting power. Type of hauling machinery - electric. Cradle constructed of steel. Ship 410' x 54' can be taken.

#3 993' extreme length. Cradle 253' x 26'. 2,000 tons lifting power. Type of hauling machinery - electric. Cradle constructed of steel.

Five-, 10- and 20-ton locomotive traveling cranes up to 40' radius serve these slips.

Building Slips:

Four building slips 500' long; one 300' long.

Engine mfg. facilities:

Steam reciprocating engines of all sizes built.

Shops:

Fitting and Machine Shops:

Large and well-equipped shops fitted with all classes of machines from a large crankshaft lathe to the smallest turret and screw-cutting lathes, large wall planers, milling, boring, and drilling machines of all descriptions. Also a well-equipped brass finishing shop.

Boiler Shop:

A large boiler shop adequately fitted with flanging, bending, rolling, and drilling machines, pneumatic riveting machines, etc. Boilers up to 17' feet in diameter were built.

Pattern and Joiner's Shops:

The pattern and joiners' shops are well fitted and equipped, and are capable of any work connected with engine castings or ship fitting.

Forge:

Large and well equipped, capable of dealing with all classes of forgings up to the largest shafts.

Foundry:

Castings up to 25 tons in iron and all ordinary size brass castings.

Electrical Shop:

Electrical shops are capable of handling any repairs.

Welding Plant

The works were well equipped with welding equipment, both acetylene and electric. There were eight separate welding outfits.

Compressed Air Plant:

There was a large compressed air plant, supplying air to all parts of the works.

Pumping equipment consisted of two Allen electric centrifugal pumps. Hydraulic power was supplied by hydraulic pumps with a capacity of 100 gallons per minute at 1,000 pounds pressure.

Copper and Plumbing Shops:

These shops were equipped and fitted for all classes of repair work.

This yard has had a large and varied experience in Diesel repair work.

Power:

Electric power was supplied to the dockyard from a joint power station (Taikoo Sugar Refining and Taikoo Dockyard) situated on the property of the former. Electric power was generated by turbo-alternators (4,400 volts) and passed through a substation in the Dockyard, where the voltage was reduced to 440 volts A.C., and finally converted to direct current at 250 volts for use by the Dockyard motors. The maximum dockyard load was approximately 3,000 KW. There was an alternative source of supply in high tension A.C. current from the Hongkong Electric Company, which can be similarly passed through the dockyard substation.

Employment:

In October 1943 there were 5,000 laborers employed. Most of the skilled labor had left Hongkong. A report in March 1944 lists 6,000 employees, of which daily yard workers number only 1,500. There were 300 yard workers on the night staff at that time.

Construction and Repair:

Construction is reported to proceed very slowly. In July 1943 work on a 2,000-ton vessel was reported to be under way. In December 1943 it was reported that although the keel and frames of the vessel had been completed work was practically at a standstill due to the shortage of materials. Two gunboats, 230' long, were launched in December 1943; one tugboat, 200' long, was launched in April 1943. There has been some construction of wooden vessels. The yard seems to have been continuously in use for repairs for both naval and merchant vessels. Between March 1942 and November 1943 seven merchant ships, of from 2,000 to 10,000 tons, and four destroyers had been repaired in the drydock and on the slipways. An average of one armed trawler each week during this period was under repair. In June 1944 five steamers were being repaired.

Bomb Damage:

In the raid of 1 December 1943 bombs sank a 320' cargo vessel of 3,000 gross tons, destroyed the plumbing shop, and damaged the carpentry and welding shops. Another cargo ship, 520' long, was seriously damaged in the drydock. The main office, medical room, copper workshop, fitting shop, and the #4 slip were also damaged.

3. The Royal Naval Dockyard

The Royal Naval Dockyard, in Victoria Central, approximately in the center of the north side of Hongkong Island, is outstanding from the air because of the large fitting-out basin, the quays of which extend into the harbor. (Figures 7, 8, 9, and 10) There is one drydock nearby, which is large enough to accommodate cruisers and small carriers. This Navy Yard serviced the ships of the British Asiatic fleet before the Japanese occupation and since that time the Japanese have been making full use of its facilities. It has been in use almost constantly for the repair of cruisers and destroyers, although some commercial vessels and smaller naval vessels have also been repaired. The same problems of labor, materials, and fuel supply slow up work in this yard. Information regarding Japanese activities here is limited, due to security precautions, which prohibited visitors to the yard and thus prevented much leakage of ground intelligence. Figure 9 shows Japanese use of this dockyard and Figure 10 shows the dockyard as used by the British before the fall of Hongkong.

Drydock:

1 - 574'x95'x37'. The dock is equipped with one 100-ton crane stationary elect. crane and one 30-ton traveling crane which can operate on both sides of the dock. The jib will plumb the center line. The dock is built of granite and can be lengthened 23½ feet by using the outer stop of the caisson.

Fitting-out Basins:

Tidal Basin: 750'x660'. The water depth varies from 20' to 33'. There are two electric cranes, one 50-ton, the other 20-ton, on the quay of the basin, and one 20-ton crane on the seawall.

Small Basin: 185'x240'. This basin is located about 150 yards east of the Tidal Basin.

Power:

This dockyard had its own generating plant, similar to the power generating unit at the Taikoo Yard and Sugar Refinery before the war, producing 4400 V alternating current. When this unit plant was damaged, it was reported that the Japanese brought the unit from the Taikoo yard and installed it here.

Shops:

There are eleven shop buildings in the Naval Yard.

General Shop: Armament work in reconditioning and repairing guns was carried on in this shop.

Engineering Shop: This shop built boilers, welded hulls for warships, and repaired oil tanks, ship's screws, steam engines, air pumps and did other general repair. Since the Japanese occupation, because of Allied airraids, the work is done mostly at night.

Other shops include shipwright's, ship fitting, boiler house, carpenter, copper, cast iron, and blacksmith shops.

Stores:

There are 31 storage buildings in the vicinity of the small boat basin, with a total storage area of approximately 134,000 sq. ft.

Employment:

In June 1942 there were reported to be 2,000 men employed here. In October 1943 there were 107 Japanese and 1,538 Chinese. In February 1944 the total employment was reported as 392 Japanese, 4,446 Chinese (half apprentices), which was a decrease of 408 men from January. Total employment in May was 5,688 men. 1/ The working hours in April 1944 were from 700 to 2100 hours, with no intermission for lunch. Pay rates in August 1943 were MY 1.70 per day. Most of the Chinese were casual day laborers.

1. P-222. Kweilin Intelligence Summary #58, 21 July 1944.

Construction and Repair:

The drydock has been used extensively for repair of destroyers and cruisers. Work was greatly slowed down in October 1943 by shortage of acid gas, carbide, timber, iron plate, electric cable, coal, tools, and small parts. In February 1944, four merchant ships and two mine sweepers were under repair.

Bomb Damage:

Power generating equipment was damaged during the hostilities but has since been replaced as noted above. The 100-ton electric crane was damaged in the hostilities but was eventually restored to use. Allied attacks on Japanese shipping have caused more difficulty to the ship repair program here than actual bombing of the Navy yard itself.

4. Cosmopolitan Dock of the Hongkong - Whampoa Dock Company

The Cosmopolitan Dock located at Taikoktsui on the west side of the Kowloon Peninsula has been quite busy in repairing small vessels and building wooden sailing vessels. (Figure 11) There were one drydock and two marine railways at this yard, in addition to two building ways. These facilities were capable of handling the repair and construction of medium sized merchant vessels up to 11,000 tons.

Drydock:

1-462'x85'x20', built of granite, with one five-ton hand crane at the entrance. A new caisson was built in 1939.

Marine Railways:

1-115'cr x 15'.
1-130'cr x 20'.

Building Berths:

2-250'x35'.

Shops and Equipment:

There are four cranes in this yard. There are several shops and miscellaneous buildings which cover approximately 80,000 sq. ft. It was reported to be a well-equipped shipyard.

Power:

This shipyard received its power supply from the China Light & Power Company, Ltd.

Construction and Repair:

In May 1944, one 250' tanker and one small coastal vessel were seen at this yard undergoing repair. In June 1944, six 250-ton wooden vessels were seen in various stages of construction at this yard.

Bomb Damage:

There was some slight damage to the drydock when the British evacuated Hongkong, but this has since been repaired and the yard has been quite active in construction and repair work for the Japanese Navy.

5. Aberdeen Docks of the Hongkong Whampoa Dock Company

This dockyard, located on the south side of Hongkong Island, near the village of Aberdeen, was owned and operated by the Hongkong-Whampoa Dock Company before the outbreak of the war (Figures 12 and 13). There are two drydocks here which were used to accommodate the overflow from the Kowloon and Cosmopolitan docks of this company. Shortly after the Japanese occupation, this shipyard was reported to be stripped of its equipment and to be doing only some plate shaping and bottom scraping. However, later information reports that the yard is in active use by the Japanese Navy, under the name of the Lamona Docks.

Drydocks:

Hope - 428'x81'x26', is built of granite. It was capable of taking all British destroyers in 1941, and aircraft carriers of the "Pegasus" type. This dock is entered from tidal waters. The old caisson of the Cosmopolitan Dock was fitted to this dock in 1939.

Lamont - 310'x64'x15', is built of granite. This dock could take destroyers of the "I" type in 1941, although the caisson was in bad condition.

Marine Railways:

1 - 145'x20'.

Shops and Storage:

There are nine shop buildings and twelve storage buildings in the vicinity. There are also two piers near-by.

Power:

Power is probably secured from the Hongkong Electric Co., Ltd.

Construction and Repair:

This yard is now operated by the Japanese Navy and does work which cannot be accommodated at the Kowloon and Cosmopolitan docks. The bulk of the work is in shaping plates and cleaning vessel bottoms. In February 1944, a vessel of 1,000 tons was observed under repair.

Bomb Damage:

At the time of the Japanese occupation, damage to the Hope drydock was less than 15 percent and that to the Lamont Dock was nil. The Hope Dock has since been repaired. There has been no report of airraid damage to these drydocks.

6. W. S. Bailey Shipyard

This shipyard (Figures 14 and 15) is located on the east side of the Kowloon Peninsula, at Tokwawan. There are no drydocks but there are three marine railways and two building berths. It was a completely equipped yard for the construction and repair of small vessels and trawlers before the war and is now being used by the Japanese for the repair of ferries and various small ships. This yard is active in the wooden shipbuilding program in Hongkong, and is expected to build about 6,300 tons in 1944.

Marine Railways:

1 - 413'ex, 115'x32' cr. This railway has a wooden cradle, operated by electricity, which is capable of lifting 400 tons. It was built in 1933.

1 - 324'ex, 131'x24' cr. This railway has a wooden cradle, operated by steam, which is capable of lifting 200 tons. It was built in 1915.

1 - 830'ex, 300'x55' cr. This railway has a steel cradle, operated by electricity, which is capable of lifting 3,000 tons. It was built in 1934.

Building Berths:

There are two building berths, one 300' long, the other 120' long.

Shops, Equipment, Storage:

There are carpenter, boiler, foundry, copper, plumbing, and machine shops at this shipyard. Other buildings include a works office, slipway sheds, fitting shops, all well equipped. The foundry at this yard was able to make brass castings up to 10 tons, and iron castings up to 5 tons, and do all ordinary valve work. There were several cranes, and a fitting dock 225'x60'.

Power:

This shipyard obtained power from the China Light & Power Co., Ltd. There were transformers in the shipyard to reduce the voltage of the public power supply.

Employment:

In May 1943 there were 600 Chinese laborers employed here.

Construction and Repair:

This yard is capable of any hull repairs above the water line, and is now used by the Japanese for repairs of small craft and ferries. The Japanese continued work on some ships left by the British, and have been building and repairing trawlers for coastal trade, and wooden ships about 200' long. By September 1943 four of these wooden ships had been launched.

Bomb Damage:

A direct bomb hit in August 1943 damaged the power equipment, the crane tracks, the machine shops, and two ships which were in the yard.

7. Wooden Shipbuilding in Hongkong

In 1943, Japan began to rely heavily on wooden ship construction. Several of the largest shipping and shipbuilding companies in the occupied areas engaged in the program, setting up yards both in Japan proper and in the areas under her control. It is believed that Hongkong is the most important center of wooden shipbuilding outside of Japan. The quota set for Hongkong for 1944 was 150,000 tons but forecasts based upon current intelligence suggest that only about 54,000 gross tons of wooden shipping may be built in 1944. 1/ Expressed in terms of equivalent steel tonnage, Japan may gain some 27,000 tons of shipping through the Hongkong program. These wooden ships are sailing vessels of three tonnage types, 100, 150, and 250 tons, powered by auxiliary Diesel engines.

The wooden shipbuilding program in Hongkong is carried out largely in small shipyards scattered all over the Colony although the large dockyards have participated to some extent. The Japanese have prompted the local manufacture of Diesel engines for these craft, producing units of 200 HP. It has been reported that the Japanese were converting motors removed from buses in Hongkong and Kowloon to power these vessels in 1943. 2/ The shipyards engaged in this program are listed in Table II. The locations mentioned in the Table are spotted on Map No. I, appended to this study.

1. These forecasts are based on the assumption that vessels of about 150 tons, taking two months to complete, will be constructed.

2. BEW: Current Economic Information #14; 10 March 1943.
(52232)

(52232)

TABLE II
WOODEN SHIPBUILDING YARDS IN HONGKONG

NAME OF SHIPYARD	MAP LOCATION ON MAP NO. I	SPECIFIC LOCATION	ESTIMATED NO. OF WAYS	FORECAST OF '44 PRODUCTION	REMARKS
1. Wing On Shing	14	Cheungshawan	2	1800	
2. Kwong Cheong Hing	13	Shamshui Po	2	1800	
3. Kwong Hip Lung renamed Dai Nippon	10	Shamshui Po	5	4500	
4. Cosmopolitan	4	Taikoktsui	3	2700	
5. Government Repair Slip	15	Yaumati	1	900	
6. Kinsun renamed Nam	8	Tokwawan	6	5400	Also manufacturing Diesel engines.
7. Kowloon	1	Hunghom	3	2700	
8. Bailey's	6	Tokwawan	7	6300	

SECRET

SECRET

(52232)

TABLE II (Cont.)
WOODEN SHIPYARDS IN HONGKONG

NAME OF SHIPYARD	MAP LOCATION ON MAP NO. I	SPECIFIC LOCATION	ESTIMATED NO. of WAYS	FORECAST OF '44 PRODUCTION	REMARKS
9. Ngauchiwan Shipyard renamed Fukui	7	South of Kai Tak A/D	8	7200	
10. Fook Chen	11	Ngautaukok	2	1800	
11. Ah King	9	Causeway Bay	6	5400	
12. Nanchuo No. 2 Shipyard	12	Causeway Bay	2	1800	
13. Taikoo	2	Quarry Point	4	3600	
14. (Name unknown)	16	2000 yards east of Taikoo on promontory	2	1800	
15. Aberdeen	5	Aberdeen	2	1800	
16. Kum Kee No. 1 shipyard	17	Causeway Bay			

Total 49,500

SECRET

SECRET

B. Machine and Metal Works

There were no iron and steel plants, in the usual sense, in the Crown Colony of Hongkong before the war. However, there were several rather small machine shops, brass factories, and iron foundries which made castings and fittings for the shipyards in the Colony, manufactured Diesel engines, and made tools, tin containers, flashlights, and other metal products. The flashlight industry was one of the important light industries in Hongkong before the war. In addition to these plants, there were metal and machine shops in the large dockyards and a machine and repair shop at the Kowloon-Canton Railroad Yards in Hung Hom. These are discussed under the topics of Shipbuilding and Repair and Railroads.

These plants, in operating under Japanese supervision or control, are limited by fuel and raw material shortages. The Japanese have adapted them to the requirements of the Japanese shipbuilding program in the Colony. Many of these plants continue to manufacture their pre-war or similar products, i.e., Diesel engines and ships parts while others, such as flashlight and tin container plants, have been converted to producing military supplies.

1. Liu Ho Ko Engineering Works

This engineering works and foundry is located about 200 yards southwest of Bailey's Dockyard at Bailey Street and Matauwei Road (Figure 16). In pre-war days, the plant included an office, laboratory, electric furnace, foundry, transformer, pattern shop, and machine shops.^{1/} Aerial photographs taken in March 1944 show a building 290' x 80', a group of buildings 130' x 130', and three small buildings.^{2/} The plant manufactured parts and made repairs on heavy equipment for the dockyards. Its American-made electrical furnace was said to be the best in the Crown Colony and could make steel castings up to two tons in weight.^{3/}

Since the Japanese occupation of Hongkong this plant has been doing ship and truck repairs^{4/} and has been producing manganese steel castings,^{1/} winches and heavy engine parts for the dockyard.^{5/} The electric furnace is used to smelt cast iron for ship repair jobs. For other jobs requiring larger parts than two tons the materials have to be welded.^{2/} Damage to the transformer would be a serious handicap to operation of the electric furnace. It is reported that this plant is also producing shovels and pick axes for the Japanese.^{4/}

-
1. EFIS 221, Appendix 4 June 1942.
 2. Report to OSS from AFPI Div. Washington, D. C., 10 Aug. 1944.
 3. OSS R&A ISLD 37624/5257/5259; 27 June 1944.
 4. MA Report Current Events # 933. Hongkong & Vicinity, 17 Dec. 1943.
 5. DISLD Rep., 23 Feb. 1944. (B-2).

In April 1944, it was reported that this works was under the management of a Chinese. The work was done carelessly and delayed as much as possible. At that time, the plant had a contract for twelve sets of 5 HP engines for air compressor pumps for 200 HP motor ships and a contract with the Japanese Navy to build twelve 25 HP engines by June 1944. In April 1944, only two of these had been completed. Work was also continuing on four 10-ton cranes, a pre-war contract with Taikoo Shipyard. The work progressed very slowly as only one had been completed, and had not been delivered as of April 1944. Activity at this plant seems connected with that at the adjacent Bailey's Shipyard.^{1/}

2. South China Iron Works, Ltd.

Before the war this company was owned by the China Automotive Company, Hongkong, which also had plants in Kunming and Kweilin. These plants were considered the most modern and best equipped of their type in the Far East. The Hongkong plant is located at 22° 22' 50" North, 114° 6' 20" East, across Tsun Wan Bay from the Texas Oil Company installations. It was established in 1938, backed by Chinese Government Capital.^{2/}

In 1941, the factory consisted of four single-storied concrete factory buildings, including a foundry and electric furnace. A fifth building was being constructed. The factory was fully equipped with all necessary machinery for manufacturing complete Mercedes Benz Diesel engines, including casting cylinder blocks, cylinders, and other parts.^{3/} In addition, there were office buildings and quarters for 750 workers and their families. These workers, all skilled foundrymen or milling machine operators, were brought from Shanghai when the factory there was closed after Japanese occupation.

The plant was equipped with up-to-date American and German machinery. It produced Diesel engines, automotive parts, machine tools, automobile and heavy truck springs, and cylinder blocks. Immediately before the war, it was devoted primarily to production of Benz Diesel engines of 55 HP for trucks. The pre-war capacity was estimated at 50 engines per month.^{2/} In addition to these engines, however, the plant manufactured enough spare parts to service a fleet of over 5,000 Mercedes Benz trucks in operation in Free China, and exported a large quantity of spare parts to Indo-China, Thailand, Burma, India, and Java.^{3/}

In the manufacture of Diesel engines, this plant made all the necessary forgings except crankshafts, connecting rods, and valve forgings which were imported from the United States. The engines were produced complete except for the fuel injectors.^{2/} Unprocessed materials and semi-finished products were imported and all imported parts were milled in Hongkong. Facilities were also present for microscopic examination of alloys.

1. Report to OSS from AFPI DIV., Washington, D. C., 10 Aug. 1944.

2. Industrial Objectives in Occupied China, Hongkong; 8 Feb. 1943
Department of Commerce.

3. Constantin Blum, NY., Attached to Report on Rubber Factories
in Hongkong.
(52232)

The Japanese have used this iron works to make drive shafts, propellers, and bomb or shell casings for the Navy.^{1/} In September 1943, 2,000 men were employed^{2/} and the factory was working solely for the Japanese Navy.^{3/} In March 1944, the factory was reported producing about 50 marine engines per month and other motor accessories. Supplies were received via the Whampoa Docks. The name of this plant has been changed to Hongkong Government Iron Works.^{4/}

3. The Rikukawa Sono Iron Works was reported to be located at (GSGS 3868) Grid 2215 5742,^{5/} just south of Bailey's shipyard. This is the former Hongkong Government aircraft repair shops which were built in 1940.^{6/} In October 1942, Rikukawa Sono was making cast iron fittings from materials imported from Shanghai and Canton. There were then two Japanese engineers in charge of about 160 workmen.^{5/} The Hongkong branch of this company was established in 1940.^{6/} It later began making three-ton winches, steel and iron castings and by May 1944 had made two diesel engines of single cylinder, two-stroke type. In April 1944 this plant was working on a ten-ton crane and some diesel engines. The plant then had about 300 employees. It was reported in June 1944 to have about 160 employees.^{6/} They originally employed 700 men.^{7/}

4. Hip Tung Wo Engineering Company

This company operated an engineering and machine shop reported to be on the east side of Kowloon Peninsula north of the Hongkong-China Gas Company plant, at grid reference GSGS 3868; 22625817.^{8/} Since early 1942, the company has engaged in manufacturing 200 HP diesel engines and rice polishing and grinding mills for the Japanese.^{9/} The factory has been damaged several times by bombing, including a direct hit in the raids of 15/16 November 1943^{10/} which caused work to be stopped until mid-January.^{4/} The plant was bombed again on 10 March 1944, when the machine shop was damaged so severely that all work ceased.^{11/} The plant was reported to be operating again in

-
1. MA Report Current Events #933, Hongkong and Vicinity, 17 Dec. 1943. (F-2).
 2. 14 AF Daily Interest Extract, 9-12-43.
 3. Dr. Conrad C. Hsu - MA Report.
 4. NA Report, 21 March 1944. (B-2).
 5. 14 AF Daily Intelligence Extract, June 15, 1944.
 6. Kweilin Intelligence Summary #51, 2 June 1944.
 7. JICA/CBI, 24 May 1944.
 8. This location can not be confirmed from aerial photography available in Washington, D. C.
 9. EFIS 221 Appendix, 4 June 1942.
 10. JICA, 17 February 1944.
 11. OSS, R&A, ISLD 37624/5257/5259, 27 June 1944. (52232)

April 1944, cutting and welding steel parts. Present activity cannot be ascertained from information available in Washington.

5. Kin Sun Company

This company is the former Hongkong Engineering and Construction Company, located in the northeast corner of Bailey's Shipyard in Kowloon. It is reported that other machine and workshops in the area were looted by the Japanese to develop the output of this yard, which is devoted to the manufacture of 200 HP, three-cylinder Diesel engines.^{1/} These engines are used to propel the wooden ships being constructed by shipyards in Hongkong. The firm does not make the heavy castings required, which are supplied by another foundry near-by.

6. Nam Tsam Flashlight Factory

This factory, located at 140-42 Fuk Wah Street, Shamshuipo, Kowloon, is one of about thirty small Chinese flashlight and battery factories in Hongkong and Kowloon, which together made up one of the more important industries in the colony before the Japanese occupation.^{2/} The plant manufactured torches, batteries, and clocks, and was under the direction of National Carbon Company of America, which supervised production and purchased and distributed its products. The supply of brass for Nan Tsam was assured by the American company which purchased brass in America and elsewhere for the account of the Hongkong firm.^{3/} The factory was reported to be operating in the spring of 1942, making 150,000 flashlight cases per month. It had a machine shop in which were made most of the machine tools used in the plant. They also did some sub-contracting on small parts and fittings for ships. It would be possible to convert this factory to the manufacture of other brass or copper goods.^{2/} Later reports indicate that aircraft parts are stored and possibly assembled at this factory.^{4/}

7. Chiap Hua Steel and Iron Manufacturing Company

The Chiap Hua Steel and Iron Manufacturing Company's offices were located in the Tai Ping Building, Queens Road Central, Hongkong and its factory at To Kwa Wan Road and Kweichow Street, Kowloon,^{5/} next door north to Far East Oxygen and Acetylene Company. It manufactures safety anti-poison gas masks, bulletproof steel helmets, water bottles, cooking vessels, implements for the labor corps, and road-building tools for the Japanese. No information is available as to the size or capacity of the plant before Japanese occupation

1. OSS, R&A, ISLD 37624/5257/5259/, 27 June 1944.

2. MA Report #5893, 29 Sept. 1942. National Carbon Company Representative, Shanghai.

3. Industrial Objectives in Occupied China, Hongkong; 8 Feb. 1943, Department of Commerce.

4. 14 AF Daily Intelligence Extract, 5 June 1944.

5. Third Phase P. I. Report #59, Hongkong-Kowloon, 7 June 1944.

nor any indication as to quantity of production under Japanese control. The Hongkong Carbide Company is reported to be located in one corner of this plant.^{1/}

8. Smaller Workshops

a. Ling Nan Hardware Company

There is a plant called Ling Nan Hardware Company on Matauwei Road, Kowloon, which formerly manufactured trenching tools.^{2/} An unconfirmed report in February 1944 stated that this factory was now used for knitting military cloth.^{3/}

b. China Can Company, Ltd.

This is a small industry located on Lot No. 525, Main Street, Shaukiwan on Aldrich Bay. The plant includes a factory, godown, and office of brick, concrete and stone construction. All the buildings have tile roofs.^{4/} Before the Japanese occupation this factory produced cans and containers of all kinds, crown corks, toys, and tin novelties. The plant was considered comparatively well equipped before the war.^{5/} It has since been reported as producing supplies for the Japanese.^{6/}

c. Hongkong University Workshops

These workshops at Hongkong University were originally equipped with lathes and machine tools, as well as a power plant, (Figure 17). After the Japanese occupation, all machinery was reported to have been stripped from these shops by the Japanese. It has since been reported, however, that they have been at least partially restored.^{2/}

-
1. Third Phase P.I. Report #59, Hongkong-Kowloon, 7 June 1944.
 2. Industrial Objectives in Occupied China, Hongkong; 8 Feb. 1943. Department of Commerce.
 3. JICA 21 Feb. 1944.
 4. Insurance File
 5. Industrial Objectives in Occupied China.
 6. Gripsholm I Summary.

C. Aircraft Assembly Plants

If the reports which have filtered into Washington are credible, Hongkong is (or was) used as an important center for the storage of aircraft parts and the assembly and repair of planes. Sufficient parts for the possible assembly of 175 new planes and replacement parts for 175 others were reported to have been unloaded in Hongkong at one time. Fifty planes were under construction at one plant and ten at another, while activity at the third plant was not reported. It is not known what period of time such assembly work represented, or whether it was an isolated, exceptional instance, although the presence in Hongkong of such facilities would argue for their continued utilization.

No conclusion can be drawn as to whether the degree of Japanese air activity over China would warrant the existence in Hongkong of such extensive assembly and repair facilities, or whether they are (or were) used as a way point for the assembly of planes en route to the south or as potential facilities for use in connection with the later development of intensified air activity over China or the South China Sea. In any case, precautionary dispersion of aircraft assembly facilities would be sufficient justification for the location at Hongkong of such assembly and storage plants as are described below. In addition to those reported in the Canton area, these would represent a not inconsiderable segment of the Japanese aircraft assembly and repair program.

1. Kai Tak Airdrome

In the extreme southeast corner of Kai Tak Airdrome is located a small aircraft assembly plant, covering an area approximately 600' x 550'. The facilities visible from aerial photography include two assembly buildings, one 180' x 105', one 105' x 75', two administration buildings, one U-shaped, one a two-story building, one storage type building 120' x 40', and approximately twelve other small buildings, the largest 60' x 40'. Adjoining the assembly plant is a large well-surfaced apron, connecting with a seaplane ramp. A report of 7 June 1944 indicated near-by open storage of quantities of loose stores and materials which were possibly fuselages and engine crates.^{1/}

On the other side of the airdrome 300' south of the turning circle of the shorter runway, are two shop buildings used for aircraft repair and service.^{1/}

A report of January 1944 ^{2/} states that the Teiren Maru arrived in Hongkong on 19 November 1943 with 800 crates which were consigned to an army unit and that these crates which measured 15' x 8' x 4' were transported to Kai Tak Airdrome. It was learned from mechanics at the airdrome that the crates contained 550 aircraft engines and components for the assembly of 550 aircraft which were described as "a new type of Zero fighter." These 800 crates were stored in the

1. Special P.I. Report # 11. Kai Tak Airdrome, 7 June 1944.

2. OSS R&A 14 Jan. 1944.

former RAF storage sheds and fire-engine house. However, a January 1944 report 1/ indicated that the arrival of fuselage parts for these engines had not yet been noted. Later intelligence was to the effect that planes partly assembled had been seen in covered revetments on the airdrome, 2/ located adjacent to, and south of the row of RAF Barracks buildings and east of the assembly plant. 3/ If parts for 550 planes were actually brought to Hongkong in one shipment for assembly, in accordance with the assumed logistics of the Japanese, they would possibly represent parts and replacements for 175 new planes and 175 planes already based there.

2. Laichikok

In the summer of 1943 4/ there was reported to be an airplane godown or possibly an airplane assembly plant at Laichikok. About ten planes were there then, some of which were ready for service and some not yet assembled. Airplane parts were also stored in the Women's Prison.

It is not known whether aircraft were actually assembled here. Possibly parts were merely unloaded and trucked to Kai Tak airdrome for assembly. 5/ Photo intelligence dated March 1944 shows no evidence of either storage or assembly of aircraft in this vicinity. 6/

3. Tai Hang Rubber Factory

Reports from Hongkong state that the Tai Hang Rubber Shoe Company works at 1/9 Yuchow Street, Shamshuipo, has been used by the Japanese Imperial Aircraft Fitting and Repair Works, 7/ for refitting, repair, storage, and assembly of airplane parts and building of gasoline tanks, since 25 December 1943. The Engines Section and Electrical Section of the plant at the Kai Tak Airdrome were removed to the Tai Hang factory. 8/ Engines and fuselages are assembled here and then taken by lighter to a locality which is believed to be Bocca Tigris, for wing fitting. In January 1944, about fifty aircraft, half assembled, were stored at the Tai Hang works. 9/

-
1. 14th AF Daily Intelligence Extract 6 Jan. 1944 (B-2)
 2. OSS R&A (A-2), 16 March 1944 (Chinese Intelligence).
 3. Special P.I. Report #11, Kai Tak A/D, Kowloon, 7 June 1944; Photo #N-RV23-M14/4-21Ps-D, Kai Tak A/D No. 5.
 4. JICA #481, Hongkong; May-July 1943.
 5. 14th AF Daily Intelligence Extract, 6 Aug. 1943.
 6. Report to OSS from A.F.P.I. Division, Washington, D.C. 10 Aug. 1944.
 7. 14th AF Daily Intelligence Extract, 5 June 1944. From aerial photographs available in Washington, no confirmation of this activity is possible.
 8. KWIZ 40/31 Section II (b).
 9. DISLD Reports, 23 Feb. 1944 (B-2)

In February 1944, a shipment of aero engines and wireless telegraph equipment arrived in Hongkong, of which ten cases, measuring 5'6" square, containing aero engines, and twenty cases of wireless equipment were sent to the Tai Hang plant.1/ One hundred and fifty workmen were reported to be employed at the Tai Hang plant, working only at night.2/

The pre-war activities of the Tai Hang Rubber Company were chiefly the manufacture of rubber footwear, such as rubber-soled canvas shoes and rubber boots. The capacity was estimated as 8,000,000 pairs per year.3/ The plant buildings were brick, stone, and concrete.4/

It is reported that aircraft parts were also stored in the Nam Tsam Flashlight Factory in Sham Shuipo (GSGS 3868, Grid 192595) and in the Kowloon Motor Bus Company garage on Castle Peak Road in April 1944.5/

-
1. OSS R&A ISLD 37224/5144, 25 April 1944.
 2. 14th AF Daily Intelligence Extract, 5 June 1944.
 3. Rubber Mfg. Facilities in China by Constantin Blum, NY.
 4. Insurance Materials.
 5. 14th AF Daily Intelligence Extract, 6 June 1944.

D. Public Utilities

There were two electric power companies generating electricity for public use before the war. The Hongkong Electric Company, Ltd., had a generating plant on North Point, which provided power and light for industries, transportation equipment, public buildings, streets, and homes on Hongkong Island. This plant had a generating capacity of 45,000 KW. The China Light and Power Company generating station at Hok Un, on the Kowloon Peninsula, capacity 39,000 KW, performed the same service for the Kowloon area. Some of the factories and shipyards had individual power plants. The Japanese have operated both the public and the private power plants since the occupation, although the public service has been sharply reduced in the last year when the decrease in Japanese shipping caused a shortage in available coal supply.

The Hongkong-China Gas Company, Ltd., manufactured illuminating gas which provided street and house lighting for a limited number of customers in Hongkong and Kowloon. There were two wet-type gasometer plants, at Kennedy Town and Wanchai, on Hongkong Island and two at Yaumati and Matakuk on the Kowloon Peninsula.

All of these installations, both electric and gas plants, being dependent upon an external supply of fuel, become less important as targets as the Japanese shipping situation deteriorates.

1. Electric Plants

a. Hongkong Electric Company, North Point.

After the occupation of Hongkong in December 1941, privately owned power generating plants were linked with the circuits of the North Point plant to furnish limited power for the industries on the island. This plant, the only public power plant on the Island, was equipped to provide single and three-phase, 50 cycle, 220/346 Volt, alternating current for both light and power. The single-phase current was for lighting, fans, small appliances, and motors of 2 British HP or less, while the three-phase current was furnished for larger appliances and motors. The plant (Figures 18 and 19) consists of a composite building 270' x 180' with four stacks, 1/ and four smaller buildings. There are ten open bins for coal storage 2/ located along the quay.

In 1941, the plant had a generating capacity of 45,000 kilowatts. 3/ The total production for September 1940 was 72,337,702 kilowatt hours. 4/

1. Industrial Objectives in Occupied China, Hongkong, 2 Feb. 1943, Department of Commerce.

2. Third Phase P.I. Report # 59, Hongkong-Kowloon, 7 June 1944 (#179).

3. MIPI 5213, Third Phase Report, 15 Aug. 1943, Hongkong-Kowloon.

4. Ind. Objectives in Occupied China, Hongkong; 8 Feb. 43, Dept. of Commerce.
(52232)

In the 1941 hostilities, the plant was badly damaged but it was quickly repaired and in full operation by June 1942. 1/ Beginning in July 1943, the use of electricity was restricted to 70 percent of former current allowance, and use of all electric appliances, including stoves, was prohibited to civilians. In accordance with this program, the number of tramcars in operation was decreased and theaters limited the number of showings per day. 2/ Beginning in September 1943, a further economy of 35 percent was to be enforced. 3/ The chief reason for these restrictions in use of electric current was the shortage of coal for fuel in generating electricity. 2/

The North Point power plant is the most important single industrial plant in Hongkong since it provides power to run all the industries on the Island, and lighting for all buildings. 4/ Although the plant was reported not to have been damaged in the air raid of 25-26 October 1943, a high Government official in Hongkong told reporters in December 1943 that electric current supply had been suspended for quite a long time because the North Point generating station had been out of order but that it would soon again be in operation. 5/

b. China Light and Power Company, Hok On (22°18'37"North; 114°11'25"East)

This plant covers an area 820' x 370'. It has five buildings and four smokestacks, with an adjacent coal storage dump approximately 300 feet square. 6/ The plant consists of an old and a new section, with a total capacity of 39,000 kilowatts, producing three-phase, 50/60 cycle, 230/346 V alternating current. (Figures 20, 21, 22, 23 and 24) In 1938, 31,000,000 units of power were sold and 9,000 kilowatt hours for lighting. The yearly output for 1939 and 1940 was 59,659,622 kilowatt hours.

This station is the source of light and power for Kowloon and the New Territories with lines extending to the Chinese frontier. In 1938 there were 78.5 miles of extra high tension and high tension underground cable and 57 miles of low tension underground cable in Kowloon. The current to the New Territories was carried by 26 miles of supertension overhead lines, 51 miles extra high tension overhead lines, and 4 miles of underground cable. 7/

-
1. EFIS 221 Appendix, June 4, 1942.
 2. OSS R&A, Hongkong; Nan Hua Tih Pao, Aug.-Sept. 1943.
 3. JICA/CBI #C-1183, Aug. 18, 1943.
 4. 14th AF Daily Intelligence Extract, 5 Feb. 1944.
 5. MOI Ftntly # 6 & 7, 31 Dec. 1943.
 6. Third Phase P.I, Report # 59, 7 June 1944, Hongkong-Kowloon (#175).
 7. Industrial Objectives in Occupied China, Hongkong-Kowloon; 8 Feb. 1943, Department of Commerce.

During the hostilities in 1941, British military engineers damaged the new portion of the plant but nothing was done to the old portion.^{1/} The extent of the damage to the plant is not known but the Japanese had it repaired and in operation about two weeks after occupation.^{2/} Production in June 1942 was about 80 percent of normal.^{1/} Further intelligence as to extent of operations at the plant is not available but it is presumed that the coal shortage suffered by the North Point station also involved this plant.

Travelers and letters from Hongkong report that three electric generating units have been removed from Hongkong ^{3/} and Kowloon but there is no confirmation of this except a report of 3 December 1943 ^{4/} that the Japanese were dismantling part of the generating equipment at the Kowloon Plant and packing it for shipment.

There is an electric substation in Kowloon located about 2,500 feet northwest of the Kowloon Docks of the Hongkong and Whampoa Dockyard Company; or 750 feet northeast of the radio station in Kowloon.^{5/} One indefinite report of March 1944 indicated that the transformer from this substation may have been removed for shipment out of Hongkong.^{6/}

Two articles, one describing the equipment of the North Point electric plant ^{7/} and the other describing the Hok Un electric plant ^{8/} are attached (Appendix A).

-
1. EFIS 221 Appendix, June 4, 1942.
 2. Industrial Objectives in Occupied China, Hongkong-Kowloon; 8 February 1943, Department of Commerce.
 3. Letters, Travelers, Hongkong, 18 Nov. 1943.
 4. 14th AF Daily Intelligence Extract, 3 Dec. 1943.
 5. Third Phase P.I. Report #59, Hongkong-Kowloon, 7 June 1944 (# 178).
 6. JICA/CBI # 2333, Occupied China, 6 May 1944 (C-3).
 7. Far Eastern Review, Dec. 1932, Vol. 28, pp. 570-75.
 8. Ibid., June 1931, Vol. 27, pp. 367-73.

2. Gas Plants of the Hongkong and China Gas Company, Ltd.

a. West Point Gas Plant

The illuminating gas plant at West Point is located at 22°17'10"N, 114°08'E. The gas works consists of a composite building 250' x 70', a building 100' x 35' with an adjacent stack, and several small buildings (Figure 25). There are three gas storage tanks 30' in diameter. 1/ The production capacity in 1941 was 280,000,000 cubic feet of illuminating gas. This output served a small percentage of streets and residences, and some business firms. The number of consumers was greatly reduced in recent years; in 1936, there were 4,329 consumers and 2,574 public street lamps. 2/

b. Wanchai Plant

There is another small gas works located a short distance northwest of the Happy Valley Race Course. 3/ At this installation are one gas storage tank 60' in diameter and several adjacent buildings. There is no indication as to the capacity of this plant. Production of gas is probably limited because of the shortage of coal.

c. Kowloon Plant

On the west side of Kowloon Peninsula south of the Typhoon Anchorage located at 22°18'27"North, 114°10'0"East, 4/ is a gas works which produces illuminating gas. There are three buildings, averaging about 75' x 45' and several small buildings, and storage facilities consisting of two wet-type gasometers 60' high, 40' in diameter, and loose stores for fuel. 5/ The output of this works serves a small percentage of streets, residences, and business firms in Kowloon. The number of consumers has been considerably reduced in recent years. 2/

d. Ma Tau Kok Plant

Another gas works located on Kowloon Bay in Ma Tau Kok, 2,300' northwest of Bailey's Shipyard, consists of four buildings averaging 100' x 60', one wet-type gasometer 90' in diameter, and an open storage area for fuel. 6/ No figures are available regarding the capacity of either of the two Kowloon plants. Production at these plants is probably limited because of the shortage of coal.

1. Third Phase P.I. Report #59, Hongkong-Kowloon, 7 June 1944 (#180).

2. Industrial Objectives in Occupied China, Hongkong, 8 Feb. 1943. Department of Commerce.

3. #181.

4. Industrial Objectives in Occupied China, Hongkong-Kowloon, 2 Feb. 1943, Department of Commerce.

5. Third Phase P.I. Report #59, 7 June 1944 Hongkong-Kowloon (#176).

6. Ibid., (#177).
(52232)

E. Storage Facilities for Petroleum and Military Supplies

The Japanese have established numerous storage dumps for military supplies and petroleum in and near Hongkong, in addition to utilizing existing storage facilities, such as Standard-Vacuum Oil Company, the Texas Company, and Asiatic Petroleum Corporation terminals, and Holts' Wharf and the Hongkong-Kowloon Wharf and Godown Company properties. They have also converted air-raid shelters built by the British and other buildings into storage areas. Tables III and IV list the known petroleum and military supplies storage areas, their locations, and the quantities of goods stored. The oil terminals, Holts' Wharf, and the Hongkong-Kowloon Company are discussed individually.

TABLE III

PETROLEUM STORAGE DUMPS IN THE HONGKONG AREA

Location & Date	Map II Reference No.	Grid Reference	Facility Utilized	Stored Goods	Quantity	Remarks
Kowloon <u>1/</u>	7	GSGS 3868: 177600	Laichikok	Gasoline		3 lighters moored here; 1 bulk, 3 drum storage
Shamshuipo <u>2/</u> May 1944	8	18946003	Near the Kowloon Motor <u>1/</u> Bus Co. Garage	Gasoline	200 drum	At foot of hill 150 yds. from garage. Camouflaged with "old bags" and grass.
Shamshuipo <u>3/</u> June 1944	9	18946003	Kowloon Motor Bus Co. Garage	Motor Avia. Gasoline	2500 drum	In the garage one AA gun on the roof.
Shamshuipo <u>4/</u> Feb. 1944	10	193602		Gasoline		Camouflaged
Shamshuipo <u>5/</u> Feb. 1944	11	19026000	Tai Hang Rubber Company	Gasoline	10,000 drums	Reported brought from Laichikok
Yaumati <u>5/</u>	12		Cooling Chamber	Gasoline		2 tanks, 2,800 barrels, capacity
Kings Park <u>6/</u> Kowloon June 1944	13		Air Raid Tunnel	Gasoline	"Most of Gasoline in Hongkong"	This tunnel guarded day and night
Kowloon <u>6/</u> June 1944	14		Canton Road Air Raid Shelter	Gasoline	"small quantity"	Opposite British Works Department

TABLE III (Con't)

Location & Date	Map II Reference No.	Grid Reference	Facility Utilized	Stored Goods	Quantity	Remarks
Kowloon May 1944	15	GSGS 3868: 20475553	#1 Peking Road	Gasoline (Aviation)	300 drums	
Kowloon 7/ May 1944	16	20335713	Air raid tunnel	Gasoline	8,000 drums	Opposite Yanmati Gov't school Mau Ming lane. 2 Japanese, 2 Indian guards
Kowloon 8/ May 1944	17	212566	Marsman Co. Go-downs.	Gasoline, bicycles, drums, barbed wire, scrap iron	1,200 bic.	Chatham Road
La Salle Colloge 8/ July 1944	18	21725903		Gasoline		Near this college
Kowloon 9/ March 1944	19		Nathan Road	Gasoline		Caves near Albambra Hotel
Kowloon May 1944	20	210563	St. Mary's School	Motor Gasoline	1 tank 15' x 8' dia., 65 drums	Chatham Road
Hung Hom 10/ Jan. 1944	21	211562		Gasoline Diesel fuel		Along railroad, 1 tank diesel, 2 go-downs gasoline, 500 drums open storage
Hongkong 8/ Harbor July 1944	22	17905468	Sai Kong Wharf	Gasoline	400-600 drums	Two ferries anchored Cannought Bay W., each holding 200-300 drums
Kailungwan 11/ April 1944	23	169508	Dairy Farm Storage Co.	Ammunition wires, gasoline, oxygen, Compressed food		
West Point 12/ Sept. 1943	24		China Provident Co.	Gasoline gas cylinder, rifles, rice	7,000 barrels 400 9,000 4,000 bags	Brought to Hongkong by ship in July 1944
Hongkong 13/ July 1943	25		Hongkong Shanghai Bank, Des Voeux Road C.	Gasoline		Basement
Hongkong 9/ March 1944	26	221502	Deep Water Bay	Gasoline		Hillside overlooking Deep Water Bay
Stanley 14/ Peninsula Sept. 1943	27		Stanley Port	Fuel Oil Gasoline		Next to internment Camp

TABLE III (Con't)

Location & Date	Map II Reference No.	Grid Reference	Facility Utilized	Stored Goods	Quantity	Remarks
Fanling <u>15</u> / Jan. 1944	28	GSGS 3868:	Golf Club	Aviation Gasoline	10,000 drums	Some of gasoline brought from Kam Tsin
Yuenlong <u>2</u> / (Unlong) June 1944	29		Open Storage south-west of Shum Clum	Gasoline	20,000 drums (50 gal.)	14 kws. southwest of Shum Chuen turf-covered
Kamtsin, North <u>2</u> / April 1944	<u>30</u>	L134784		Aviation Gasoline	28,000 drums (50 gal.)	In race track camouflage green, red, yellow; trees, netting. There are 52 units laid in pairs, 100' x 20'. Each unit contains 500-800 drums, 65 troops Japanese & Indians with 8 AA machine guns. In June 1944 1,000 drums removed.

1. OSS R&A ISLD 37324/5007, 22 Feb. 1944.
2. 14th AF Daily Int. Ext., 5 June 1944.
3. Ibid.
4. ISLD 37224/5017; 26 Feb. 44, OSS, R&A.
5. 14th AF Daily Int. Ext., 30 March 1944.
6. Ibid., 26 June 1944, KWIZ, 16 June 1944.
7. Kweilin Int. Summary, OSS, R&A.
8. 14th AF Daily Int. Ext., 5 June 1944.
9. Ibid., 30 March 1944.
10. ISLD 24200/4923; 24 Jan. 1944, OSS, R&A.
11. 14th AF Daily Int. Ext., 6 June 1944.
12. Ibid., 9 Sept. 1943.
13. KWIZ/06, 21 July 1943.
14. Gripsholm II, Nov. 1943.
15. 14th AF Daily Int. Ext., 10 Jan. 1944.

TABLE IV

STORAGE DUMPS FOR MILITARY SUPPLIES IN
THE HONGKONG AREA

Location & Date	Map II Refer- ence No.	Grid Reference	Facility	Goods	Quantity	Remarks
Kowloon April 1944	39	20906005		Radios, D/F Bomb- sights, A/C parts	57 cases	Supplies and technicians to assemble them brought from Kowloon
Laichikok July 1943	40	17506007	Women's Prison	A/C parts		
Cheung Sha Wan May 1944	41	19066003	Leung Hiu Lee Rubber Factory	A/C Engines, machine tools		
Shamshuipo April 1944	42	18946003	Kowloon Motor Bus Co. Garage	A/C parts		
Shamshuipo	43	192593	Nam Tsam Flashlight Factory	A/C parts		
Taikoktsui April-May 1944	44	19655870	Wallace Harper Godown	Iron plate, 23 plates general stores		Opposite Ho Sai Kai Theater, Tong Mei Road
Tai Kok Tsui March, 1944	45		Warehouse	Poison gas	150 bottles	Each 2'6" x 6" dia.
Kowloon	46	20005602	Naval Supply De- pot	Food, utensils, uniforms, ammunition torpedoes	100 300 cases	3 stores on South Side Canton Road One on West Side Canton Road closed between Depot and Haiphong Road.
Mong Kok May 1943	47		Kowloon- Canton RR Station	Scrap iron		Temporary storage
Yaumati June 1942	48		Cooling Chamber	Coal		Storage area 113,000'
Honam Lu Kong July 1943	49		Tung Fook Road Go- downs	Piece goods	2 godowns	

TABLE IV (Con't)

<u>Location & Date</u>	<u>Map II Reference No.</u>	<u>Grid Reference</u>	<u>Facility</u>	<u>Goods</u>	<u>Quantity</u>	<u>Remarks</u>
Kowloon Tang May 1944	50		# 2 Godown Ordnance Sect. Japanese army	A/C stores, munitions, general stores, parachutes	67 cases 137	
Mataukok June 1944	51	201580	Electric saws, timber wood for ves- sels			

3. Petroleum Installations

a. The Texas Co. (China) Ltd.

Before the Japanese occupation the Texas Co. (China), Ltd., had a large petroleum storage and handling installation on the southeast shore of Tsun Chen Wan (22°22'0"North, 114°7'0"East) about thirteen miles from the tip of Kowloon Peninsula (Figure 26). At this plant there were a laboratory, an Ethyl-blending shed, a can factory, gas house, Diesel filling shed, drum shed, septic tank, and large concrete wharves. The storage facilities included seven vertical and four horizontal tanks with a capacity of 140,000 barrels and four godowns for package storage of 6,552 barrels lube oil, 7,142 barrels kerosene and gasoline. In December 1941, there were large stocks of kerosene, motor and aviation gasoline, diesel and lube oil, and lube grease, and a quantity of tin plate on hand. The company also had a small storage plant at 22°17'North, 114°9'East, with a capacity of 4,000-5,000 barrels.1/

The British military took over this plant on 8 December 1941 and placed explosives under the tanks and buildings, but they were never fired. During the hostilities in December 1941, British shell fire destroyed one refined oil godown. The rest of the plant was undamaged. All floating equipment attached to the plant was sent to Aberdeen, on Hongkong Island, on 15 December and was either destroyed or fell into Japanese hands. All motorized equipment, which the British authorities had taken over, fell to the Japanese.2/ After the destruction of the Standard Oil storage facilities at Laichikok in September 1943, this was the most important oil storage installation in the Crown Colony. Large quantities of gasoline, diesel oil and lubricants, kerosene, and ammunition were stored here by the Japanese.3/ In March 1944, this installation included two tanks 110' in diameter; one tank 85' in diameter; two tanks 75' in diameter; three camouflaged buildings, 125' x 125', 180' x 75', 115' x 55'; and a wharf with 300' of berthing space.4/

b. Standard-Vacuum Oil Company

This company had extensive storage and handling facilities at Laichikok, Kowloon, and a small terminal at West Point, Hongkong. At Laichikok, there were twenty storage tanks and eight godowns with a total storage capacity of 744,000 barrels; also a diesel filling shed, drum repair shed, can shop, and four piers. The company had its own power plant. In December 1941, there were large stocks of kerosene, aviation and motor gasoline, Diesel fuel, bunker fuel oil, wax, and lubricants. There was also a very small storage unit located at 22°17' North, 114°9'East, of 4,000-5,000 barrels capacity.1/

1. Industrial Objectives in Occupied China, Hongkong; 8 Feb. 1943. Department of Commerce.

2. Gripsholm I Reports.

3. 14 AF Daily Intelligence Extract, 22 Oct. 1943 (C-3).

4. Third Phase P.I. Report #59, Hongkong-Kowloon, 7 June 1944.

At the time of the attack on Hongkong, the Laichikok terminal was not destroyed by the British because of the immediate proximity of a hospital. Only slight damage was done by Japanese bombs which broke a gasoline pipeline and pierced a kerosene tank. All floating equipment was sunk or fell into Japanese hands.1/

At the time of the Japanese occupation, the offices, lube oil warehouse, can shop, mixing tanks, and two smaller tanks were destroyed. All service stations in Hongkong were deliberately destroyed. The Japanese towed away any lighters which remained after the British surrender.2/ It is reported that the Japanese used the can shop to manufacture petroleum tins.1/

In September 1943, the Laichikok terminal which had the largest storage capacity for motor and aviation gasoline in the Hongkong area, suffered heavy damage from an Allied bombing attack. Fires burned for several days and large quantities of gasoline, tires, lubricants, and brakes stored there were lost.3/ One large camouflaged building exploded from a direct hit and several tanks burst open.4/ After the attack, seven tanks (two 100' in diameter, two 45' in diameter, two 35' in diameter, one 20' in diameter) three large buildings and several small buildings remained. The 650' pier was undamaged but the wharves were severely damaged. Two boat basins, several weapon pits, eleven native quarters buildings, and many small boats were not damaged.5/

c. Asiatic Petroleum Company

This company had two terminals, one in Taikoktsui, Kowloon, and one near North Point, Hongkong. The Taikoktsui plant is located between the Typhoon Anchorage and Cosmopolitan Dockyard, on the west side of the peninsula, at 22°20' 53"N, 114°02"E. The original installation had five fuel tanks and five kerosene and benzene tanks with a total capacity of 200,265 barrels of liquid fuel; 37,800 barrels kerosene; 37,800 barrels of benzene. The plant was severely damaged by British shell fire during the hostilities1/ and probably only three storage tanks remain, one 80' diameter and two 55' in diameter, with an estimated capacity of 40,000 barrels.5/ There are

1. Gripsholm I material, in file.
2. OSS Report A-29492 (B-2), 7 March 1944.
3. 14 AF Weekly Intelligence Extract, 17 Nov. 1943.
4. Ibid., 8 May 1944.
5. Third Phase P.I. Report #59, Hongkong-Kowloon, 7 June 1944.

two piers adjacent, with 200' of berthing space. These piers may have pipeline connections.^{1/} All floating and motor equipment of the terminal fell into Japanese hands or was destroyed.

After Japanese occupation, the Taikoktsui terminal came under the control of the Governor's office and is known as No. 2 Oil Storage Yard. In March 1944, about 300 drums (over 50 tons) of lubricating oil, about 30 tons of petroleum, and a small quantity of gasoline were stored at this terminal. Most of the bulk storage was in tankers berthed here.^{2/}

The North Point terminal, located on Hongkong Island between Causeway Bay and North Point, consisted originally of nine storage tanks, of which five remain, one 80' in diameter, and four 60' in diameter. The four 110' diameter tanks at the north end of the area were destroyed,^{3/} but it is not known whether this occurred during the hostilities or later. The facilities and equipment of this installation were very limited.^{4/} In February 1944, it is reported that two of the tanks at Causeway Bay were in use. These were the two southernmost which are camouflaged with a striped earth-color design. It was also reported that the other three tanks were dismantled and the plates removed by truck in October 1943.^{5/} However, in an aerial photo of 25 February 1944, five tanks are still visible in the southern area of this terminal.^{6/} In June 1944, four of these tanks were reported filled with petroleum from Laichikok.^{7/} On 15 June 1944 these tanks had been camouflaged with paint and bamboo scaffolding.^{8/}

4. Hongkong and Kowloon Wharf and Godown Co.

a. Kowloon Wharves and Godowns.

In addition to storage dumps located in many places over the Colony, the Japanese are making complete use of the wharves and godowns of this company.

The installations of this company were the most extensive in Hongkong for the landing, shipping, and transshipping of cargo at the wharves; the landing, shipping, and transshipping of cargo in the harbor; and the warehousing of cargo.

1. AAF P.I. Report # 301; 24 July 1943.
2. 14 AF Daily Intelligence Extract, 28 May 1944 and 5 June 1944.
3. JICA Report.
4. Industrial Objectives in Occupied China, Hongkong; 8 Feb. 1943. Department of Commerce.
5. 14 AF Daily Intelligence Extract; 17 Feb. 1944 (B-2).
6. Photo mosaic, Report to OSS from AF P.I. Division, Washington, 10 Aug. 1944.
7. OSS, R&A, ISLD 24200/50/29, 6 July 1944.
8. 14 AF Daily Intelligence Extract, 26 June 1944.

In one year, this company handled the cargoes of over 900 steamers. The Kowloon wharves (Figures 27 and 28) water frontage at that time was 2000', with four wharves, each berthing two steamers up to 660', of draft to 32'. A fifth wharf, 800' x 60', was constructed in 1931.

In 1931, the company had eleven tugs and launches and 113 lighters for loading and unloading cargo in the stream. The warehouse capacity in Kowloon was 350,000 tons. The premises were linked by light railways for handling cargo; heavier tracks along the docks carried locomotive cranes. The Kowloon-Canton Railroad also had a siding into the godown area. The wharves were served by fresh water pipes.

Prior to December 1941, the total Kowloon warehouse capacity was 500,000 tons, but two of the buildings were destroyed by fire during the hostilities. Buildings in other locations had a total capacity of 20,000 tons.

By 1942, this company had 35 godown buildings in Kowloon, six at Laichikok, six at West Point, and two in Kennedy Town. (Figures 29, 30, and 31)

Some of the newer godowns were built of reinforced concrete and had electric stackers, cranes, and other equipment for safer and speedier handling of cargo. There was also an electric conveyor for transferring cargo to storage. Fire alarms and fire hydrants were scattered over the area.^{1/}

The wharves had berths for eleven ships up to 730'.

When the Japanese took over the company, large stocks of general cargo were removed from the Kowloon terminal and most of the food supply of the colony was commandeered and stored there.^{2/} In June 1943, the Kowloon facilities were used by the Japanese to store rice, other foodstuffs, gasoline, oil, shells, and ammunition of all kinds.^{3/} In July 1943, photo intelligence indicated that 29 of the company's warehouses of two stories or more, with a total floor area of 660,000 square feet, were being used by the Japanese, in addition to five of their piers 600' to 800' long, one L-shaped pier, and seven quays. At that time, there were visible eight dockside, twelve traveling, and ten probable traveling cranes.^{4/}

In the air raids of 15/16 November 1943, one of the godowns, called the "Government Office Rice Godown #14A" (Grid 200565, GSGS 3868), was set on fire as the result of a direct hit, and a large quantity of rice of the Japanese South China Expeditionary Force was destroyed, but the first floor of this building was not damaged.^{5/} Godown #47 at Kowloon was

1. Far Eastern Review, June 1931, p.392.
2. EFIS 221 Appendix, 4 June 1942.
3. 14 AF Daily Intelligence Extract, 16 June 1943.
4. AAF P.I. Report # 301 Hongkong-Kowloon, 24 July 1943.
5. JICA/CBI # 619, 17 Feb. 1943.

under the control of the South China Expeditionary Force in February 1944 and was used to store arms and ammunition. Large quantities of explosives, ammunition, British 4" anti-aircraft guns, and war vehicles were all stored in this warehouse, which was one of the most important godowns in the area.1/

In March and April 1944, the Kowloon godowns were used by Japanese units as follows: Numbers 9, 10, 11 near Jordan Road, for the storage of some wooden horse boxes; Numbers 6, 7, 8, all newly constructed, near Haiphong Road, for the storage of foreign drugs; Number 14A for the storage of a large number of boxes of ammunition.2/ Other godowns contained Chinese medicines and sundries brought from Shanghai and North China, while others were used to store metal awaiting shipment to Japan.2/

All former British stocks of copper, iron, canned goods, piece goods, cotton yarn, dyes, soap, and raw materials have either been used or shipped away.2/

Most of Kennedy Town has been reported gutted by fires resulting from air raids.3/

b. Laichikok Godowns

In December 1941, there were six buildings in the Laichikok installation of Hongkong-Kowloon Wharf and Godown Company (Figure 30) on New Kowloon Marine Lot #3: Godown #40, a two-storied building; Number 40A, a covered shed; Number 41, a two-storied godown built of brick, with steel trusses and a wooden roof covered with "Texaco" roofing; Godown #42, a single-story building of pre-cast concrete blocks, with a wooden roof covered with "Texaco" roofing; Godown #42A, built of red brick and roofed with reinforced concrete and tile, with quarters for Europeans on the second floor; and Godown #43, a one-story building of brick with wooden trusses and a roof covered with "Texaco" roofing. All of these buildings were used before the war for non-hazardous stores.4/ No information is available as to damages to these buildings or uses to which they have been put since Japanese occupation.

5. Holt's Wharf, Kowloon

In December 1941 when the Japanese occupied Hongkong and Kowloon, the facilities at Holt's Wharf, at Blackhead Point, Kowloon (Figure 32), included five warehouses with a capacity of 25,000 tons,5/ covering an area of 97,000 square

-
1. JICA/CBI # 619, 17 Feb. 1944.
 2. JICA/CBI Report # C-2334, 6 May 1944.
 3. Kweilin Intelligence Summary #51, 2 June 1944.
 4. Insurance Schedule and layout.
 5. 14 AF Daily Intelligence Extract, 9 Sept. 1943.

feet; fifteen workshops and sheds with a total area of 35,000 square feet; two small basins formed by piers; four quays and four piers with 3700' of berthing space (Figures 33, 34, and 35). There were visible in July 1943 one traveling bridge crane, two dockside cranes, and two probable dockside cranes.^{1/} In June 1944, a dock (475' x 45'), three piers (220' x 30'), two boat basins (220' and 185'), wharf space for small boats, and a 475' quay were observed at this location, in addition to two large multi-story warehouses, one 530' x 80', and the other 130' x 89', and 16 smaller buildings. A railroad spur services the wharf.^{2/} In March 1944, Holt's Wharf facilities were being used almost exclusively for Japanese troop ships.^{3/}

6. China Provident Loan and Mortgage Co.

Four blocks of godowns, formerly owned by the China Provident Loan and Mortgage Company, in West Point and Kennedy Town are used by the Japanese for metal storage and sundry stores. Blocks 1 and 2 contain stores of sundry goods. Block 3 contains metals, iron rods, iron plates, and tinned iron plates. Block 4 contains scrap metal collected in Hongkong and Kowloon, awaiting shipment to Japan or elsewhere.^{4/} A previous report indicated that the West Point Godowns were used for storage of gasoline, gas cylinders, rifles, and rice.^{5/}

7. Dairy Farm Ice and Cold Storage Company

After the occupation of Hongkong, the equipment and buildings of the Dairy Farm Ice and Cold Storage Company were taken over by the Japanese. It is believed that they are fully utilizing these facilities as the company was the only important one of its kind in the Colony.

This company had a monopoly on the cold storage business before the Japanese invasion of Hongkong. Its products were milk, butter, frozen meats, ice, ice cream, and other dairy products. The Company had installations at East Point and Pokfulam (Figure 36) on Hongkong, Laichikok on the Kowloon Peninsula, and in Canton.

There was a large distribution depot at Wyndam Street and Lower Albert Road in Victoria City, which covered three blocks. It had numerous departments for the distribution of various products. One function of this company was the supply of ships calling at Hongkong Harbor. For the distribution of its products, the company had motor vans and freight bicycles, operated by coolies, several motor and steam launches, and lighters to service ships. All dairy and meat products for

-
1. AAF P.I. Report #301, Kowloon-Hongkong, 24 June 1943.
 2. Third Phase P.I. Report #59, Honkong-Kowloon, 7 June 1944.
 3. 14 AF Daily Intelligence Extract, 22 March 1944.
 4. JICA/CBI # C-2334, 6 May 1944.
 5. Kweilin Intelligence Summary #51, 2 June 1944.

city distribution were brought to the Wyndam Street plant for inspection, weighing, testing, and distribution.

The Pokfulam plant was located on the west end of Hongkong Island. The largest and most modern unit of the company was at East Point at 22°16'55"N, 114°11'3"E. Other plants at Laichikok and Canton helped supply the Colony and South China with meat and dairy products. The total storage capacity for all the terminals in the Crown Colony was 815,707 cubic feet.

Frozen meat and other products were imported from the United States and Australia for distribution in the Colony and to ships on call. Frozen Chinese beef and pork were shipped to the Philippines.1/

There is no indication of the extent to which the Japanese are using the facilities of this company. Some reports state that about 400 head of cattle were shipped away early in 1942 2/ and that some of the buildings are being used for storage of gasoline, ammunition, and compressed food.3/

-
1. Industiral Objectives in Occupied China.
 2. OSS Dissemination No. A17855L Industrial Plants in Occupied China; 31 Dec. 1943
 3. 14 AF Daily Intelligence Extract, 6 June 1944.

F. Transportation Facilities

Air connections from Hongkong operate from the Kai Tak Airdrome on the north shore of Kowloon Bay. Since the Japanese occupation the comparatively small field has been extended to almost twice its former size and hard-surface runways have been constructed. Its use is restricted to Japanese military and high civil authorities.

The Kowloon-Canton Railroad was first opened for through service to Canton in 1911. The 23-mile British section of the line through Kowloon and the New Territories to the Chinese frontier was built and maintained by the British Government of Hongkong. The Chinese section, from Shum Chun on the frontier to Canton, was built and maintained by the Chinese. After the occupation of Hongkong, the Japanese took over both sections and operated them whenever Allied bombings, guerrilla activity, and labor, coal, and locomotive shortages would permit.

Water transport between Hongkong and Japan and the rest of the Japanese occupied areas forms an important link permitting the Japanese to use Hongkong as a forward base for operations of air and sea forces in China and the South Seas and potentially of land forces in China. Thirty-one observations of ships arriving at Hongkong during the last three months of 1943 showed 52 ships, averaging 3,957 gross tons per ship or an average tonnage of 200,560 per month, touched at Hongkong during this period. During the first five months of 1944, 38 observations showed 53 ships, averaging 3641 gross tons or an average tonnage of 145,640 per month, put in at Hongkong. The decline in the use of Hongkong is probably due to increasing shortage of shipping caused by air and submarine operations of United Nations Forces. Numerous wharves and piers in the area facilitate transshipment of goods to storage areas or ultimate destinations.

On the island of Hongkong, before the war, local transportation was provided by tramcars and an electric cable car up to Victoria Peak. The tramway service connected Victoria City and Shaukiwan, along the north side of the island. In Kowloon a bus service operated over the lower part of the peninsula.

At the beginning of the hostilities these transportation services ceased to function. Shortly after the occupation, the Japanese put the streetcars and buses back into operation, but the service was restricted by shortage of fuel, and the majority of the population could not afford the excessive fares.

1. Kai Tak Airdrome

In December 1941, when the Japanese occupied Hongkong, they also seized Kai Tak Airdrome and seaplane base, located on the north shore of Kowloon Bay, east of Kowloon City. The dimensions of the landing area at that time were southeast-northwest 1,300 yards, east-west 1,300 yds, northeast-southwest 950 yds, and north-south 800 yds. The surface was of weathered granite, partly covered with grass. At that time, there were civil and military hangars along the east boundary and control buildings along the west. The airdrome had fuel, oil, and water storage facilities and radio, telephone, and telegraph

communications. Meteorological data were received from weather stations in Hongkong.1/

Before evacuation the RAF workshops were completely destroyed and the fence on the east side of the airdrome was taken down.

A seaplane base adjoined the airdrome on the south, Kowloon Bay, north of Channel Rock, providing a landing area which was sheltered and usually calm. The maximum rise and fall of the water was seven feet and there were no swell currents or tidal sets in the bay. The seaplane base had two slipways at the east end, for military flying boats and one at the west end for civil aircraft. Adjoining the two east slipways was a five-ton crane. Pontoon moorings were provided for civil craft. The seaplane base used all the facilities of the airdrome.1/

By June 1943, the Japanese were using this airdrome extensively. They operated a daily air service to Canton and a weekly service to Formosa and Shanghai. At that time, the field was suitable for planes with a landing speed of 75 miles per hour or under, and was used by light bombers and reconnaissance planes. Because of the hills on the north and northeast sides, the runway extended northwest and southeast, and twin-engined or faster types of planes were restricted to landing or taking off in this direction or vice versa, regardless of wind direction. The civil hangar and workshops were being used extensively. Military planes stationed there were picketed around the boundary of the field in February 1942. The RAF barracks and mess halls were used by the Japanese troops and a very careful guard was kept on the field. The seaplane base was also used by the Japanese.2/

Extensive grading, enlargement, and construction activities have been in progress since December 1942, and the size of the airdrome has more than doubled.3/ The original runway was extended by demolishing the RAF hangar in the southeast corner of the field. Part of Kowloon City was razed to enlarge the southwest corner of the field. The maximum dimensions of the airdrome in March 1944 were 1.5 miles east-west, and 0.75 miles north-south. An additional runway, 3020'x330', running northwest and southeast to the base of the hills at the north end of the airdrome, was completed in November 1943. No steel rods or steel netting were used for reinforcement. The foundation was made of stone slabs from the old Kowloon City walls and other stones 1' thick. The depth of the foundation is approximately 2'. On top of this is a layer of concrete 4" thick. The laying of concrete on the runway went on day and night and there are weak patches in the surface because of haphazard night work.4/ The concrete surface is topped

1. Kai Tak Airdrome, 30 Aug. 1942.
2. EFIS 221 and Appendix, 4 June 1942.
3. Special P.I. Report, Kai Tak Airdrome, 7 June 44.
4. KWIZ 44/17, 27 March 1944 (B-2). Report by relative of contractor at A/D.

with a sand-tar dressing, and is well camouflaged^{1/} by disruptive painting. The original smaller concrete runway has been extended to the southeast and now measures 1,930'x165'. These two runways form a narrow "V", with the base toward the southeast corner of the airdrome. The new runway has a turning circle 480' in diameter at the northwest end; the turning circle at the west-northwest end of the smaller runway is 240' in diameter.^{2/}

In addition to these two runways, there are two concrete taxiways. One of these, 150' long, connects the turning circle of the smaller runway with a paved service apron 400'x300', directly south of it, in approximately the center of the airdrome. The other, 500'x45', leads from the seaplane ramp to the service apron. Strips 300' wide and 1,300' long are being leveled and graded on either side of the large runway, from the turning circle to the southeast.^{2/}

The maximum expansion possible at present for the large runway is 1,000' to the southeast, as it is bounded on the northwest by mountains. Ground reports, however, indicate that the Japanese propose to fill in Kowloon Bay at the east side of the airdrome, thus providing additional surface for the extension of the large runway. The Japanese also propose to build a new northeast-southwest runway, which could have a maximum length of 4,000'. (Footnote source indicates this is possible since previous ground information has been correct on proposed Japanese building operations.)^{3/}

The whole area is well drained and usable in all kinds of weather. Three large drains run below the surface of the field and empty into Kowloon Bay. A large open flume skirts the airdrome from the northeast side to the Bay at the southwest corner of the airport, and carries the run-off from the surrounding mountains.^{3/}

In March 1944,^{3/} no hangars were visible on the airdrome. However, a radio report in June ^{4/} stated that a large hangar to accommodate 12 fighter planes had been built on the north side of the airdrome.

Military barracks and other buildings, reported to be the former quarters and mess buildings of the RAF, are located along the northeast boundary of the airdrome and in the adjacent hills to the east. There are six barracks buildings, one mess hall, four administration-type buildings, one unidentified building 90'x30', and many small buildings.^{3/}

In addition to the RAF barracks buildings, there are two service and repair buildings 90'x40', on the southwest side of the service apron. An operations building, 50'x35', with a control tower, and an administration building, 130'x45', are located 300' west of the turning circle of the small runway.^{2/}

1. ISLD 24201/4948, 2 Jan. 1944.
2. Special P.I. Report. Kai Tak Airdrome, 7 June 44.
3. Special P.I. Report #11., Kai Tak Airdrome, 7 June, 44.
4. Naval Intelligence, 9 June 1944 (C-3).

An aircraft assembly plant is located in the extreme southeast corner of the airdrome, covering an area 600'x550'. Adjoining to the south is a large concrete service apron.^{1/} This plant is discussed under aircraft assembly plants. South of this plant is a 75' pier. Another pier 200' long, capable of handling small ships, is located 180' west of the seaplane ramp in the center of the airdrome. There is a storage building 45'x30', adjacent to this pier.^{1/}

Ammunition and fuel storage facilities on the airdrome include a revetted building 45'x20', located 1350' southeast of the aircraft plant, and a storage building 45'x25', located 100' southwest of the revetted building. Both of these are connected by a concrete strip to the service apron adjoining the assembly plant. An underground storage area, located 3,150' north-northeast of the turning circle of the small runway, is connected to the airdrome by a well-traveled road which crosses the open flume on the north side of the field. There is an entrance 20' wide cut into the south side of the hill. Other caves are reported to be in this area.

There are 31 aircraft revetments visible around the edge of the field, along the open flume, and three east of the aircraft plant, between it and the revetted ammunition storage building. These revetments vary in diameter from 45' to 90'. (See picture of airdrome.)

Defenses at the airdrome include a three-gun medium AA battery, and command post, and a six-gun medium AA battery and command post, located on the point of land just north of the gasometer at Tokwawan Road and Mataukok Road, adjacent to the southwest corner of the airdrome. Fox holes and slip trenches are visible throughout the airdrome area. Light AA guns are reported on the barracks buildings west of the aircraft plant, but this is not confirmed.^{1/} Other AA installations are:^{2/} (a) one 75 mm AA gun and two 35 mm AA machine guns, manned by Japanese, located on a hill at GSGS 3868, Grid 245596; (b) one AA machine gun, on the roof at Grid 241596; (c) two light AA guns located at Grid 231595, which is a 20'x40' camouflaged building formerly used as watchmen's quarters at the old gateway to the airdrome; (d) one AA gun position at Grid 247587.

Personnel at the airdrome in November 1943 numbered in the ground staff 260 Japanese and 40 northern Chinese, who were quartered in the former RAF buildings. The flying staff was quartered at 197-99 Prince Edward Road, Grid 206588.^{2/}

The airdrome is connected to Kowloon and other points on the Peninsula by a first-class highway which skirts the airport area.^{3/}

1. Special P.I. Report, Kai Tak Airdrome, 7 June 1944.
2. ISLD 24201/4948, 2 Jan. 1944.
3. Japanese-occupied Airports in China, 27 Jan. 1944.

2. Kowloon-Canton Railroad

a. The Railroad

The Kowloon-Canton Railroad (Figures 43, 44, 45, 46, and 47) runs for the first three miles through Kowloon and for the remainder of its 23 miles through the Leased Territories where it joins the Chinese Section, connecting with Canton, 80 miles northwest in China proper. The British Section, which was owned by the Hongkong Government, terminates at the highwater mark on the far side of the Shum Chun River, the border of British Leased territory, the first two spans of the bridge being British and the third span and far abutment, Chinese. The British Section local trains ran on to Shum Chun station, about a half mile beyond the bridge, and by arrangement had the use of one platform and one loop line for engines to turn around.

The principal engineering features of the British section were the Beacon Hill tunnel, 49 bridges and culverts of various classes, the Kowloon terminus with station buildings, offices, goods-shed, and yard, and the Hung Hom locomotive, carriage, and wagon workshops and yards. The line is single-track, standard gauge but, all bridge abutments and masonry arches were built for double track. Of the girder bridges, four were built for double track, and all the remainder for single track only. Most of the cuttings (the more important ones) were taken out for double track and nearly all embankments were for double track. Sidings were provided at all stations (7), but due to the nature of the country and situation of the main villages, they were not equi-distant, which made the timing of trains difficult and affected train frequency.

Curvature predominated over straight road on the British section, the minimum curvature on the main line being 4° , and the ruling grade, 1 in 100. The maximum spread of gauge was $3/4$ " , and the maximum super-elevation, 5" .

There were five tunnels, the Beacon Hill being the longest (7212') and the only one built for single track. The other four were for double line, two being on the curve. No. 1 tunnel, 150' long, was built on the Continental system, lined throughout. No. 2, Beacon Hill, was also lined throughout, and had no ventilation, as a shaft 1,100' back from the north face had been filled after construction. However, water still found its way down the old shaft and had to be piped out, while other water percolated through and increased the abnormal wear and corrosion of the rails which necessitated renewal more frequently than elsewhere.

The unlined tunnels gave a great deal of trouble from crumbling rock. In the south end and portal of Taipo tunnel the hill is interlayered with kaolin, which caused the super-imposed earth to slide whenever it became saturated with water.

The railway telephone wires, because of the risk of typhoon damage, were enclosed in the Government telephone cable, buried in the formation on the west side of the track. Other cables were buried on the east side. The telegraph wires of the Eastern Extension and Northern Telegraph Companies, and cables of the China Light and Power Company and Hongkong Telephone Company were suspended through the tunnels by brackets let into the side walls.

Originally there were 49 bridges and culverts of three feet or more opening.^{1/} All steel work required constant inspection for corrosion on account of the humid salt-laden atmosphere. For the same reason, the application and maintenance of paint was a complicated problem.

The railroad required coal supplies of 16,000 tons per annum. The best coals were South African Durban Navigation, or Enyati, and Kailan #1 Lump from North China. The Indian coals did not give satisfaction. Local coals were either too tarry or produced too much clinker. Supplies which could be obtained locally were: hardware of all kinds, pig iron, white metal, firebrick, timber, and concrete.

In Kowloon, there were a large station (Figure 39) and offices,^{2/} a covered concourse, Customs office, long, covered platforms, goods-sheds, (Figures 37, 38, 40 and 41) a pier, and a 65-ton weighbridge, all of which became inadequate when the line connected with the Canton Hankow Railroad.

The Kowloon Station had excellent facilities for loading and unloading cargoes of freight to and from Canton and transshipment to Hongkong (Figure 37). It was a well-constructed terminus, being connected by spurs to piers dotting the shore line of the peninsula and to warehouses in the vicinity. The approximate dimensions of the adjacent railroad yards were 1500'x280'. This terminal was built on reclaimed land, after extensive reclamation projects were accomplished.

The Shum Chun Bridge at 22°31'45" N, 114°06'45" E, and the Shing Mun Bridge at 22°22'5" N and 114°11' E are the two main bridges on the British Section. Over Shum Chun River (the border between Kwangtung Province and the Crown Colony) is a single-track bridge (Figures 48 and 49). The Shing Mun bridge, over the Shing Mun River near Tai Wai,^{3/} is also single-tracked.

In 1939, the Kowloon-Canton Railroad had 44 passenger vehicles and 130 goods vehicles. Before December 1941, all but about one-third of these had been shipped away. The locomotives used on this line were tank locomotives of 2-6-4 and 4-6-4 types.^{4/} All except four locomotives of the 2-6-4 type, 25 years old, were shipped away before December 1941.

After the Japanese occupation of Hongkong, they restored the Kowloon-Canton Railroad to operation, although repairs took considerable time because of British destruction of the Beacon Hill tunnel, Chinese guerrilla activity, and Allied bombing. The British section was operated after the repair of the Beacon Hill tunnel was completed in March 1942.

-
1. For list and description, see Report on Canton-Kowloon Railway by the former British manager.
 2. For notes on foundations of buildings see the report on the K-CRR by the former British Manager.
 3. Industrial Objectives in Occupied China, Hongkong, 8 Feb. 1943, Department of Commerce.
 4. Report on Kowloon-Canton Railroad by British Manager to Home Office, 1942.
(52232)

Through traffic between Kowloon and Canton was not possible until December 1943. The destruction of the Sheklung Bridge on the Chinese section of the railroad and the Shum Chun Bridge on the frontier between the New Territories and China were the main impediments. Shortly after the formal opening of the line for through traffic at Chang Mu Tou on 7 January 1944, service was again interrupted by Allied bombing of the bridges at Sheklung and Shum Chun and of the Beacon Hill tunnel. In June 1944, through trains still could not run.

In February 1944, there was no fixed schedule of trains from Kowloon, but later the Japanese operated one or two trains of six or eight cars each day to Shum Chun. Most of the load was passenger traffic but these trains carried food supplies and firewood into Hongkong and took out military supplies and construction materials.^{1/} More trains were not run because of shortage of locomotives, coal, and skilled operators.^{2/}

Rehabilitation of this line will probably require rather thorough restoration, made necessary either by Japanese operation and destruction or Allied bombing.^{3/}

b. Kowloon-Canton Railroad Machine Shops and Repair Yards

The main railway repair shops of the Kowloon-Canton Railway are located at Hung Hom, 22°18'30" N, 114°10'40" E, 1½ miles from the railway head office at the Kowloon terminus, and are reached by a spur from the main line. They were equipped for major repair of rolling stock for the British section of the railroad and were owned and operated by the Hongkong Government.^{4/} The locomotive running sheds, workshops, carriage running sheds, store and coal yards, as well as motor-car repair shops were situated here (Figure 42). Before the Japanese occupation, these shops included an engine repair shed 200' x 200', machine shop, foundry, electric shop, train shed 500' x 90', a turntable 100' in diameter,^{5/} paint shop, railway coach paint shop, covered coach shed, wagon shop, sleeper treatment plant, carpenter shop, motor workshop, motor garages, stores offices, coal yard 175' x 100', and administrative offices.^{6/} The shops were completed about 1937-38. Power was supplied by the China Light and Power Company, Hok Un.

The repair shops handled major repairs for rolling stock for both the Chinese and British sections of the line and at

-
1. 14 AF Daily Intelligence Extract, 23 Feb. 1944.
 2. Ibid., 11 March 1944.
 3. Report on Kowloon-Canton Railroad by British Manager to Home Office, 1942.
 4. Industrial Objectives in Occupied China, Hongkong, 8 Feb. 1943, Department of Commerce.
 5. Third Phase P.I. Report #59, Hongkong-Kowloon, 7 June 1944
 6. Report on Kowloon-Canton Railway by British Manager to British War Office.

times even undertook work for the Canton-Hankow Railroad.^{1/} Repair equipment included a planer, shaper, several lathes, and a machine for turning wheels on axles. The shops had two repair pits and accommodations for 16 locomotives in the engine shed. At one time these shops manufactured complete coaches and goods wagons. But just prior to the war this type of work was confined to assembling bodies on under-frames imported from England.^{1/}

The machine shops, in addition to railroad equipment repairs, handled many special jobs for other departments of the British Hongkong Government, i.e., making instruments for hospitals, etc. Equipment in the machine shops included small turret and woodworking lathes, universal and twist drill grinding machines, a cylinder boring machine, blower and molding machines, two swing cranes of one-and three-ton-capacity, testing apparatus, and a foundry for iron castings.

The machine shops were also designed for streamlined mass production of "military small parts" by the British. During the hostilities, the railway yards suffered only superficial damage from British shellfire. After the Japanese occupation, they took over the machine shops and are reported to be making full use of these specialized facilities.

3. Hongkong Tramways, Inc.

This company furnished tramway transportation from Kennedy Town to Shau Ki Wan, along the north shore of Hongkong Island. It also operated a bus service on the Kowloon Peninsula. The Hongkong office and car barns are located near the water front on Canal Road East, in Bowrington. At the time of Japanese occupation, the equipment consisted of the overhead trolley system with a track 18.65 miles long, and 106 double-decker streetcars in Hongkong and 34 buses in Kowloon. The track gauge was 36" and the rails were 86 pound girders. The main mileage of the track system was 10.4 miles, the rest was auxiliary trackage. The system used single Callender feeders laid solid.

Since 1921 current has been derived from the Hongkong Electric Co, plant at North Point, with surplus current from Taikao Sugar Refinery power plant as an auxiliary supply.^{2/}

This transportation system depends for its existence upon an external supply of fuel, both for the power plant in Hongkong and for the buses in Kowloon. It is reported that

1. Depending upon the nature of the military supplies being manufactured at the Hung Hom machine shops and the extent of the repair work done there, the Hung Hom machine shops and repair yards, as the most important repair facility of their kind in South China, would represent an important loss to the Japanese if it were denied to them through bomb destruction at a time when the Japanese are endeavoring to reopen the Canton-Hankow line.

2. P-117. MEW, EE Wkly Int. Summary #61, 10 March 1944.

tram service in Hongkong has been reduced because of coal shortage,^{1/} and damage to the generating station.^{2/} As a result of the devastating attack on the Standard-Vacuum Oil Company installations at Laichikok in September 1943, the buses were without fuel for some time.^{3/} Only a skeleton bus service was operating in May 1944.^{4/} A report of July 1944 indicated that the tramways were operating only four hours per day, from 7 to 9 a. m. and 5 to 7 p. m., this probably being due to fuel shortage. Fares were purposely set so high that few but Japanese could afford to use the tramways and buses.

4. Victoria Peak Tramways

The Peak Tramways in Victoria City ran from Garden Road, near St. John's Cathedral, over an overhead crossing at May Road and up to Victoria Peak (Figures 50 and 51). The system was installed in 1895 and was the first cable tramway constructed in Asia. The length of the line is 4,690', most of the way up a very steep gradient, approaching $\frac{1}{2}$ in places. The cableway operates only to Victoria Gap, but the line continues to the Peak. The normal transit time was seven to eight minutes. Before the Japanese occupation in 1941 the line, was owned and operated by Peak Tramways, Ltd, which was capitalized at Hongkong at \$750,000. During the hostilities many control houses, tracks, and cables were damaged by shell and bomb hits, and service was suspended from December 1941 to June 1942.^{5/} Some reports say the tramways were in operation by April 1942. There are three 50-passenger cars, of which two are always in use. The third is used as a spare. They run on a cable operated from the motor house at the top of the incline.^{6/} The line serves as a shortcut from downtown up to Victoria Peak. It would be used under present conditions almost exclusively by important Japanese military and civilians in commuting between offices, residences, and installations on the Peak and the downtown area.

5. Wharves and Piers in Hongkong and Kowloon

Important wharf and pier facilities in the former Crown Colony, which are of service to the Japanese shipping program, are the ferry piers, steamship piers, and protected anchorages such as the Typhoon Anchorage and the Coaling Camber (Figure 60).

The most-used wharves in the Hongkong area are Holt's Wharf, the Kowloon Docks, and the Taikoo Docks, while the Vehicular Ferry Wharf and Shamshuipo Wharf are the most

-
1. JICA/CBI Chinese Kuomintang News Service, 31 Jan. 1944.
 2. MOI Fortnightly # 6-7, 31 Dec. 1943.
 3. American Embassy Report # 79, 29 June 1944, Chungking.
 4. JICA/CBI. S. E. Asia, Communications, 10 July 1944.
 5. Industrial Objectives in Occupied China, Hongkong, 2 Feb. 1943, Department of Commerce.
 6. Information received from NID 21, 15 May 1944.

frequently used in connection with the lighterage and trans-shipment of freight between Victoria and the mainland. The Royal Naval Supply Depot and the Kowloon Godowns are most utilized in connection with the landing and storage of naval and military supplies. During 1943, an average of 77,000 tons of ocean-going shipping was visible in the harbor or alongside wharves in twenty-four instances of air photography, while an average of 45,000 tons was visible in sixteen instances during the first six months of 1944.

Some of the wharves and piers are described in succeeding paragraphs. Table V below lists water depths, size, and type of construction for those and a few additional ones. The wharves which serve the main godown companies are discussed under Section E above. There are also many small piers and wharves along the Praya in Victoria City West (Figure 58).

a. Coaling Camber, Kowloon

This camber is located on the west side of Kowloon Peninsula (Figure 52). Before December 1941, the facilities included a coaling shed 1,000' x 270', a warehouse, four fuel tanks 120' in diameter, two ship fueling tanks 35' in diameter on the 3,300' mole,^{1/} three quays, and two piers. The coal shed had an area of approximately 113,000 square feet; the other warehouse of 127,000 square feet. The fuel tanks on the mole had an estimated capacity of 2,800 barrels. There were also some small buildings on the mole.^{2/} The four large fuel tanks on shore were destroyed by British artillery fire during the hostilities,^{3/} leaving only the bases of these tanks.^{1/} In June 1942, the coal stocks at the camber were still intact and the quays and piers were used for mooring Japanese army launches and patrol boats.^{3/} Adjoining the camber on the south is the Victualling yard used for storing and loading food supplies (Figures 52 and 59).

b. Typhoon Anchorage

The Typhoon Anchorage is located north of the Coaling Camber at Yau Ma Ti, on the west side of the Kowloon Peninsula. Among the installations around the Anchorage are a ferry pier 225' x 55'; six small piers for small craft; a launch repair slip 200' x 15' with ten adjacent repair and administration buildings, located in the southeast corner of the Anchorage; a coal yard 500' x 300' with a coal dump 325' x 100' and an adjacent coal shed 260' x 100'; a multi-story warehouse 165' x 100', two warehouses 150' x 125'; and 30 warehouses 120' x 60'. The area immediately south of the Anchorage contained a warehouse 300' x 235' and a building 185' x 60'.^{1/}

-
1. Third Phase P.I. Report #59, Hongkong-Kowloon, 7 June 1944.
 2. AAF P.I. Report #301, Hongkong, 24 July 1943.
 3. EFIS 221, Appendix, 4 June 1942.

c. Piers and Wharves

(1) Hongkong Ferry Pier, Kowloon Point

This covered pier (Figure 53) was used before Japanese occupation to transfer passengers and some cargo from Hongkong to Kowloon.^{1/} It was also the Kowloon terminus of the under-harbor water pipelines. The ferries which operated from this pier were owned by the Star Ferry Company, Hongkong. Railroad spurs ran down to this pier.^{2/} Presumably, it is used by the Japanese mainly for the convenience of their nationals in commuting between Hongkong and Kowloon.

(2) Pedder's Wharf, Victoria City

This wharf in Victoria City is the Hongkong pier for the Kowloon Ferry ^{2/} (Figure 54). Water depths in the table are for the west side. There are no figures available regarding depths on the east side.^{1/} This pier is the center pier on Figure 54. The Star Ferry Company, which owned and operated this ferry service in 1941, had two vessels in use. In 1938, 15,000,000 passengers were carried by these two vessels. These boats are diesel electric ferries, 116' long, 28' beam, and their loaded draft was 8' 6".^{2/} It continues to be used under the Japanese when fuel is available, but service has been greatly reduced.

(3) Hongkong and Yaumati Ferry Piers, Kowloon

There were three terminals in Kowloon for the Hongkong-Yaumati Ferry Service. One was at Jordan Street, at 22° 19' 8" N, 114° 9' 50" E. The Shamshuipo Pier was located at 22° 19' 40" N 114° 9' 30" E. The Monkoktsui Pier, in the Typhoon Anchorage, was located at 22° 19' 8" N, 114° 9' 50" E. This ferry service furnished transportation for passengers and vehicles, between Hongkong Island and the Kowloon Peninsula. Each vessel could carry twelve large trucks and 233 passengers. Three vessels were in service, owned and operated by the Hongkong-Yaumati Ferry Company. They were 130' long with a beam of 41'6", had a speed of 10 knots, and made the transit between Hongkong and Kowloon in nine minutes. Each boat had three decks: the top one was for first-class passengers, the second for second-class passengers, and the bottom one for trucks and third-class passengers. All three ferries had Gardiner Diesel engines, capacity 400 HP, and American auxiliary engines.

At the time of Japanese occupation, ferry service was stopped until the Japanese took over the boats and piers for their own use. The piers were not damaged during the

-
1. RRB Attride, from British sources, memo of 19 July 1944.
 2. Industrial Objectives in Occupied China, Hongkong; 8 Feb. 1943. Department of Commerce.

hostilities but some of the ferries were sunk by the British and later salvaged by the Japanese.1/

(4) Hongkong and Yaumati Ferry Piers - Jubilee Street, Victoria

This pier, was the Hongkong Island pier for the Hongkong-Yaumati Ferry Service (Figure 55). The ferry slips and gangways were operated by electrical machinery.2/

(5) Blake Pier

This pier is located at the foot of Pedder Street, near the General Post Office, Victoria. (Figures 53 and 54. It is the second pier from the right in Figure 55.) It was bombed on 29 July 1943 and half of it was destroyed.3/ It is not known whether it was repaired.

(6) Tsun Chen Wan Wharf

This wharf, located at 22° 23' N, 114° 15' E, faces southeast on Tsun Wan Bay. The wharf was built about 1935 or 1936, because of an existing road connection to Shing Mun, to provide unloading facilities for supplies for the Shing Mun River Dam. It was owned and operated by the Hongkong Government. The site belonged to the Texas Co. (China) Ltd., who rented it to the Hongkong Government.1/ There was installed at that time a special unloading derrick for rapid transfer of supplies to the dock. There is no information available on later developments.

(7) Specifications of Wharves and Piers in Hongkong and Kowloon. Pier dimensions, water depths, types of service, and construction for the piers and wharves discussed above and some additional ones are shown in Table V.

1. Industrial Objectives in Occupied China, 2 Feb. 1943, Department of Commerce.

2. Industrial Objectives in Occupied China, Hongkong; 8 Feb. 1943, Department of Commerce.

3. JICA/CBI, May to July 1943.

TABLE V

WHARVES AND PIERS IN HONGKONG AND KOWLOON

Name	Location	Dimensions		Water Depths $\frac{1}{2}$		Type of Service	Construction
		Length	Width	End	Side		
<u>Murray 3/ Pier</u>	About 50 yds west of Royal Navy Yard	85'	25'	10 $\frac{1}{4}$ '	10'	Shipping	Wood and concrete
<u>Queens 3/ Pier</u>	Monument Square, Hongkong	165'	41'	16 $\frac{1}{2}$ '	7'	--	Concrete
<u>Pedder's Wharf 3/ (Star Ferry)</u>	Victoria City Next to Blake Pier.	250'	49'	35'	14'	Ferry Passengers Cargo	Steel frame. Wooden deck Steps alongside
<u>Blake 3-4/ Pier</u>	Pedder St.	200'	42'	19 $\frac{1}{2}$ '	3-7'	-	Steel and iron frame. Wood deck steps alongside
<u>Douglas S.S. Co. Wharf</u>	Victoria City East. Next to P&O Pier	300'	35'	33 $\frac{1}{4}$ '	21'	Shipping	Steel and wood Steps on west side
<u>Osaka Shosen Kaisha Wharf</u>	See Harbor Plan	300' 2/ 29'		41'	10'	Shipping	Steel, concrete
<u>Canton-Macao SS Co. Wharf</u>	100 yds W. of Harbor Office Pier	358'	48'	30-3/4'	10'	Shipping	Steel, concrete
<u>Hongkong-Yaumati Ferry; Hongkong Wharf</u>	Jubilee St. Victoria 22° 17' 12" N; 114° 9' 16" E.	450'	300'			Ferry Slips	5 berths
<u>Yuen On S.S. Co. Wharf</u>	1-3/4 miles west of Harbor Office	230'	20'	28 $\frac{1}{4}$ '	12'	Shipping	Wood
<u>China Merchants Wharf</u>	West Point	290'	36'	31'	22 $\frac{1}{2}$ '	Shipping	Wood
<u>Hongkong (Star) Ferry Pier</u>	Kowloon Pt. 22° 17' 42" N. 114° 10' E.	253'	41'	12'	18'	Ferry Passenger, cargo	Covered; steel piles, wood decking, R.R. spurs
<u>Hongkong Yaumati Ferry Piers Kowloon</u>	Jordan St. Kowloon 22° 19' 8" N 114° 9' 50" E. Shamshuipo 22° 19' 40" N. 114° 9' 30" E. Monkoktsui 22° 19' 8" N. 114° 9' 50" E.						12 trucks 233 passenger ferry boats

Name	Location	Dimensions		Water Depths		Service	Construction
		Length	Width	End	Side		
Tsun Chen Wan <u>Wharf</u>	22°23'N. 114° 15' E. Tsun Wan Bay.					Unloading supplies	Concrete

1. The water depths are the minimum depths at the end of the pier and at a point from 40 to 60 feet from shore. They are taken from a P. W. D. Plan dated 1931 and are presumably based on L. W. O. S.

2. The length given by the Hongkong Harbor Board is 350' and by Lloyds' Register is 300'.

3. See Figures 57 and 60.

4. See Figure 56.

G. Communications

The modern communications system which served the Hongkong area before the outbreak of the war has been taken over and operated by the Japanese. Pre-war radio and cable facilities have been extended, although their use is restricted to Japanese nationals and officials. The telephone equipment was restored to operation soon after the occupation, but extension of facilities and repairs to existing equipment are limited in scope because of shortage of materials and skilled personnel. It is believed that rehabilitation after reoccupation will have to be quite extensive because of excessive wear and tear.

1. Radio Installations in the Crown Colony

There are three major radio installations in the Crown Colony, one on the north shore of Hung Hom Bay, one on Stonecutter's Island, and one at Cape D'Aguiar, on Tailong Head, Hongkong Island.

The Hung Hom group includes two medium and short-wave broadcasting stations, and the towers of the Kai Tak Airdrome radio station. Stonecutter's Island has two stations, each operating on several frequencies. Before the Japanese occupation, one was a fixed station, and the other was used both for point-to-point and ship-to-shore service. The Japanese are reported to be installing an additional 20,000 watt Marconi set there. At Cape D'Aguiar the British had nine fixed stations and one coast station. The Japanese army has since installed six new transmitters and a Marconi set.

Other radio services operated in the Colony by the Hongkong Government, and subsequently used by the Japanese, were meteorological, marine, harbor, and police signals; a receiving station for British Empire and news broadcasts; and stations for public and official correspondence.

a. Kowloon Radio Installations

(1) Hung Hom Station

One of the most important radio installations in the Crown Colony is on the north side of Hung Hom Bay west of the Kowloon Dockyards (Figure 61). Located there are the medium and short-wave transmitters of broadcasting stations formerly identified by the call letters ZBW and ZEK. The transmitting towers serving the Kai Tak Airdrome, which used the calls ZCK, ZCK2 and ZCK3, are also located in Hung Hom a few hundred feet from the ZBW transmitter. It has not been determined which of six towers in this area serve which transmitters.

The Hung Hom radio transmitting station is located at 22°18'27" North, 114°10'45" East.¹ There are six tall steel towers in two parallel rows aligned Northeast-Southwest. There are four buildings near by, averaging 65' x 40', which are reported to house the transmitters for broadcasting stations ZBW and ZEK.¹ Before the Japanese occupation these transmitters

1. P.I. Report # 59, Hongkong-Kowloon, 7 Jan. 1944, (#193).

were owned and operated by the Hongkong Government, broadcasting weather reports, civilian aviation messages, and programs of European and Chinese music. ZBW broadcast in English, with a normal working range of 100 miles.^{1/} This station also broadcast Chinese programs on four short-wave frequencies, using the call letters ZBW2, ZBW3, ZBW4, and ZBW5. Station ZEK transmitted broadcasts in Chinese and English, with a normal working range of 100 miles.^{2/}

Station ZCK broadcasts originated from Kai Tak Airdrome and were transmitted from Hung Hom. Weather reports were broadcast on 333 kc (900 meters), using telephony-telegraphy equipment with a normal working range of 500 miles.^{2/} ZCK2 and ZCK3, also originating from the airdrome were operated for civilian aviation control, using telephony-telegraphy transmitters. ZCK2 and ZCK3 had a normal working range of 1000 miles.^{2/} Table VI shows the pre-war operating specifications of the radio stations at Hung Hom..

TABLE VI

RADIO STATIONS AT HUNG HOM, DEC. 1941 ^{1/}

<u>Call Letters</u> ^{1/}	<u>Kilocycles</u>	<u>Wave Length</u>	<u>Power</u>	<u>Service</u>
ZBW	845	355 meters	2000 W	Local English Broadcast
ZBW2	6090	49.26	2500 W	Local Chinese Broadcast
ZBW3	9525	31.50	"	"
ZBW4	15190	19.75	"	"
ZBW5	17755	16.90	"	"
ZCK	333.3	900	1000-2000	Weather
ZCK2	5410	55.46	500	Civilian Aviation
ZCK3	8750	34.29	500	"

(2) Kai Tak Airdrome Radio Stations

The radio facilities for Kai Tak Airdrome, before the Japanese occupation, consisted of two Marconi transmitters for long and short wave, operated from the airdrome, with the transmitting towers at Hung Hom. One was a type TAI W/T with a frequency range from 400 meters (750 kc.) to 1,500 meters (200 kc). The power of this transmitter was approximately 2,000 watts. This is the equipment described above as station ZCK (333.3 kc).

1. Strategic Map; Hongkong-Kowloon Area, MID, G-2, 1 March 1944.
2. Industrial Objectives in Occupied China, Hongkong; 8 Feb. 1943. Department of Commerce.

The second was a type S8A W/T with a range from 20 to 80 meters. Before Japanese occupation this transmitter used two spot frequencies (5,410 kc. and 8,750 kc.). This is the equipment described as station ZCK2 and ZCK3.

The direction finder used at the airdrome before the Japanese occupation was a Bellini-Tosi twin aerial DF receiver, type 379. There was also a radio beacon at Cape D'Aguilar, with a 2,000 watt, type WB2 transmitter, operating on a wave length of 1,000 meters. The Royal Observatory in Hung Hom issued daily meteorological reports.1/

It has been reported that all workshop and wireless huts at the airdrome were completely destroyed before evacuation.2/ A small building about 750' northeast of the long runway is said to be a Japanese naval W/T station.3/ According to ground sources, a radio station is located near the assembly plant on the airdrome but no towers are visible from photo reconnaissance.4/

(3) Tsim Sha Tsui Signal Station

This radio station is located on the southwest corner of Mody Road and Chatham Road near Blackhead Point (Figure 62), Kowloon (#194).5/ It has two masts set 80' apart in a north-northeast-south southwest direction at 22°17'50"N, 114°10'20"E.5/ This station was used for police radio, weather signals and a light beacon. It was owned and operated by the Hongkong Government before the Japanese occupation in 1941. The call letters for this station were VRD. It operated on a frequency of 1,364 kilocycles, (220 meters). The equipment was a continuous wave, 50 watt self-excited valve transmitter, with a normal range of 50 miles. Point-to-point transmission was strictly reserved for police use.1/ There is no information as to damage to this installation or its subsequent operations.

(4) Government Radio Receiving Station - Royal Observatory Grounds

This receiving station is located at 22°18'12"N, 114°10'20"E, in the Royal Observatory Grounds (Figure 63). The radio towers are conspicuous landmarks on the top of a 100' hill. Before Japanese occupation in 1941 it was the main receiving station for meteorological data. It was the control station and message center for marine and harbor services, and was owned and operated by the Hongkong Government. The equipment consisted of two Marconi type RG 25A medium and

-
1. Industrial Objectives in Occupied China, Hongkong; 8 Feb. 1943. Department of Commerce.
 2. EFIS 221, ED. C., June 1942, and Appendix, 4 June 1942.
 3. KWIZ 40/31 Section II (b), Appendix C.
 4. Special Report #11. Kai Tak Airdrome, 7 June 1944.
 5. 3rd Phase P.I. Report #59, 7 June 1944.

long-wave receivers, 1 Marconi type RG 22B short-wave receiver, 1 Marconi type RG 28 short-wave receiver, and 1 Marconi type RG 17A receiver. There were various spare receivers and telegraphic and emergency lines for communication with the Government Radio Office.^{1/}

b. Hongkong Radio Installations

Prior to the invasion, the British operated a radio-telegraph station in Victoria City for official correspondence to England, and a number of fixed stations at Cape D'Aguilar which maintained circuits to various points in the Far East. (See Table.) After the occupation, the Japanese took over all radio installations in the Colony.

The Japanese are reported to have established radio communications from Hongkong to Canton, Shanghai, Tokyo, Singapore, Manila, Batavia, and the principal cities in Central China. It is not certain which of the radio stations in the Colony are used for this service,^{2/} although it is known that six new radio telegraph transmitters were installed by the Japanese Army at Cape D'Aguilar.^{3/} In addition to former radio facilities two Japanese broadcasting stations were known to be operating early in 1944 but their exact locations have not been determined.^{2/} These were JZHA (9465 kc., 31.70 meters) and PHA (845 kc., 385 meters). The power of these stations is not known.

(1) Cape D'Aguilar (Tailong Head) Radio Station

Before the fall of Hongkong, the Hongkong Government had three transmitters at Cape D'Aguilar, located at approximately 114°15'30"E, 22°12'N, on the southeast tip of Hongkong island. Air photo cover ^{4/} shows six buildings and four masts at this point (#196), also known as Tailong Head.

After the occupation of Hongkong, the Japanese Army took over this station and installed six additional transmitters which were all larger than those used by the British. These six transmitters, of 5,000 to 10,000 watt capacity, are all beamed to distant cities, with the name of the particular city on each set. Three of these are beamed to Tokyo, Shanghai, and Manila and the other three probably to Singapore, Canton, and Batavia. At the same place the Japanese were also assembling a 20,000 watt Marconi set in 1942.^{3/} This island is reported to be the main Japanese cable and wireless transmitting station in the South China area.

-
1. Industrial Objectives in Occupied China, Hongkong, 8 Feb. 1943. Department of Commerce.
 2. Strategic Map, Hongkong-Kowloon Area, MID G-2, 1 March 1944.
 3. MID:NY Office. Hongkong Radio Technician, 5 June 1944 (B-2).
 4. Third Phase P.I. Report #59, Hongkong-Kowloon Area, 7 June 1944.

(2) Victoria Peak Radio Station 1/

This station, before the occupation of Hongkong by the Japanese was a receiving station for wireless and radio messages, owned and operated by the Hongkong Government. It received all fixed services, including British Empire broadcasting and International News Service. The equipment consisted of eleven commercial S/W receivers, one special rebroadcasting receiver, two commercial rebroadcasting receivers, all operating on alternating current. There were also light emergency S/W receivers operating on DC current. The station had one building and two towers.1/

(3) Other Radio Stations

There are three radio masts in the west part of the Royal Naval Yard grounds; also two masts and two buildings near the anti-submarine net south of Lyemun Point.1/

It has been reported that the Japanese used radio technicians living in Hongkong to repair and install radio equipment.2/

Table VII details the coast stations which were on Hongkong Island before the Japanese occupation:3/

TABLE VII

COAST RADIO STATIONS ON HONGKONG ISLAND

Cape D'Aguilar:

<u>Call Letters</u>	<u>Kilocycles</u>	<u>Wave length</u>	<u>Power</u>	<u>Type*</u>	<u>Nature**</u>
VPS	500	600	2000	A 2	CP
	500	600	100	A 2	CP
	375-425	800-706	100	A 2	CP
	3880	36.01	250	A 1	CP

Table VIII details the fixed radio stations on Hongkong Island before the Japanese occupation.3/

-
1. Third Phase P.I. Report #59, Hongkong, 7 June 1944.
 2. J. S. Breneman, 14 Sept. 1942; Gripsholm Report.
 3. Strategic Map, Hongkong-Kowloon Area, MID, G-2, 1 March 44.

TABLE VIII
FIXED STATIONS ON HONGKONG ISLAND

Cape D'Aguiar:

<u>Call Letters</u>	<u>Kilocycles</u>	<u>Wave Length</u>	<u>Watts</u>	<u>Type*</u>	<u>Na- ture**</u>	<u>Connection</u>
---	2770	108.2				China
ZEO4	4622	64.91	3,500	A1,2,3		Philippines
ZEM	4780	62.76	500	A2	CP	China
ZCF3	5365	55.92	2,000	A1,2	CP	Netherlands
						East Indies
						Indo-China
ZEN4	5905	50.80	1,800	A1,2,3	CP	China
						Netherlands
						East Indies
						Indo-China
ZCH	5995	50.04	500	A2	CP	China
ZCE3	6807	44.07	2,000	A1,2,3	CP	Indo-China
						Netherlands
						East Indies
						Indo-China
ZCI	6915	43.08	250	A1,2,3	CP	China
ZCF2	8047.5	37.28	2,000	A1,2	CP	China
						Netherlands
						East Indies
						Indo-China
---	8650	34.68		A1,2,3	CP	China
ZEN3	9244	32.45	1,800		CP	Netherlands
						East Indies
						Indo-China
ZCG3	9440	31.78	1,000	A2	CP	China
ZCE2	10,211.25	29.38	2,000	A1,2	CP	Philippines
						Netherlands
						East Indies
						Indo-China
---	10,640	28.2			CP	China
ZCF	10,730	27.96	2,000	A1,2	CP	Netherlands
						East Indies
						Indo-China
ZEN2	12,110	22.88	1,800	A1,2,3	CP	China
						Netherlands
						East Indies
						Indo-China
ZCJ	13,205	22.72	500	A2	CP	China
						Netherlands
						East Indies
ZCE	13,615	22.03	2,000	A1,2	CP	Indo-China
						Netherlands
						East Indies
ZEO2	13,866	21.63	3,500	A1,2,3		Indo-China
						Philippines
						China

TABLE VIII cont'd

<u>Call Letters</u>	<u>Kilocycles</u>	<u>Wave Length</u>	<u>Watts</u>	<u>Type*</u>	<u>Nature**</u>	<u>Connection</u>
ZEN	17,380	17.26	1,800	A1,2,3	CP	Netherlands East Indies Indo-China China Philippines
ZEO3	18,488	16.22	3,500	A1,2,3		Philippines China
ZEN	21,438	14.0	1,800	A1,2,3	CP	Netherlands East Indies Indo-China China Philippines
---	23,075	13.0			CP	
<u>Victoria City</u>						
GHN	5977	50.19	---	A1,2	CO	Great Britain
GHN2	7960	37.69	---	A1,2	CO	"
GHN3	10,496	28.59	---	A1,2	CO	"
GHN4	12,968	23.13	---	A1,2	CO	"
GHN5	15,070	19.91	---	A1,2	CO	"

* Type: A-1 --- Continuous wave telegraphy
 A-2 --- Modulated wave telegraphy
 A-3 --- Telephony

** Nature: CP --- Public Correspondence
 CO --- Official Correspondence, exclusively

c. Japanese Radio Installations, Hongkong-Kowloon

The following offices and installations were taken over by the Japanese at the time of the occupation and are being used by them at the present time.

(1) Navy Radio Studios:

These are located on the south side of Queen's Road Central, between Zetland Street and Dubdell Street. There, in a small building near the center of the block, the Japanese Navy has stored its excess radio equipment. There also are located the broadcasting transmitters operated by the Japanese Navy.¹ We have no more specific information on this equipment.

(2) Port Security Office:

The Japanese authorities use this building to control shipping throughout the Hongkong Bay Area. The port

1. MID:NY Office Interview with former Hongkong radio technician, 5 Jan. 1944 (F-2).

wireless is located there; there are several small transmitters of approximately 250 watt capacity. Ship-to-shore contact facilities include 20-30 receiver sets.1/

(3) Holland House:

On the north side of Queen's Road Central at Ice House Street, this building houses the Domei News Agency transmitters which are used for propaganda broadcasts. There are two transmitters here but the source had no idea of their power.1/

(4) Tytam Peninsula Installations:

There are reported to be radio communication installations somewhere on the shores of Tytam Reservoir and on the Tytam Peninsula. There are two transmitters of 10,000 and 20,000 watts at Tytam Reservoir. The station on Tytam Peninsula is reported to be very powerful but source did not know exact capacity. The station is very well camouflaged but the towers and the buildings are located together.1/

(5) Gloucester Hotel:

Radio broadcasting facilities were installed in the Gloucester Hotel.2/ (Figure 64).

(6) Marina House:

This building, located at Ice House Lane and Queens Road Central, houses the telegraph lines operated by Japanese civilians in Hongkong. It is called the Central Radio and Telegraph Office. The Greater East Asia organization in Hongkong has two transmitters in this building. The power of these transmitters is not known exactly but it is reported to be between 5,000 and 10,000 watts.1/ On the ground floor of this building, there is visible from the street a presumed transmitter unit with at least six tubes 2' high and 6" in diameter.3/

(7) The Government Radio Office:

The Government Radio Office in Victoria City is located on the first floor of the General Post Office Building at Des Voeux Road, Pedder Street and Connaught Road (Figure 65). This building is on the water front overlooking Blake Pier. The station was owned and operated by the Hongkong Government prior to the Japanese occupation in 1941. This office maintained communications with Waglan Lighthouse by submarine cable. It advised government departments of the arrival and departure of vessels and received and forwarded meteorological telegrams, navigation warnings, and health bulletins. It also issued broadcast-receiving licenses.4/

1. MID:NY Office Interview with former Hongkong radio technician, 5 Jan. 1944 (F-2).

2. J.S. Breneman, 14 Sept. 1942; Gripsholm Report.

3. N A Report, Brazil, 24 Nov. 1943 (C-3).

4. Industrial Objectives in Occupied China, Hongkong, 8 Feb. 1943. Department of Commerce.

d. Radio Installations On Nearby Islands

(1) Stonecutter's Island Radio Station

This station (#195), located in the center of the east end of the Island (Figure 65, 66, and 67), has three towers, each 350' high, and two masts on the station. There are also about 20 buildings. A submarine cable from Kowloon reaches Stonecutter's Island in the vicinity of the radio station. Before the fall of Hongkong, the Hongkong Government operated the fixed units 1/ shown in Table IX.

TABLE IX

FIXED RADIO STATION ON STONECUTTER'S ISLAND, December 1941

<u>Call Letters</u>	<u>Kilocycles</u>	<u>Wave Length Meters</u>	<u>Type</u>	<u>Nature</u>	<u>Connections</u>
GYP2	88.2	34.01	A 1	CO	Malaya, Ceylon
GZ09	41.35	72.55	A 2	FCCO Marine	
GYP3	6610	45.39	A 2	CO	
GZ02	7305	41.07	A 1	CO	Great Britain
GZ0	9160	32.75	A 1	CO	"
GYP5	12,145	24.70	A 2	CO	
GZ04	12,170	24.65	A 2	CO	Malaya, Ceylon
GZ03	18,320	16.38	A 2	CO	Great Britain

Before the Japanese occupation, the Hongkong Government also operated a coast station; GYP, 113 kilocycles, 2,655 meters, type A1, nature CO.1/

After the occupation of Hongkong, the Japanese Navy took over Stonecutter's Island. In September 1942, they were reported to be installing a 50,000 watt Marconi set.2/ A report in August 1943 3/ stated that during the air raid of 27 July 1943 seven bombs made direct hits on the island and fires burned about 20 minutes. The extent of damage is not known.

(2) Tai O (Taiho) Radio Station4/

This radio station was located on Lantao Island at 113°51'30"E, 22°15'N. It was a police radio, owned and operated by the Hongkong Government. The call letters were VRF and it operated on a frequency of 1,364 kilocycles (220 meters). The equipment was a disrupted continuous wave (800 periods), 500 watt, self-excited valve transmitter with a normal range of 50 miles. The station was used exclusively by the police. The customs office in Taiho used telephone communication to Hongkong.4/

1. Strategic Map, Hongkong-Kowloon Area, MID, G-2, 1 March 1944
2. MID:NY Office Interview with former Hongkong radio technician.
3. JICA/CBI Summary, May-July 1943.
4. Industrial Objectives in Occupied China, Hongkong; 8 Feb. 1943. Department of Commerce.

(52232)

(3) Gap Rock Lighthouse

A radio telegraph station for police use and port service was maintained at Gap Rock Lighthouse, by the Hongkong Government before the occupation of Hongkong by the Japanese. This station used the call letters VRA and operated with a power of 50 watts at 500 kc. (600 meters) and 1364 kc. (219.9 meters.)1/

2. Telephone, Telegraph, Cables -- Hongkong-Kowloon

a. Hongkong Government Telephone System 1/

This telephone service in 1941 was a separate unit from the Hongkong City telephone service but it maintained inter-communication with it. In 1938, the Government service had 800 magnetic lines, with two main exchanges, in Victoria and Kowloon, and 43 branch exchanges. (This was a dial system)1/

b. Hongkong Telephone Co., Ltd., Victoria City

The Central Exchange, Hongkong Telephone Company, is located in the Exchange Building on the fourth floor, at Des Voeux Road and Ice House Lane. There are two other exchanges, one in Kowloon and one on Victoria Peak. Telephone service was provided until 1925 by the China and Japan Electric and Telephone Company, Ltd., a subsidiary of Oriental Telephone and Electric Company, Ltd., of London. A new company was incorporated in 1925 as Hongkong Telephone Company, Ltd., to take over the business of the former company under a 50-year franchise. In 1938, it was capitalized at Hongkong \$5,625,000.

By 1928, 80 percent of the telephone circuits were underground. The entire telephone service was made automatic by 1930 and in 1931 long-distance connections to Canton were established with trunk lines to carry 30 conversations. In 1931, also, teleprinters were installed, photo-telegraphic service instituted, and automatic equipment was installed in the rural districts of the New Territories.2/

The buildings for both the Central Exchange in Hongkong and the Kowloon Exchange were built in 1930 at the time the system was made automatic. (Some of the equipment of the Kowloon exchange is shown in Figures 69 and 70) All the equipment, including the main frames and power plants, was accommodated on a single floor. Each exchange had one 10,000 line unit. The Central Exchange had room for the installation of a second unit of the same capacity. In 1930 the Peak Exchange was located in the Magneto Telegraph Exchange building, with the power plant in an adjacent building.

There was no direct junction between the Kowloon and Peak Exchanges. Calls were routed through the Central Exchange. All long-distance service was handled by the Central Exchange.

1. Industrial Objectives in Occupied China, Hongkong, 8 Feb. 1943. Department of Commerce.

2. Department of Justice, War Division Confidential Report. 60-0-28, 1944.

The Exchange buildings were air conditioned to avoid equipment difficulties, and all apparatus and iron work had a special "tropical" finish.

Power was supplied to each of the exchanges by duplicate 25 cell batteries. The Victoria and Kowloon exchanges had duplicate 50-volt booster batteries for metering and one counter E.M.F. battery. Both exchanges were equipped with two motor generator sets using public current, and two ringing machines, one of which used public current and one the 25-cell battery. The Peak Exchange had one motor generator set and duplicate ringing dynamotors operating on a battery.

In 1932, small exchanges were installed in Fanling and Taipo Market, with the addition of 4,000 lines of switching equipment in the Central Exchange and 2,500 lines at Kowloon.

By 1938 the telephone system consisted of 16,000 lines, with a total length of 64,598 miles. There were six control offices in the colony. The company had 276 employees.^{1/} Although the telephone company was reported to have been wrecked by the British before surrender,^{2/} it was restored to service by the Japanese by 20 January 1942. It was later reported that telephone equipment was rapidly wearing out due to careless handling and lack of repair facilities.^{3/} After the occupation all telephones had to be registered. High rates prevented many people from continuing to use telephone service. In June 1944 the Japanese authorities established a civilian "Electric Society" and turned over the operation of the telephone system to this society.^{4/}

c. Cable and Wireless Ltd., Victoria City

This company is located in Electra House, 3 Connaught Road, Central, next door to the Hongkong Club (Figure 71). It provides cable and wireless service to Singapore, Shanghai and other cities. It was associated with the Eastern Extension of Australasia and China Telegraph Co. Ltd. It operated three cables to Singapore and two to Shanghai. One of the latter belonged to Cable and Wireless, Ltd., and went via Sharp Peak. The other was owned by the Great Northern Company, a Danish concern, and went via Amoy. The British company took over and operated the Danish cable services after the Nazis occupied Denmark. Cable and Wireless also operated direct commercial radio communication to such Chinese cities as Chengtu, Chungking, Foochow, Shameen, Swatow, Tsangan, Yunnanfu; and to such other places as the Netherlands East Indies, French Indo-China, Formosa, Macao, the Philippines, Thailand, and Shanghai.^{5/}

-
1. Industrial Objectives in Occupied China, Hongkong, 2 Feb. 1943. Department of Commerce.
 2. Gripsholm I Material Summary.
 3. Conditions in Hongkong, 3 Feb. 1944, (B-3).
 4. OSS R&A. SACO Intelligence Summary, 3 July 1944 (C-3).
 5. Industrial Objectives in Occupied China, Hongkong, 8 Feb. 1944. Department of Commerce.

d. Cable Landing House, Taiho Wan

This installation is the cable landing for lines between Hongkong and Macao, Singapore, Labuan, Foochow, Manila, and Saigon. In December 1941, there were three cables to Singapore: one direct, one via Labuan, British North Borneo, and one via Cape St. James. There were also two cables to Shanghai and one each to Foochow, Saigon, Macao, and Manila. A number of these were put out of service during the hostilities but the Japanese restored them immediately after the occupation. On 19 October 1942, the Tokyo Radio stated that the Hongkong-Manila cable was being extended to include other points on Luzon and Panay Islands. This service was scheduled to start on 20 October 1942, and Baguio, Santa Cruz, Batangas, Legaspi, and San Jose were cities named as reception points.¹

1. Industrial Objectives in Occupied China, Hongkong, 2 Feb. 1943. Department of Commerce.

H. Construction Materials

Construction materials manufactured in the Hongkong area were composed chiefly of cement from the Green Island Cement Company, at Hok Un, and bricks from several brick factories. The cement and brick factories operated with raw materials secured locally, for the most part, although their fuel supply and electric power depended upon imports of coal. The cement company was just beginning to operate at a profit at the outbreak of hostilities. Two brick factories and the cement plant are discussed below. There are reports of some other brick factories whose names and locations could not be determined.

1. Green Island Cement Company, Hok Un, Kowloon

The Green Island Cement Company is located on the north-east side of the Taiwan Peninsula on the mainland of the Crown Colony of Hongkong, at approximately 22°18'40" North, 114°11'20" East.^{1/} The plant at the time of Japanese occupation included the following buildings: crusher, 400'x85'; mixing and grinding, 460'x75'; kiln, 400'x65'; packaging and storage, 260'x160'; eight slurry tanks and eight silos, ten miscellaneous buildings, a water tank, tall smokestack, and open stock piles, with a total area of 1,200'x500' ^{2/} (Figures 72, 73, and 14).

The plant consists of an old and a new section (Figure 74). The old section used the "dry process" method. The original installation had vertical kilns; later four 80' rotary kilns were added. About 1933, the facilities of the plant were extensively enlarged by the installation of a complete "wet process" plant, with two rotary kilns 254' long, complete with crushing, grinding, cooling, and dust control machinery. Storage of the finished product is handled in eight silos and one large godown. There are seven silos holding 2,000 tons each. The eighth is divided into compartments for special products and smaller lots. The kilns are fired with finely powdered coal which is stored in concrete bunkers and fed to the kilns by conveyors and cyclone draught machines. The entire factory, old and new, was electrified in 1933 by the installation of 100 Metropolitan-Vickers motors, aggregating nearly 5,000 H.P. Power, derived from the China Light & Power Company station adjacent, is brought into the plant by duplicate mains delivering 6,600 V, 3-phase, 50-cycle current. Two complete cubicles, consisting of transformers, switches, and circuit breakers, plus a metering and spacing panel, were installed and owned by the Power Company. Four additional cubicles, owned by the Cement Company, together with those of the Power Company, form a complete switchboard. There are three 1,200 kva 6,600/2,200 Volt transformers, one being a stand-by, and three additional 900 kva transformers.^{3/}

1. Industrial Objectives in Occupied China, Hongkong, Bureau of Foreign and Domestic Commerce, 8 Feb. 1943. C. S. Reif-schnieder, Jr., and A. Viola Smith.

2. Third Phase P.I. Report, #59, 7 June 1944. Hongkong.

3. Far Eastern Review, Aug. 1933, Vol. 29, pp. 356-63.

The "wet" process was used primarily in manufacturing cement at this plant. Limestone was imported by junks or small steamers, and clay was dredged from the sea locally, or at Deep Water Bay on the south side of Hongkong Island whence it was carried to the plant by lighters. The clay was made into a slurry and carried through crushers to be mixed with crushed limestone after which it was treated, baked in the kilns, and cooled. The resulting clinkers were mixed with gypsum and milled, after which the finished product went into storage until it was packaged and shipped away. 1/

The principal products of this plant were Emerald Portland Cement, Emeraldcrete (quick drying), and ordinary cement. In 1938, the best producing year in the previous seven for the plant, a capacity production of 108,298 tons was achieved. The cement produced passed English tests and was used in military construction in Hongkong and Singapore. The plant was not damaged during the Japanese attack in 1941 and was reported to be in full operation in 1942 and thereafter. 2/ Another report stated that in January 1943 the plant was operating at an annual rate of 60,000 tons, 3/ which is much less than capacity. It is possible that part of the cement mill was destroyed during Allied air raids in January 1944, 4/ and it has since been reported several times that the plant stopped operating by March 1944 and that all the machinery was being dismantled and taken to Japan. The existing stocks of cement were removed in January 1944 for use in the enlargement of Kai Tak Airdrome. This dismantling was said to be practically complete in May 1944. 5/

It is probable that the reported dismantling refers to the old "dry process" section of the plant, as the processing buildings of this section do not appear on recent photo cover. However, aerial photographs taken in March 1944 show no evidence of bomb damage to the new part of the plant and there has been no dismantling of the building in this section. 6/

Photo cover on this and earlier dates shows an average of 2-5 small craft approximately 50' long at the plant wharves or jetties. Another report 7/ says that the "Koryo Maru" on 18 April 1944 loaded three boilers taken from the Green Island Cement Company works in Kowloon, and 48 crates of machinery and parts from the same place.

-
1. Far Eastern Review, Aug. 1933, Vol. 29, pp. 356-63.
 2. Eastern Fleet Intelligence Summary, #221, Appendix, 4 June 1942.
 3. Robert S. Ward, Hongkong under Japanese Occupation, 1943, p. 65.
 4. Reporting Board, #29018, 9 Feb. 1944
 5. JICA/CBI Rep. #2726, 22 May 1944. JICA/CBI, 6 May 1944.
 6. Report to OSS from AF P.I. Division, Washington, D. C., 10 Aug. 1944.
 7. Japanese Shipping, Hongkong, 18 April 1944.
(52232)

2. China Brick Works

The China Brick Works at Yeung Sin Hang, New Territories, located at 22°23'40" North, 113°52'50" East, manufactured bricks. The plant had numerous kilns, and was the largest producer of construction bricks in the Colony. The capacity of the plant is given as 1,000,000 bricks per month.^{1/} There is no information available as to damage or restoration since Japanese occupation.

3. Green Island Brick Company

This brick factory was located at Deep Water Bay, Hongkong in Sam Shui Wan at 22°14'50" North, 114°10'35" East. It operated under the supervision of the Green Island Cement Company of Hok Un, making bricks and drain pipes for the building trade in the Colony. The raw material - clay - was obtained near-by and the finished product was carried by lighter to the cement plant at Hok Un and exported from there.

The capacity of the plant is not known; nor is there any information as to its operations since Japanese occupation of Hongkong.

1. Industrial Objectives in Occupied China, Hongkong;
8 Feb. 1943, Department of Commerce.

IV. MISCELLANEOUS INDUSTRIAL INSTALLATIONS

Among the miscellaneous small industries which contribute to the Japanese war effort must be mentioned the rubber factories, the chemical plants, the sugar refinery and the brewery, and the lead and iron mines. Many other factories are operating under Japanese control or registration and their products aid the Japanese military indirectly.

The rubber industry, in general, has been converted to serve the Japanese war effort, frequently in ways quite removed from its peacetime operations. Of the five major rubber shoe factories in Hongkong before the war, two are now reported to be manufacturing motorized junks, one is making clothing and daily necessities for the Japanese Army, one is making gas masks and rubber shoes, and the fifth, mentioned above, is used for the storage and assembly of aircraft parts.

In the Hongkong area there is no heavy chemical industry. Industrial chemicals are primarily oxygen and acetylene gases, carbide, and possibly some hydrochloric acid and caustic soda. Light chemicals consist primarily of drugs, medicines, vitamins, and sera for military use. More important than these to the Japanese are the alcohol and refined sugar produced by the Hongkong Brewery and the Taikoo Sugar Refinery.

Shortly after the occupation the Japanese began exploiting the mines of the Colony by reopening the Lin Ma Hang lead mine and developing the Ma On Shan iron mine. They are also operating the wolfram mines at Needle Hill, although the yield is extremely small.

The printing presses of the Colony have been intensively used to print puppet and military occupation bank notes and other debentures.

A. Mines

1. Lin Ma Hang Lead and Silver Mine

This mine is located near the border between the New Territories and Kwangtung, east of the Kowloon-Canton Railroad (Figure 75). Prior to Japanese occupation of the Crown Colony, the mine was owned by Hongkong Mines, Ltd., and operated by Nielson and Company, a Philippine concern. Although located in a thinly populated section, the mine was connected to the Port of Hongkong by a paved road with no steep gradients, thus providing an excellent means of transporting the mined ore.

In 1937, metallurgical tests indicated that there were reserves of 80,000 tons of ore blocked out which would average 10 percent lead and $1\frac{1}{2}$ ounces of silver per ton. Exploration work after the opening of the mine showed much larger reserves.^{1/}

1. Industrial Objectives in Occupied China, Hongkong, 8 Feb. 1943. Department of Commerce.
(52232)

Modern mining methods were used in the development of this mine. No hoisting or pumping was required as all levels connected with the surface along the side of the mountain. Most of the mining work was carried on at the two highest levels into the ore body. 1/ Electric power was supplied by China Light and Power Company from a sub-station in Fanling, by means of high tension lines.

Concentrates produced in the mill contained over 95 percent of the lead and 85 percent of the silver from the original ore. The concentrates assayed 71 percent lead and 17 ounces of silver to a short ton.

Practically all of the labor used at the mine before the war was unskilled. There were 500 employees in 1938. When operating at full capacity between 1938 and 1940, the yield probably was between 5,000 and 6,000 tons of lead per year, 2/ about 5 percent of Japanese requirements.

The mine was closed down in 1940 and all mine equipment was shipped out of the Colony. The concentration mill was left intact until the occupation of Hongkong by the Japanese. It has since been reported dismantled and shipped to Japan. 1/ In July 1942, the Japanese announced that they planned to reopen this mine, due to increasing importance of lead and other minerals to the GEA war. In August 1943, it was reported that the mine had resumed operations, all damage caused by sabotage prior to the fall of Hongkong having been repaired. 3/ At the end of 1943, a Chinese source indicated that there were 15 Japanese and 400 Chinese workers employed at the mine, producing four truckloads of ore each week. An estimate in November 1943 stated that the current output of the mine was about 4,500 metric tons of metal per year. 3/ This same source indicated the Japanese were advertising for workers for this mine, paying men MY 2.40 plus one catty of rice per day and women MY 1.50 plus one catty rice per day.

2. Ma On Shan Iron Mine

This mine is located approximately 13 kilometers northeast of Kowloon at 22° 24' 24" North; 114° 14' 40" East, in a sparsely populated and fairly inaccessible section of the New Territories and was served only by a partially completed motor road running southeast from Tide Cove toward the mine. In 1940, the reserves of this mine were estimated at approximately 3,000,000 tons of magnetite ore, assaying in

1. Industrial Objectives in Occupied China, Hongkong, 8 Feb. 1943. Department of Commerce.

2. FEA; Notes on Current Economic Information #27, Aug. 1943.

3. JICA/CBI Chinese source, 11 May 1944 and JICA Comment.

part as high as 60 percent iron content. Smaller quantities of hematite ore were also present, which contained from 30 to 50 percent iron. 1/ This hematite was of such good quality that it was used for fluxing, without further treatment, at China Iron Works. In 1943, it was reported as being exploited by the Japan Iron Mining Company, Ltd. The output was going almost entirely to Japan. If the motor road were completed or other means of transporting the ore installed, it is believed this company would be able to mine 5,000 to 6,000 tons of ore monthly, 2/ compared to a total output of 8,000 tons for the entire period from 1931 to 1938.

3. The Needle Hill Wolfram Mine

This mine, located on the north bank of the Shing Mun River in the New Territories, had a very small production, reported as approximately seven tons of metal a month before 1941. There was an aerial cableway connecting the mine with transportation facilities before the Japanese occupation. This has been dismantled, according to one report. 2/

The mine (a group of four small mines) had a total production in 1938 of about 83 metric tons which was produced by small contractors who sold the ore to Marsman and Company, Hongkong, for export to England. The Marsman Company furnished the electric power, machinery, and transportation used by these subcontractors. 3/ In 1941, production was about seven tons of ore, 65 percent WO_3 , 4/ per month, made up by Needle Hill, Castle Peak, Lan Tan Island alluvials, Customs Pass, and other areas. Not much improvement in yield could be expected. Most of the equipment was removed from this mine before the Japanese occupation. It is not known whether the Japanese have developed this mine or not. 3/

4. Hongkong Clay and Kaolin Company, Ltd.

The exact location of this mine is not known. It was not a large mine, producing only 2,500 tons of kaolin per year. This was, however, a fine grade of kaolin and was used in the china factories in Hongkong. The mine operated on a limited scale in 1942, which may have since been increased by the Japanese. 2/

1. FEA; Notes of Current Economic Information, #33, 30 Oct. 1943.

2. Industrial Objectives in Occupied China, Hongkong, 8 Feb. 1943. Department of Commerce.

3. William F. Carman, Representative of Marsman Co. in Hongkong, Gripsholm Report.

4. S. E. Lavrov, BEW, Washington, D. C.

B. Rubber Factories

The rubber shoe manufacturing industry was an important part of the industrial picture in Hongkong before the Japanese invasion. In 1940, Hongkong exported US \$2,500,000 worth of finished rubber footwear. After the Japanese occupation, for as long as the Japanese could maintain imports of raw rubber, the industry continued to be active, turning out in substantial quantities tennis shoes, overshoes, gum boots, and belts. Trade in these articles was carried on with the interior of China by guerrilla pirates who bought the articles at a reasonable price in Hongkong and resold them in Kukung and other inland cities for two to three times as much. Numbers of rubber tires, both truck and automobile, old or new, were also smuggled into Free China. By 1943, however, supplies of these articles fell off considerably, probably due to exhaustion of hoarded stocks in Chinese hands in Hongkong.1/

Before 1941, almost the entire production of the five largest factories was exported, as very little was consumed in Hongkong. The products were shipped to all parts of the British Empire (Africa, Australia, New Zealand, and England). Since most of the raw materials for this manufacture were imported, these factories used materials of British origin almost entirely, thus complying with the "Imperial Content" law and escaping the preferential tariff. Thus, these factories used rubber from Malaya and canvas and chemicals from England. Of the five major rubber manufacturing companies Tai Hang Rubber Company facilities are now used for storing and assembling aircraft (See III, C, 3, above); Canton Bros. Rubber Company and Continental Rubber Company are reported to have been converted to manufacturing other supplies by the Japanese, i.e., motor junks; Hongkong Rubber Company is reported to be producing shoes, clothing, and other daily necessities; and Fung Keong Rubber Manufacturing Company is making rubber shoes and gas masks for the Japanese army.2/

1. Canton Bros. Rubber Company

Canton Bros. Rubber Company is located at 236 Hai Tan Street, Sham Shui Po, on New Kowloon Island Lot # 179 Block 62, Kowloon. The buildings are of brick and stone with tile roofs. This plant was a rubber shoe factory and storehouse.3/ It is reported to have been converted to some other purpose by the Japanese.2/

2. Fung Keong Rubber Manufacturing Company

This company is located in Shau Ki Wan, seven miles east of Victoria City, near the eastern terminus of the tramways. The plant is located at 22° 16' 42" North; 114° 13' 36" East. The facilities of the plant provided for production of rubber goods, chiefly footwear.2/ In the years just before the

-
1. Report of FEA Representative in early 1943. Reporting Board # 116.
 2. Industrial Objectives in Occupied China, Hongkong; 8 Feb. 1943. Department of Commerce.
 3. Insurance Schedule.
(52232)

Japanese occupation, the production was confined to rubber footwear, with a capacity estimated at 10,000,000 pairs per year.^{1/} It has since been reported converted to other production but no information is at hand.

3. Continental Rubber Manufacturing Company

The Continental Rubber Manufacturing Company is located at 57 Winslow Street, Hung Hom, Kowloon (22° 8' 31" North; 114° 10' 49" East), on Hongkong Inland Lot #235. The factory building is of brick and stone, with a tile roof.^{2/} Prior to the Japanese occupation of Hongkong, this plant produced bicycle tires and tubes, rubber footwear, and sundries, for export to the United Kingdom and other parts of the Empire.^{3/} The pre-war capacity for manufacture of rubber shoes was estimated at 6,000,000 pairs, and the output for the last years before the invasion closely approximated this figure. The capacity for the production of bicycle tires and tubes was estimated at 15,000 pairs of tires and tubes per year.^{1/} It is reported that the Japanese have converted this plant to other purposes but no information is available.

4. Hongkong Rubber Manufacturing Company

One factory is located in Tam Kung Road, Ma Tau Kok (Figure 76), at 22° 19' 25" North; 114° 11' 8 $\frac{1}{2}$ " East (GSGS 3868) Grid 22175850. A second factory is located at No. 3 New Praya, Kennedy Town, Hongkong, (Figure 77). The product manufactured by these factories prior to the war was rubber footwear,^{3/} with an estimated yearly capacity of 6,000,000 pairs. This company was owned and operated exclusively by Chinese interests.^{1/} These plants are reported to be manufacturing articles of daily use for the Japanese military, such as shoes, clothing, etc., although it is reported that they are not very busy,^{4/} probably due to a shortage of raw materials. According to photographic information,^{5/} the Mataukok plant covers an area approximately 400' x 170'. The largest building is about 120' x 55'. One building in the southwest corner of the block is possibly a solvent processing unit.

5. China Rubber Tyre Company, Ltd.

This factory, located at 392 Causeway Road, Sham Shui Po, in Kowloon, repaired and retreaded auto tires. The company had exclusive rights to the use of the Nestler rubber fusing process for vulcanizing old tires. The plant was very small, and no information is available as to its present use.^{3/}

1. Rubber Manufacturing Facilities in China, Constantin Blum, NY.

2. Insurance Schedules.

3. Industrial Objectives in Occupied China, Hongkong; 8 Feb. 1943. Department of Commerce.

4. JICA/CBI, 21 Feb. 1944.

5. AF, P. I. Division, Washington, D.C., Report to OSS, 10 Aug. 1944.

C. Taikoo Sugar Refinery

This sugar refinery, the largest in Hongkong, is located at 22°17'20"North, 114°12'33"East, at the west end of the Taikoo Shipyards at Quarry Point on Hongkong Island^{1/} (Figure 78). The principal building in the plant covers an area 350' x 490'; another is 490' x 50', and three buildings average 220' x 130'. There are twelve additional smaller buildings, a tall smokestack, and a storage tank 35' in diameter. There are three piers serving the refinery: one 500' x 70'; the others smaller.^{2/} The refinery occupies a twelve-acre tract.

Before the Japanese occupation, power was supplied to both the refinery and the shipyard by a power generating station located on the grounds of the refinery. This station originally had turbo alternators which produced 4,400 V current. For use in the sugar refinery this was passed through a substation in the dockyard and reduced to 440 V. This generating unit was similar to that in the Royal Naval Yard power station.^{3/} An alternative power supply was available from Hongkong Electric Company. The city current could be passed through the dockyard substation. Water supply for the refinery and the dockyard came from three small reservoirs located a short distance south of the refinery. The reservoirs are 390' x 120', 460' x 190', and 230' x 150', each one having a small masonry dam with gravity flow control stations. These reservoirs are probably the only source of water for the refinery and shipyard, as there is no apparent connection to the Ty Tam System.^{4/}

Prior to December 1941, the sugar refinery refined raw sugar imported primarily from the Philippines and some from the Netherlands East Indies. The pre-war capacity is not known. During the hostilities, the factory was severely shelled and was the scene of sharp fighting. The plant was damaged but it is believed the wharves remained intact.^{1/} From aerial photographs taken in March 1944 ^{5/} no bomb damage to this refinery is ascertainable.

After the occupation of Hongkong by the Japanese the plant was restored to operation, operating on raw sugar from the Philippines. Large supplies of unrefined sugar were captured by the Japanese. In October 1942, the refinery was reported to have reached a production rate of 250 pounds of refined sugar per day.^{6/} Large numbers of workmen were employed.

1. Industrial Objectives in Occupied China, Hongkong; 8 Feb. 1943. Department of Commerce.

2. Third Phase P.I. Report #59, Hongkong-Kowloon, 7 June 1944.

3. Scott's Shipyards Records (Insurance material).

4. Special P.I. Report #12, Water System Hongkong-Kowloon; 7 June 1944.

5. Report to OSS from AF P.I. Division, Washington, D. C. Aug. 10, 1944.

6. Foreign Broadcast Intelligence Service, 27 Oct. 1942; 31 Oct. 1942.

at the refinery in 1943. In May 1944, it was reported that two out of three boilers at the refinery were working.^{1/} About March 1943, the refinery started producing large quantities of alcohol from molasses, cutting the prices in half.^{2/} There is some confusion as to the present source of raw materials for this refinery. Some reports say Kwangtung sugar cane is being processed, others that raw sugar is being refined or that Philippine raw sugar is imported and processed.^{3/} Whatever the source, the refinery is supplying large quantities of sugar to the Japanese.

-
1. JICA/CBI, 24 March 1944 (B-2).
 2. NA Report, 24 Nov. 1943 (C-3).
 3. OSS, R&A, JICA/CBI, 13 Jan. 1944

D. Hongkong Brewery

The Hongkong Brewery is located about 13½ miles from Kowloon in the New Territories, at Shumcheng, 22°23'0"North, 114°5'0"East. The factory covers an area approximately 900' x 450'. The manufacturing phase of the plant is carried on in the eastern half of this area which contains approximately eight buildings and a storage tank 105' in diameter.^{1/} There are three principal buildings, one 200' x 75', one 160' x 50' with a tower, and one 140' x 60'.^{2/} There is a narrow pier about 600' long in this vicinity. Office buildings occupy the western half. Just northwest of the plant are fifteen small buildings which are probably living quarters for the plant personnel.^{1/}

Before the Japanese occupation, the Brewery is reported to have produced an excellent quality beer, with a capacity of 250,000 gallons per year.^{3/}

After the Standard Oil Company tanks in Laichikok were bombed in September 1943, the Japanese began manufacturing alcohol from sugar and molasses at the brewery. In March 1944, the daily output was reported to be 800 gallons and the Japanese were expanding the facilities of the plant.^{4/}

-
1. 14th AF Daily Intelligence Extract, 23 Sept. 1943.
 2. Third Phase P.I. Report #59, 7 June 1944, Hongkong-Kowloon.
 3. Industrial Objectives in Occupied China, Hongkong; 8 Feb. 1943. Department of Commerce.
 4. OSS, R&A; Chinese Intelligence, 24 March 1944, (A-2).

E. Hongkong Rope Company, Kennedy Town and Mataukok 1/

The smaller of the two plants was located on Belcher's Strait, Kennedy Town (22°17'10" North, 114°07'30" East) (Figure 79). The larger was located in Mataukok at 22°18'20" North, 114°11'7" East on the east side of the Kowloon Peninsula. (Figures 80, 81, 2/ 82 and 83) This company manufactured hemp products from $\frac{1}{2}$ " rope to 15" hawsers. The total production for both plants in 1938 was 2,719,000 pounds. The company had a monopoly in the Hongkong area.

The rope was made of pure Manila hemp, using modern American machinery. The standard length was 720' but the factories could produce any length up to 3,000'. The rope products were shipped to China, Japan, India, Australia, the Straits Settlements, and other points in the Far East.

The Japanese are reported to be importing hemp from the Philippines for the plants. In October 1942, 500,000 pounds were imported. 3/ Subsequent trade agreements between Hongkong and the Philippines mention hemp as one of the items to be exchanged, but shortage of shipping may prevent this being implemented.

-
1. Insurance Company Plant Layouts.
 2. #80 shows the ground floor; #81 the first floor.
 3. Industrial Objectives in Occupied China, Hongkong; 8 Feb. 1943. Department of Commerce.

F. Drugs and Chemicals

1. Union Drug Factory, Tokwawan

This plant is reported to be in Tokwawan. It is said to manufacture quinine, aspirin, soda mint, and Vitamin B tablets from raw materials obtained locally.^{1/} These products are shipped to the Japanese-held areas of the South Seas.^{2/} No information as to the size of the factory or its capacity is available.

2. Sun Ah Chemical Factory

This factory is reported to be located at Grid 2230 58357 (GSGS 3868).^{3/} It suffered damage in the air raid of 15/16 November 1943.^{3/} No information is available as to products manufactured.

3. Hongkong Industrial Chemical Company

This factory is reported to be located at Grid 2228 5860 (GSGS 3868).^{3/} This plant has been variously reported to be manufacturing caustic soda, hydrochloric acid, and food products. It is the organization formerly called the Tin Chue Food Essence Company. It was bombed on 15/16 November 1943, when the kitchen was hit and some other irreplaceable damage was done.^{4/} At that time there were from 60 to 70 employees.

4. Hsi Huan Serum Factory

A report of May 1944, stated that the Japanese had established a serum factory in Hsi Huan, Hongkong, to produce serum for military use,^{5/} and that large numbers of rabbits were being purchased for these laboratories.

5. Hongkong Carbide Company (Asia Chemical Company)

This plant, which is located in the grounds of the Chiap Hua Iron and Steel Works, adjacent on the north to Far East Oxygen and Acetylene Company, occupies an area 375' x 160', with five buildings. It is reported to produce 2,000 pounds of carbide per month.^{6/}

6. Far East Oxygen and Acetylene Company

This plant, located on Kowloon Bay and Tokwawan Road about 700' northeast along the Bay from Bailey's Shipyard,^{6/}

1. Reporting Board #31212, May-July 1943.

2. JICA, May-July 1943.

3. JICA, 17 Feb. 1944.

4. JICA/CBI, 21 Feb. 1944.

5. OSS Report A30665, b, 31 May 1944 (C-3).

6. Third Phase P.I. Report #59, Hongkong-Kowloon, 7 June 1944.

is also known as Hongkong Oxygen Co. and Far East Welding Company (Figure 84). There are seven buildings, the largest 100' x 60', including office, quarters, oxygen compressor house, and facilities for storage.^{1/} The plant had a capacity of 4,000 foot bottles of oxygen a month, which it supplied to shipyards. No figures are available regarding production of acetylene. The company was French-owned and was reported to be still under Vichy French operation. In June 1942, this plant was operating at full capacity.^{1/}

7. Hung Hom Chemical Plant

Another chemical plant is said to be located on Hung Hom Bay southwest about 500 feet from the Hung Hom Radio Station. There are two buildings at this location, one 210' x 105' and one 220' x 80'.^{2/} No information is available as to the products or operations of this plant.

8. A. S. Watson Company

The A. S. Watson Company on Stanley Street, North Point, Hongkong, was the largest manufacturer of chemicals and drugs in the Far East before the Japanese occupation of Hongkong.^{3/} The Company offices were located on the south side of Des Voeux Road, between Ice House Street and Pedder Street, directly east of the Daily Press Office. The plant location, at 22° 17' 20" North, 114° 11' 20" East, is the site of the chemical and drug factory as well as of the aerated water factory (Figure 85). The plant area consists of a group of closely spaced buildings with a boat basin and pier east of the factory.^{4/}

Prior to 1941, this company produced large quantities of drug specifics and medicines, including vaccines for plague, and camphor. The aerated water plant occupied most of the buildings, while the manufacturing equipment for medicines and drugs was located on the second floor of one of the buildings.^{5/} In 1925, the aerated water plant produced 10,000 dozen bottles of aerated waters. There is no information available on the capacity of the chemical and drug unit, though its operations are probably limited by lack of materials.

-
1. EFIS 221, Appendix, 4 June 1942.
 2. Report to OSS from AF P.I. Division, Washington, D.C., 10 Aug. 1944.
 3. Industrial Objectives in Occupied China, Hongkong; 8 Feb. 1943. Department of Commerce.
 4. Third Phase P.I. Report #59, Hongkong-Kowloon, 7 June 1944.
 5. Insurance Schedule and Diagram.

G. Chung Hwa Book Company

This printing company, under the control of the Japanese, and now called the "Diet Printing Bureau" is being used to print Japanese military yen and Central Reserve Bank puppet currency. It also prints rice ration coupons, cigarette papers, and propaganda. 1/ using materials brought from Shanghai. It is operating day and night with 258 employees, both male and female, on the day shift and 150 workers at night. 2/ The pay rate is MY 1.50 per day plus 10 ounces of rice. 3/

The plant is located in Ma Tan Kok at Grid 2223 5850 (GSGS 3868) opposite the Hongkong Rubber Factory. 4/ At this point are seven buildings in an area 370' x 370'. Two tall buildings, 220' x 70' and 235' x 70', possibly house the presses. There are five smaller buildings. 5/

-
1. JIARC #C-2342, 21 Jan. 1944, Economic Notes in Hongkong.
 2. 14 AF Daily Intelligence Extract, 15 June 1944.
 3. Kweilin Intelligence Summary #51, 2 June 1944.
 4. Photo cover of March 1944 does not definitely confirm this location but this location seemed most likely in the area.
 5. Report to OSS from AF P.I. Division, Washington, D. C., 10 Aug. 1944.
(52232)

H. Hongkong Match Company

The Hongkong Match Company is located at Grid 22565810 (GSGS 3868). There is no information available as to the capacity of plant, nor any diagram of the plant layout. It is reported that the plant is operating, but the output at present is sufficient only for local needs. There is a force of 60 workmen who are paid MY 2.20 per day with no rice allowance. 1/

-
1. Kweilin Intelligence Summary #51, 2 June 1944.

(52232)

SECRET

I. Garden Biscuit Company

This bakery is located in Shamshuipo, opposite the Precious Blood Hospital. It is reported to be making soda crackers for the Japanese army. 1/ These crackers are said to be the principal manufactured food shipped to the South Seas. The raw materials are obtained locally and the work is carried on under Japanese supervision. 2/

-
1. Report Board # 31212, 14 May to 31 July 1943.
 2. JICA/CBI May-July 1943.

(52232)

J. Tobacco Factories

1. Orient Tobacco Company

This factory was located on Coronation Road between Dundas Street and Soy Street 1/ in Mong Kok Tsui, Kowloon, at 22°19'3" North; 114°10'10" East. It consisted of two buildings, with a total of 31,000 square feet, 2/ for the manufacture of cigars. The plant was probably closed in the years before the Pacific war but may have been re-opened by the Japanese. 3/ In the early summer of 1943, it was reported to be used for melting down scrap iron from automobiles and other sources, which was then made into bars and shipped away. 4/

2. British American Tobacco Company, Ltd.

This company has two factories in the Hongkong area, one at West Point in Kennedy Town, 3/ the other on Gloucester Road and Percival Street, Bowrington, Hongkong. 5/ Both plants manufactured cigarettes. The pre-war capacity of the Kennedy Town plant, located at 22°17'13" North, 114°7'41" East, was 7,800,000 cigarettes per day. 3/

The three-story factory on Gloucester Road was built in 1935 of brick and reinforced concrete. The original installation was a building approximately 117'6" x 102'. The plant was being extended by the addition of another building of approximately the same size. It was reported that it resumed operations soon after the Japanese occupation. 5/

3. Nanyang Brothers Tobacco Company, Ltd.

Nanyang Brothers' factory is located in Bowrington, Hongkong, at 22°17'46" North, 114°10'46" East, 3/ on Inland Lot #1315, Sharp Street West and Bowrington Road. 6/ The building is of brick and cement, with a flat roof. Part of the building is three-stories, part four stories. 6/ In 1923, this factory was producing 5,000,000 cigarettes per day. The company imported 500 hogsheads of American tobacco and 11,000 pounds of Chinese tobacco per month. 3/ In 1940, the production of the plant was 3,600,000 cigarettes per day. 7/ There is no information regarding damage to the factory during the hostilities but it is reported that it resumed operations shortly after the Japanese occupation. 6/

1. Map of Kowloon Peninsula, Colony of Hongkong, 1925, Public Works, Crown Lands and Survey Office.

2. AAF Report # 301, Hongkong, 24 July 1943.

3. Industrial Objectives in Occupied China, Hongkong, 8 Feb. 1943. Department of Commerce.

4. JICA May-July 1943; Report Board #31212 May - July 1943.

5. Memo from RRB Attride, X-2, London.

6. Insurance Material.

7. Hongkong Consular Report, 7 June 1941.
(52232)

K. Chang Hwa Radio Company

The Chang Hwa Radio Company was the only large plant in the Hongkong-Kowloon area equipped for the assembly and manufacture of radio and telegraphic equipment. The company had offices in Queen's Road Central, Victoria City, and a factory near the Taikoo Dockyard, southwest of Quarry Point. This plant is probably located in a single, multi-storied building.1/

At the time of Japanese occupation of Hongkong in December 1941, the plant had facilities for assembly of radios and telegraphic equipment and for experimental development and research. It could produce up to 100 sets per month in sizes ranging from milliwatt sets up to 5 kilowatts. Most of those produced were portable units in sizes up to 1 kilowatt.2/

In September 1942, operations of the plant were greatly reduced in scale, probably due to shortage of materials. Of the radio supplies in the plant at the time of Japanese occupation, 44 cases were smuggled out of Hongkong and 33 of these reached Kweilin, Kwangsi. These 44 cases represented approximately 2 percent of the supplies of this plant.3/

1. Report to OSS from AF P. I. Div., Washington, D. C., 10 Aug. 1944.

2. Interview with Dr. Conrad C. Hsu, former President of the Company, MID, 1943.

3. Industrial Objectives in Occupied China, 8 Feb. 1943; Bureau of Foreign and Domestic Trade, Department of Commerce.

L. Hume Pipe Company, Ltd., Tsun Chen Wan

Before the war this company made electric welded steel pipe, concrete pipe, tubing for public utilities, and spun concrete pipes. It was operating on quite a large scale at that time.^{1/} The factory was located at 22° 23' 0" North, 114° 7' 0" East, on Tsun Chen Wan Bay.

It has since been reported that most of the machinery from this factory (lathes, welding apparatus, etc.) was removed to a work shop at Cheung Sha Wan and Castle Peak Roads, opposite the She Sun Knitting Company,^{2/} where it is used in producing machine gun bullets, grenade discharges, trench mortars, and other ammunition.^{3/}

1. Industrial Objectives in Occupied China, Hongkong; 8 Feb. 1943. Department of Commerce.

2. This location is not verified. One comment says these roads do not meet.

3. 14th AF Daily Intelligence Extract, 20 May 1944.

M. Safety Industrial Company, Ngau Chi Wan.

This weaving mill located in the village of Ngau Chi Wan, northeast of Kai Tak Airdome, was not damaged during the hostilities but was badly looted after the occupation. Many looms were destroyed.^{1/} It produced web equipment for the Hongkong Government War Supply Board before the Japanese occupation, and is reported to be producing war supplies and web equipment for the Japanese since the occupation. The extent of restoration is not known and there is no indication of the capacity or output of their mill.

From evidence in aerial photographs, the factory is considered to be in operation.^{2/} Photo cover dated March 1944 shows six principal buildings. There are two flat-roofed buildings about 100' x 60' each, where the weaving would probably take place. Between these is a penthouse roofed building, probably used for thread storage. The two buildings, 160' x 25' with 50' wide end-blocks, would be suitable for preparation of materials. The sixth building, 220' x 60', is probably used for offices, final storage, and shipping. A passageway is visible for transport to the last building, and trucks can be seen in the yards.

Most of the industry in Hongkong is carried on in small shops scattered through the residential districts. In the occupation of Hongkong, and the looting which followed, most of these small shops were left intact. Many of the large plants in Hongkong were taken over by the Japanese and operated by the government or given to Japanese management. All factories are under military registration, if not actual military control.^{3/} The factories and industries which remain in Chinese hands have experienced great difficulty in securing supplies of raw materials,^{4/} and thus are forced to operate on a reduced scale. A Tokyo broadcast in June 1943 ^{5/} said that the Hongkong cotton and silk-spinning industry had been particularly busy manufacturing goods for export to various parts of the Greater East Asia Co-Prosperity Sphere in return for raw materials. By July 1943, approximately 800 factories were said to have resumed operation.^{6/}

1. Industrial Objectives in Occupied China, Hongkong; 8 Feb. 1943. Department of Commerce.

2. Report to OSS from AF P. I. Division, 10 Aug. 1944.

3. Interview with Chinese, Hongkong, May 1943.

4. FE, BMI Chinese Translation, Series #15, 13 July 1943.

5. FBIS - FCC Daily Radio Broadcast, 25 June 1943.

6. State Broadcast, 13 July 1943.

N. Buildings in Hongkong and Kowloon Used by the Japanese

The Japanese military and civil authorities have taken over many of the buildings in this area for use as headquarters and residences. Most of the hotels are used primarily by Japanese nationals and many of the large houses and apartment buildings on the Peak are occupied by Japanese. Several of the more prominent buildings are discussed below (Figure 90).

1. Supreme Court Building

The Supreme Court Building, located on the southeast corner of Monument Square, is used as headquarters by the Japanese gendarmerie (Figure 86). This building was bombed in the air raid of 29 July 1943 but there is no indication of the extent of damage. 1/

2. King's Building

The headquarters of the Chief of Water Police is in the N.Y.K. Building, 1/ which is probably King's Building, since the offices of Nippon Yusen Kaisha were located in this building before the Japanese occupation.

3. Hongkong-Shanghai Bank Building

This building between Queen's Road Central and Des Voeux Road Central near Monument Square (Figure 87), is the Political Headquarters of the Japanese Hongkong Government, 2/ while the basement is said to be used for gasoline storage. 3/ The building is of reinforced concrete with a reinforced concrete roof. It was bombed in the air raid of 29 July 1943 but the extent of damage is not known. 1/

4. Hongkong Club

This building between Connaught Road and Chater Road, (Figure 88) on the east side of Monument Square was being used as headquarters by the Japanese Navy as of 1 September 1943. 2/ No later information is available.

5. China Building

The admiral in command of the Japanese Southwest Pacific Fleet has offices in this building opposite King's Theater on Queen's Road Central. 1/

6. Peninsula Hotel

This building, in Tsim Sha Tsui Kowloon (Figure 89) is used as a residence for high Japanese officials. The Yokohama Specie Bank has opened a branch in this building.

-
1. JICA/CBI, May to July 1943.
 2. NA Report, 24 Nov. 1943 (C-3).
 3. KWIZ/06, 21 July 1943.