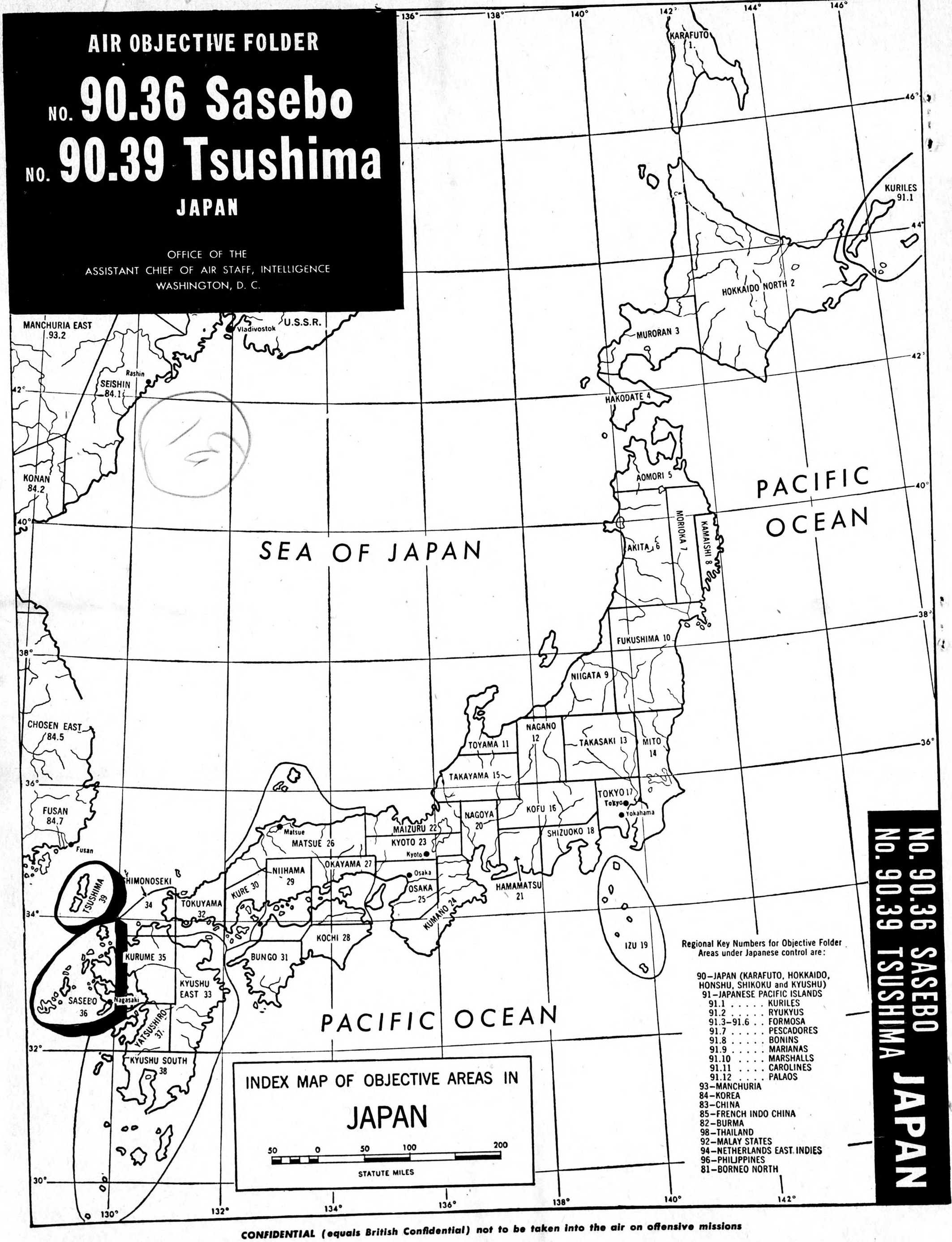
Issued July 18, 1944

AIR OBJECTIVE FOLDER

NO. 90.36 Sasebo
NO. 90.39 Tsushima

JAPAN

OFFICE OF THE
ASSISTANT CHIEF OF AIR STAFF, INTELLIGENCE
WASHINGTON, D. C.



NO. 90.36 SASEBO
NO. 90.39 TSUSHIMA JAPAN

CONFIDENTIAL (equals British Confidential) not to be taken into the air on offensive missions

Issued July 18, 1944

AIR OBJECTIVE FOLDER, JAPAN

SASEBO AREA, No. 90.36 TSUSHIMA AREA, No. 90.39

TABLE OF CONTENTS

PAGE

INDEX:

Alphabetical Index of Targets ____ 2
Numerical Index of Targets ____ 2
Classified Index of Targets ____ 3

TEXT-PHOTO SECTION:

Summary and Evaluation of Sasebo Area ____ 4
Summary and Evaluation of Tsushima Area ____ 6

Nagasaki Region

Index of Targets in Nagasaki Region ____ 7
Summary and Evaluation of Nagasaki Region ____ 7
Target Descriptions and PHOTOS, Nagasaki Region ____ 8

Omura Region

Index of Targets in Omura Region ____ 15
Summary and Evaluation of Omura Region ____ 15
Target Descriptions and PHOTOS, Omura Region ____ 16

Sasebo Region

Index of Targets in Sasebo Region ____ 17
Summary and Evaluation of Sasebo Region ____ 17
Target Descriptions and PHOTOS, Sasebo Region ____ 18

Outlying Targets

Index of Outlying Targets ____ 19
Summary and Evaluation of Outlying Targets ____ 19
Target Descriptions and PHOTOS, Outlying Targets ____ 20

Target Chart Information, Sasebo-Tsushima Areas ____ 24
Weather Information, Sasebo-Tsushima Areas ____ 25
Tabulation of Airports, Sasebo Area ____ 28
Map Information, Sasebo-Tsushima Areas ____ 29

MAP SECTION:

M — refers to pages in the map section

Index Map of Objective Areas in Japan ____ COVER
Area Map of Sasebo, No. 90.36, Locating ALL Targets ____ FOLD-UP
Japan, Generalized Topography ____ M-1
Kyushu Electric Power Networks ____ M-1
Area Map of Tsushima, No. 90.39 ____ M-2
Relief Map of Tsushima, No. 90.39 ____ M-2
Sasebo Area, No. 90.36, Locating ALL Targets and Airports ____ M-3
Nagasaki and Vicinity ____ M-4
Nagasaki and Vicinity, Incendiary Zone Map ____ M-4
Nagasaki and Vicinity, Mosaic A ____ M-5
Nagasaki Harbor ____ M-6
Nagasaki and Vicinity (Tokitsu-Urakami), Mosaic B ____ M-7
Omura and Vicinity ____ M-8
Omura and Vicinity, Mosaic C ____ M-9
Sasebo and Vicinity ____ M-10
Sasebo and Vicinity, Incendiary Zone Map ____ M-11
Sasebo and Vicinity, Mosaic E ____ M-12
Sasebo and Vicinity (harbor), Mosaic D ____ M-13
Sasebo Naval Dockyard Area, Ground Plan ____ M-14
Railway Installations, Japan (Honshu and Kyushu) ____ M-15
Relief Map of Southern Japan ____ POCKET

3145 ~~3638~~ -Sasebo-Tsushima—1—6-30-44—First Proof

OFFICE OF THE
ASSISTANT CHIEF OF AIR STAFF, INTELLIGENCE
WASHINGTON, D. C.

PREPARED WITH THE ASSISTANCE OF
MILITARY INTELLIGENCE DIVISION, NEW YORK
AND TIME INC.

CONFIDENTIAL equals British Confidential

NOT TO BE TAKEN INTO THE AIR
ON OFFENSIVE MISSIONS

Alphabetical Index of Targets in Sasebo Area, No. 90.36

Target Name	Target Number	Text Page
Ainoura Steam Power Station	90.36—1603	18
Akunoura Engine Works	90.36— 542	11
Haiki RR Terminal	90.36— 839	23
Ha Shima Colliery	90.36— 843	22
Hayashi Commercial Co. Engine Works	90.36— 828	12
Isahaya RR Junctions	90.36— 838	21
Karatsu Iron Works	90.36— 833	21
Kawanami Industry Co. Shipyard	90.36— 860	13
Kozaki Point Oil Storages	90.36— 545	12
Kyushu Coal and SS Co. Colliery	90.36—1843	23
Megami Point Oil Storages	90.36— 832	13
Mitsubishi Dockyard	90.36— 543	11
Mitsubishi Electric Mfg. Co.	90.36— 829	9
Mitsubishi Steel & Arms Works	90.36— 546	13
Mitsubishi Steel Rolling Mill	90.36—1795	13
Nagasaki & Dejima Wharves & RR Yards	90.36—1842	13
Naval Arsenal & Engineering Department	90.36— 758	18
Omura Aircraft Factory	90.36—1627	16
Omura Naval Air Station	90.36— 849	16
Sesabo Aircraft Factory	90.36— 834	18
Sasebo Fuel & Munitions Depot	90.36— 762	18
Sasebo Mine & Torpedo Storage	90.36— 757	18
Sasebo Naval Air Station	90.36— 754	18
Sasebo Naval Dockyard	90.36— 752	18
Sasebo Oil Storages	90.36— 755	18
Sasebo Provision Wharf	90.36— 845	18
Taka Shima Colliery	90.36— 842	22
Tategami Shipyard	90.36— 544	10
Yokose Oil Storage	90.36—1835	18

Numerical Index of Targets in Sasebo Area, No. 90.36

Target Number	Target Name	Text Page
542	Akunoura Engine Works	11
543	Mitsubishi Dockyard	11
544	Tategami Shipyard	10
545	Kozaki Point Oil Storages	12
546	Mitsubishi Steel & Arms Works	13
752	Sasebo Naval Dockyard	18
754	Sasebo Naval Air Station	18
755	Sasebo Oil Storages	18
757	Sasebo Mine & Torpedo Storage	18
758	Naval Arsenal & Engineering Department	18
762	Sasebo Fuel & Munitions Depot	18
828	Hayashi Commercial Co. Engine Works	12
829	Mitsubishi Electric Mfg. Co.	9
832	Megami Point Oil Storages	13
833	Karatsu Iron Works	21
834	Sasebo Aircraft Factory	18
838	Isahaya RR Junction	21
839	Haiki RR Terminal	23
842	Taka Shima Colliery	22
843	Ha Shima Colliery	22
845	Sasebo Provision Wharf	18
849	Omura Naval Air Station	16
860	Kawanami Industry Co. Shipyard	13
1603	Ainoura Steam Power Station	18
1627	Omura Aircraft Factory	16
1795	Mitsubishi Steel Rolling Mill	13
1835	Yokose Oil Storage	18
1842	Nagasaki & Dejima Wharves & RR Yards	13
1843	Kyushu Coal & SS Co. Colliery	23

3648—Sasebo Tsushima—2—6-30-44—First Proof

Classified Index of Targets in Sasebo Area, No. 90.36

CLASSIFICATION AND NAME	TARGET NUMBER	LOCATION (GENERAL)	APPROXIMATE COORDINATES	TEXT ON PAGE	MAP ON PAGE	PHOTO ON PAGE
AIRCRAFT						
Sasebo Aircraft Factory	834	Sasebo	33° 09′N 129° 45′E	18	M-10,11,13	
Omura Aircraft Factory	1627	Omura	32° 55′N 129° 56′E	16	M-8, 9	16
AIRPORTS						
Sasebo Naval Air Station	754	Sasebo	33° 08′N 129° 43′E	18	M-10,11,13	
Omura Naval Air Station	849	Omura	32° 56′N 129° 56′E	16	M-8, 9	16
ARMS & MUNITIONS						
Mitsubishi Steel & Arms Works	546	Nagasaki	32° 45′N 129° 52′E	13	M-4, 5	
Sasebo Mine & Torpedo Storage	757	Sasebo	33° 09′N 129° 43′E	18	M-10,11,13	
Naval Arsenal & Engineering Department	758	Sasebo	33° 10′N 129° 42′E	18	M-10,11, 13,14	
Sasebo Fuel & Munitions Depot	762	Sasebo	33° 09′N 129° 43′E	18	M-10,11,13	
COAL						
Taka Shima Colliery	842	Taka Shima Is.	32° 39′N 129° 46′E	22		22
Ha Shima Colliery	843	Ha Shima Is.	32° 37′N 129° 45′E	22		22
Kyushu Coal & SS Co. Colliery	1843	Sakito Shima Is.	33° 00′N 129° 33′E	23		
ELECTRICAL EQUIPMENT						
Mitsubishi Electric Mfg. Co.	829	Nagasaki	32° 45′N 129° 52′E	9	M-5, 6	9, 11
ELECTRIC POWER						
Ainoura Steam Power Station	1603	Ainoura	33° 12′N 129° 39′E	18	M-10	
HARBOR FACILITIES & WAREHOUSES						
Sasebo Provision Wharf	845	Sasebo	33° 10′N 129° 43′E	18	M-10, 11 13, 14	
Nagasaki & Dejima Wharves & RR Yards	1842	Nagasaki	32° 45′N 129° 52′E	13	M-5, 6	
IRON & STEEL						
Mitsubishi Steel Rolling Mill	1795	Nagasaki	32° 45′N 129° 52′E	13	M-4, 5	
MACHINES & MACHINE TOOLS						
Karatsu Iron Works	833	Karatsu	33° 28′N 129° 57′E	21		20
NAVAL BASES & SHIPYARDS						
Akunoura Engine Works	542	Nagasaki	32° 44′N 129° 52′E	11	M-5, 6	11, 12, 13
Mitsubishi Dockyard	543	Nagasaki	32° 44′N 129° 51′E	11	M-5, 6	10, 11, 12
Tategami Shipyard	544	Nagasaki	32° 44′N 129° 51′E	10	M-5, 6	9, 10, 11, 12
Sasebo Naval Dockyard	752	Sasebo	33° 10′N 129° 42′E	18	M-10,11, 13,14	
Hayashi Commercial Co. Engine Works	828	Nagasaki	32° 45′N 129° 52′E	12	M-5, 6	11
Kawanami Industry Co. Shipyard	860	Koyagi Shima Is.	32° 42′N 129° 49′E	13	M-6	
PETROLEUM						
Kozaki Point Oil Storages	545	Nagasaki	32° 43′N 129° 51′E	12	M-6	8
Sasebo Oil Storages	755	Sasebo	33° 07′N 129° 42′E	18	M-10, 11, 13	
Megami Point Oil Storages	832	Nagasaki	32° 43′N 129° 51′E	13	M-6	9, 13
Yokose Oil Storage	1835	Yokose	33° 05′N 129° 42′E	18	M-13	
TRANSPORTATION						
Isahaya RR Junctions	838	Isahaya	32° 51′N 130° 03′E	21		
Haiki RR Terminal	839	Haiki	33° 08′N 129° 48′E	23	M-12	

3648 3828 Sasebo Town Shima 3-7 6-30-44 First Proof

Summary and Evaluation of Sasebo Area, No. 90.36

GENERAL: The Sasebo Area centers around the naval bases at Sasebo and Nagasaki, from which the Japanese Navy deploys and services the fleet units operating in the western sea approaches to Japan Proper. To a large extent the area is a fortified zone, with industry concentrated around, and related to, the shipbuilding, ship repair and general naval activity at Nagasaki and Sasebo. Reconnaissance has shown important new aircraft development at Omura, just northeast of Nagasaki.

Located at the head of the island chain extending down through Formosa, the Ports of Sasebo and Nagasaki have become mutually supporting supply and maintenance bases. The strategic significance of the area as a base for convoy escort and for repair of damaged vessels has been increased by the attacks on Japanese shipping and its progressive contraction into the less exposed route hugging the Philippines and Formosa.

Sasebo is one of Japan's three primary naval bases and a principal naval repair yard. The maintenance and servicing of naval units, particularly lighter escort types, outweighs Sasebo's building capacity. As headquarters of the Third Naval District which includes Kyushu and the island chain to Formosa, Sasebo is responsible for defense and convoy escort at the entrance to the Japan Sea, in the Yellow Sea and the East China Sea. It is also a major supply base, estimated to have one of Japan's largest oil storages and large storages of coal, provisions and munitions. The Sasebo Naval Arsenal is a secondary production unit for naval ordnance (large guns, shells and instruments). The Sasebo Aircraft Factory and the Naval Air Station produce small naval reconnaissance planes and are important for the repair and maintenance of fleet aircraft.

Nagasaki also ranks as a leading shipbuilding and repair center for both naval and merchant vessels. The city's Mitsubishi and Kawanami yards are estimated to account for roughly 15% of the building and repair capacity of Japan's commercial yards. Nagasaki Harbor has been a major supply and embarkation port for the China theater. The port's ample berthing and storage facilities, originally developed to handle a large volume of overseas trade, are now almost exclusively devoted to military shipping. The production of naval torpedoes and other ordnance is also of considerable importance.

At Omura, 15 miles northeast of Nagasaki, reconnaissance has located a new aircraft/engine plant, already large by any standard and still undergoing expansion. It may well be one of the largest plants in the Japanese industry. The only other major center in the Area is Karatsu, site of the Karatsu Iron Works, one of Japan's outstanding precision machine tool plants.

Of the 29 objectives listed in this folder, the following rank among the key targets in the Japanese war economy:

KEY OBJECTIVES IN SASEBO

Target Number	Name	Location	Folder Reference
542	Akunoura Engine Works	Nagasaki	11
829	Mitsubishi Electric Mfg. Co.	Nagasaki	9
544	Tategami Shipyard	Nagasaki	10
546	Mitsubishi Steel & Arms Works	Nagasaki	13
752	Sasebo Naval Dockyard	Sasebo	18
758	Naval Arsenal & Engineering Department	Sasebo	18
833	Karatsu Iron Works	Karatsu	21
1627	Omura Aircraft Factory	Omura	16

There are a number of other important objectives, such as the Sasebo Aircraft Factory **TARGET 834,** Sasebo Oil Storages **TARGET 755,** Kawanami Industry Co. Shipyard **TARGET 860** and Ainoura Steam Power Plant **TARGET 1603.** The remaining targets are listed as alternate or secondary objectives and as an aid to the interpretation of reconnaissance photography.

PRINCIPAL TARGET CATEGORIES

AIRCRAFT: Photographic reconnaissance of Oct. 1943 established a new aircraft factory at Omura **TARGET 1627** as a major plant, apparently producing Zeke and Rufe fighters. Still under construction, the plant comprised a completed unit (with six engine-test stands, shops and assembly buildings) and two additional incomplete units (with 15 probable engine test blocks and a number of large assembly-type buildings). The total floor space of factory-type buildings alone (including those under construction) is about 2,337,000 square feet, indicating that this is a major plant which may rank among the largest in Japan. Although confirming evidence is lacking, integrated engine production and aircraft assembly is probable.

About 23 hangars and shops located to the north of the plant are designated as part of the Omura Naval Air Station **TARGET 849.** This appears to be a third and fourth echelon repair depot for naval planes, and is probably integrated with the aircraft factory.

The Sasebo Aircraft Factory **TARGET 834** is known to have produced the Pete, Type O reconnaissance float plane. The plant's moderate size and its concentration on single-engine reconnaissance types indicate that it probably does not rank among the key Japanese aircraft factories. It produces most sub-assemblies. Engines are reported manufactured in the nearby Sasebo Naval Arsenal & Engineering Department, **TARGET 758.** The plant also does major repair and overhaul to naval aircraft in conjunction with the Sasebo Naval Air Station **TARGET 754.**

Reports of the manufacture of aircraft engines or engine-mounted accessories at Nagasaki can not be confirmed by available information. Three new unidentified factories are located in the northern outskirts of the city and it is possible that they may be engaged in aircraft production (See SUMMARY AND EVALUATION OF NAGASAKI REGION, Page 7).

ARMS &MUNITIONS: On the basis of available intelligence the area's production of ordnance appears to be substantial but not of major importance. The Sasebo Naval Arsenal & Engineering Department **TARGET 758** primarily manufactures and repairs ships engines and its production of gun turrets and mountings, naval shells, etc. appears to be on a rather small scale. The arsenal finishes guns but does not manufacture tubes. Sasebo's mine and torpedo storages **TARGETS 757 and 762** are very extensive but they are well dispersed and most are either revetted or underground.

The Mitsubishi Steel & Arms Works **TARGET 546** at Nagasaki is only partly devoted to the production of torpedoes and other naval ordnance. The plant also produces substantial quantities of steel, rolls ship plate and does heavy castings and forgings for the city's shipyards.

3628—Sasebo-Tsushima—4—6-30-44—First Proof

SUMMARY AND EVALUATION OF SASEBO AREA, No. 90.36—Continued

ELECTRIC POWER: In addition to small standby plants in Sasebo City and Nagasaki, there is one large generating station in the Sasebo Area, the Ainoura Steam Power Plant **TARGET 1603** of 50,000 KW. This plant primarily serves the Sasebo Naval Base area but is an integral part of the West Kyushu power network. For critical interference with essential activity in the Sasebo and Nagasaki districts, operations against this plant would have to be coordinated with attacks upon other large steam plants in the system.

Kyushu is divided into two distinct power supply regions, with systems in the northern and eastern areas operating at 50 cycles and the West Kyushu network operating at 60 cycles. (See Map on page M-1, Electric Power — Kyushu Networks). A few double-cycle hydro stations in central and southeast Kyushu are equipped to supply either network, but the 50-cycle area is believed to require the bulk of this power. Output of Kyushu hydro plants drops by more than 50% during the dry seasons (November-March and August) and a few large steam plants are of critical importance, especially during those periods.

In the West Kyushu network, 75% of dry season capacity and 65% of wet season capacity is represented by the Ainoura Steam Power Plant **TARGET 1603** and four other large steam plants in the Kurume Area (90.35), three with a total capacity of 300,000 KW at Omuta and one of 60,000 KW near Fukuoka. The critical power shortage which would result from elimination of these five plants could not be made up even by complete diversion of the double-cycle capacity to this network.

ELECTRICAL EQUIPMENT: The Mitsubishi Electric Mfg. Co. **TARGET 829** is a branch of Mitsubishi Denki KK, one of Japan's outstanding electrical equipment concerns. This plant is an important producer of marine electrical equipment, including the very largest turbo-generators, and is credited with about 12% of Japan's total capacity. It has also been a substantial producer of large mill motors, electric winches, mining machinery, etc. It is integrated with the nearby and important Akunoura Engine Works **TARGET 542.**

The Sasebo Naval Arsenal & Engineering Department **TARGET 758** also builds and repairs large turbines and produces other electrical equipment.

HARBOR FACILITIES AND SHIP CONCENTRATIONS: Sasebo and Nagasaki are focal points for sizeable concentrations of military shipping. In addition, a number of ships awaiting complete outfitting or repairs may be expected at each port. In view of Japan's stringent shipping position these ship concentrations constitute important objectives. The Sasebo Provision Wharf **TARGET 845** and the Nagasaki & Dejima Wharves & RR Yards **TARGET 1842** are congested with storehouses and open air supply depots. These wharves are comparatively small and there is very little room for dispersion of the large stocks of military supplies which accumulate there.

Imari Harbor is reported as a secondary naval station and may serve as an auxiliary naval anchorage. A new commercial harbor is reported at Ainoura, near Sasebo, and there are several coaling stations along the coast to the west.

MACHINES & MACHINE TOOLS: The Karatsu Iron Works **TARGET 833,** an integrated alloy steel and machine tool plant, is estimated to rank sixth in volume of output among Japanese machine tool factories. It is a model, government-subsidized plant, said to produce Japan's highest quality lathes, drilling, milling and boring machines, gear cutters, etc.

NAVAL BASES & SHIPYARDS: The marine engine works, shipyards and dockyards at Sasebo and Nagasaki constitute objectives of major importance. In the aggregate they account for a very substantial part of Japan's shipbuilding and repair capacity, and their strategic location has made them valuable bases for servicing the naval and merchant shipping employed in Japan's principal convoy routes.

The Sasebo Naval Dockyard **TARGET 752** is reported to have at least three building ways, in addition to two large docks which can be used as building docks. It has launched submarines, destroyers and cruisers. This yard is estimated to account for roughly 12% of the known building capacity of Japan's navy yards. The repair facilities, comprising about six docks and a repair basin which can accommodate 10-12 ships alongside, are much more important. Shops, foundries, etc. are located in the dockyard, but major engine building and repair is done at the Naval Arsenal & Engineering Department **TARGET 758.** It is estimated that this yard accounts for almost 30% of the total repair capacity of navy yards.

The shipbuilding and repair facilities at Nagasaki may be considered equivalent to those in the leading navy yards, since the city's yards build and repair large naval vessels as well as all types of merchantmen. Particularly outstanding are Mitsubishi's Tategami Shipyard **TARGET 544,** Mitsubishi's Dockyard **TARGET 543** and Akunoura Engine Works **TARGET 542.** The Tategami Shipyard, reported to have accounted for 10-12% of Japan's total naval and merchant launchings in the peak pre-war years of 1936-38, comprises six ways, machinery and assembly shops, etc. It has launched several battleships and is reported to employ about 13,000. The dockyard has three large docks and a number of repair shops. The docks are cut into the side of a hill and are widely spaced.

The Akunoura Engine Works **TARGET 542** credited with about 10% of marine engine production during 1936-38, is one of Japan's leading marine engine plants. Together with the nearby Mitsubishi Electric Mfg. Co. **TARGET 829** it has outfitted all types of naval and merchant vessels and is believed to be especially important now for repairs.

The Kawanami Industry Co. Shipyard **TARGET 860** on Koyagi Island to the south of Nagasaki Harbor is a newer shipyard which specializes in standardized

3142 3028—Sasebo-Tsushima—5—6-30-44—First Proof

SUMMARY AND EVALUATION OF SASEBO AREA, No. 90.36—Concluded

cargo vessels of 3000-5000 tons. Although this yard accounted for only about 5% of all naval and merchant launchings in 1938, it may now rival the Tategami Yard as a result of recent expansion and concentration on the type of merchant vessel which is currently most useful to Japan. The yard's repair facilities are also significant, comprising about three drydocks. The yard is reported to manufacture its own boilers and engines but it is believed that much of these are supplied by the Hayashi Commercial Co. Engine Works **TARGET 828,** an affiliated company.

It is believed that marine engine works constitute the most effective shipyard targets because of their substantial size and their concentration of complex tools and machinery. Moreover, the production of marine engines is believed to be a retarding factor in Japan's shipbuilding industry.

PETROLEUM: The Sasebo Naval Base oil storages **TARGETS 755, 762, and 1835** are estimated to rank among the largest in Japan. These storages are well dispersed around Sasebo Bay and several are underground. Additional storages may be located near the bay and on O Shima Island to the SW of the Bay's entrance.

The much smaller storages at the entrance to Nagasaki Harbor **TARGETS 545 and 832** are also well dispersed.

TRANSPORTATION: The Area is served by a single trunk line, which branches from the main Kyushu rail network at Tosu, in the Kurume Area (90.35) and leads to Nagasaki. Two spur lines, joining at Haiki, connect Sasebo with the trunk line. Successful attacks against the terminals and junctions at Isahaya **TARGET 838** and Haiki **TARGET 839** would temporarily deprive both Nagasaki and Sasebo of all railroad facilities. However, these are comparatively small terminals and are of secondary importance as compared with the extensive Tosu Terminal in the Kurume Area.

AIRPORTS: With the exception of Omura **TARGET 849** and Sasebo **TARGET 754** the airports in this Area are not listed as targets. Airports are subject to rapid shifts in significance and available information concerning them is fragmentary and largely of pre-war origin. All known airports are tabulated on page 28 and located on map on page M-3.

Summary and Evaluation of Tsushima Area, No. 90.39

DESCRIPTION: Tsushima comprises two islands, midway between Shimonoseki Strait and Korea. Mountainous and rocky, Tsushima is little developed, the principal economic activities being fishing and subsistence farming. Small zinc, lead and coal mines have been worked intermittently, but are believed to be unimportant. The island extends about 40 miles N/S by 9 miles at its widest point. The highest reported elevation is 2172 ft. The total permanent population is less than 60,000. Information concerning cultural features and other installations is very fragmentary and available maps (published 1921) are poor.

GENERAL: Except for its strategic location at the entrance to the Japan Sea and its potential value as a defensive base, Tsushima is of little importance. On the basis of available information none of the known installations are considered to warrant listing as numbered targets. There are no industries and the island's former naval station is reported abandoned. Numerous coastal gun positions are reported, and it is likely that other military installations have been developed in recent years. The following summary of known installations is based on fragmentary information, much of it originating before 1930.

FORTIFICATIONS: The island has been a fortified zone under the command of the Sasebo Naval District. Several coastal gun and searchlight positions are reported, most of them in the southern half of the island. Mine-control station are also reported. No information is available concerning anti-aircraft defenses, but it is likely that radio detectors and AA have been installed.

HARBOR FACILITIES: There are no developed harbors. Izuhara, the capital, has a junk and small boat harbor which has been used to export small quantities of coal, zinc, lead and fish and to import salt and fertilizers. Takeshiki, site of a reportedly abandoned naval station, has a small harbor which is used for military supplies. Osaki Harbor is equipped with a small quay and storehouse. A new harbor is reported at Hidakatsu.

CABLES AND RADIO: Several cables linking Japan and Korea are landed at Utsunosaki, Komoda, Sotogahama, Izuhara and Kechi. Wireless stations are reported at Takeshiki and the southern tip of the island; a radio station was projected at Izuhara.

AIRPORTS: A landing field and seaplane station are reported near Sasuna at the northern end of the island. Another landing field is reported at Shishima. A seaplane base is reported at Tsushima Sound, about five miles W/NW of Takeshiki.

Other installations, roads, etc., are indicated on map on page M-2.

3648 ~~3638~~—Sasebo-Tsushima—6— 6-30-44—First Proof

CONFIDENTIAL equals British Confidential

Air Objective Folder
NAGASAKI REGION
SASEBO AREA, No. 90.36

INDEX OF TARGETS BY NUMBER, CLASSIFICATION AND NAME

TARGET NO.	NAME	PAGE
	ARMS & MUNITIONS	
546	Mitsubishi Steel and Arms Works	13
	ELECTRICAL EQUIPMENT	
829	Mitsubishi Electric Mfg. Co.	9
	HARBOR FACILITIES & WAREHOUSES	
1842	Nagasaki & Dejima Wharves & RR Yards	13
	IRON & STEEL	
1795	Mitsubishi Steel Rolling Mill	13
	NAVAL BASES & SHIPYARDS	
542	Akunoura Engine Works	11
543	Mitsubishi Dockyard	11
544	Tategami Shipyard	10
828	Hayashi Commercial Co. Engine Works	12
860	Kawanami Industry Co. Shipyard	13
	PETROLEUM	
545	Kozaki Point Oil Storages	12
832	Megami Point Oil Storages	13

Summary and Evaluation of Nagasaki Region

One of Japan's leading shipbuilding and repair centers, Nagasaki is also important for its production of naval ordnance and its function as a major military port. The single available photo coverage (October 1943), which is largely obscured by cloud, confirms most reported target locations and establishes the existence of several unidentified plants.

Outstanding among the city's objectives is the concentration of Mitsubishi Heavy Industries' shipbuilding and repair facilities, comprising a shipyard **TARGET 544,** dockyard **TARGET 543,** marine engine works **TARGET 542** and electrical equipment works **TARGET 829.** These are located on the western side of the harbor, within an area measuring about 6500 feet NNE/SSW by 2000 ft.

The Mitsubishi Steel & Arms Works **TARGET 546** and its new rolling mill **TARGET 1795,** located along the Urakami River in Northern Nagasaki, are integrated with the shipyards—producing ship plate, castings, forgings, etc., as well as naval ordnance (principally torpedoes). A wood-working plant with extensive timber and lumber storages is located just south of the rolling mill. It supplies lumber and wooden fittings to the shipyards.

The Kawanami Industry Co. Shipyard **TARGET 860,** located on Koyagi Island to the south of the harbor entrance, is believed to be an important producer of medium-size cargo vessels. While the production of Marine engines and boilers is reported at this yard, it is believed that much of these are supplied by the Hayashi Commercial Co. Engine Works **TARGET 828,** which is located at the head of Nagasaki Harbor. Koyagi Island is also the site of several groups of small beehive coke ovens. Other small ovens and a minor ship repair yard are located on the mainland, just east of Koyagi Island.

The eastern side of Nagasaki Harbor contains all the important loading and storage facilities. Its southwestern location has made this a primary embarkation and supply port for operations on the mainland, and the docks and freight yards **TARGET 1842** are believed to be congested with military supplies. Numerous reports refer to large-scale expansion of dock and storage facilities, and the entire waterfront is said to be lined with storehouses. The shore to the south of the dock area is lined with small shipyards, equipped with shops, foundries, slipways and a patent slip. These yards build small wooden cargo vessels, fishing boats, lifeboats, etc.

Several groups of fuel tanks are located at Kozaki and Megami Points (See **TARGETS 545 and 832**), at the harbor entrance. While important in the aggregate, these storages are small individually and are widely dispersed. Other small storages are reported scattered on several of the small islets near the harbor entrance and at the head of the harbor.

Three unidentified factories are located along the railway to the north of the Mitsubishi Steel and Arms Works **TARGET 546.** Of these, the northernmost appears especially significant, comprising some 8/10 shop-type buildings (the largest measuring about 900 by 400 ft.), a power plant and several storage buildings. The total area occupied by buildings measures about 2000 by 1500 ft. The plant's general layout and appearance suggests either a very large textile mill or a major assembly plant. In view of Japan's excess textile capacity and the fact that this plant was built after 1940, it is probably not a textile mill. Unconfirmed reports mention new munitions plants in this area. An aircraft engine factory in Nagasaki City has also been reported without confirmation and it is also possible that this plant may be an engine works, supplying the Omura Naval Aircraft Factory **TARGET 1627,** located some 15 miles to the NE. However, no engine test stands can be identified here, although at least six are visible at Omura.

SASEBO 90.36, TSUSHIMA 90.39 INDEX AND SUMMARY (NAGASAKI REGION)

3628—Sasebo-Tsushima—7—6-30-44—First Proof
3628—Sasebo-Tsushima—7—6-30-44—First Proof
3145

CONFIDENTIAL equals British Confidential

SASEBO 90.36, TSUSHIMA 90.39 INDEX AND SUMMARY (NAGASAKI REGION)

By ELC NARA, Date

CONFIDENTIAL equals British Confidential

INCENDIARY ATTACK DATA: Nagasaki occupies a very limited, amphitheater-like site, extending from reclaimed land along the waterfront to the lower slopes of the surrounding hills. Small strips of built-up districts extend along the valleys to the east and along both sides of the Urakami River to the north. Other built-up areas extend down the western side of the harbor to Akunoura. In Nagasaki proper, commercial and public buildings are concentrated along the eastern and central parts of the city. Densely-grouped houses crowd these buildings and extend in an almost solid mass to the hills. Four rivers and canals and a few wide streets constitute the only substantial firebreaks. It should be noted that all important industrial installations are located outside the city proper.

Map on page M-4 indicates two general zones for incendiary attack. Zone I, most vulnerable because of its high degree of building density, covers the city proper and includes the important military storage area along the waterfront. Zone II—somewhat less vulnerable—extends along both banks of the Urakami River and down the west shore of the harbor to Akunoura. This zone covers important industrial objectives, most of which are considerably exposed to fires set in surrounding storage and residential districts.

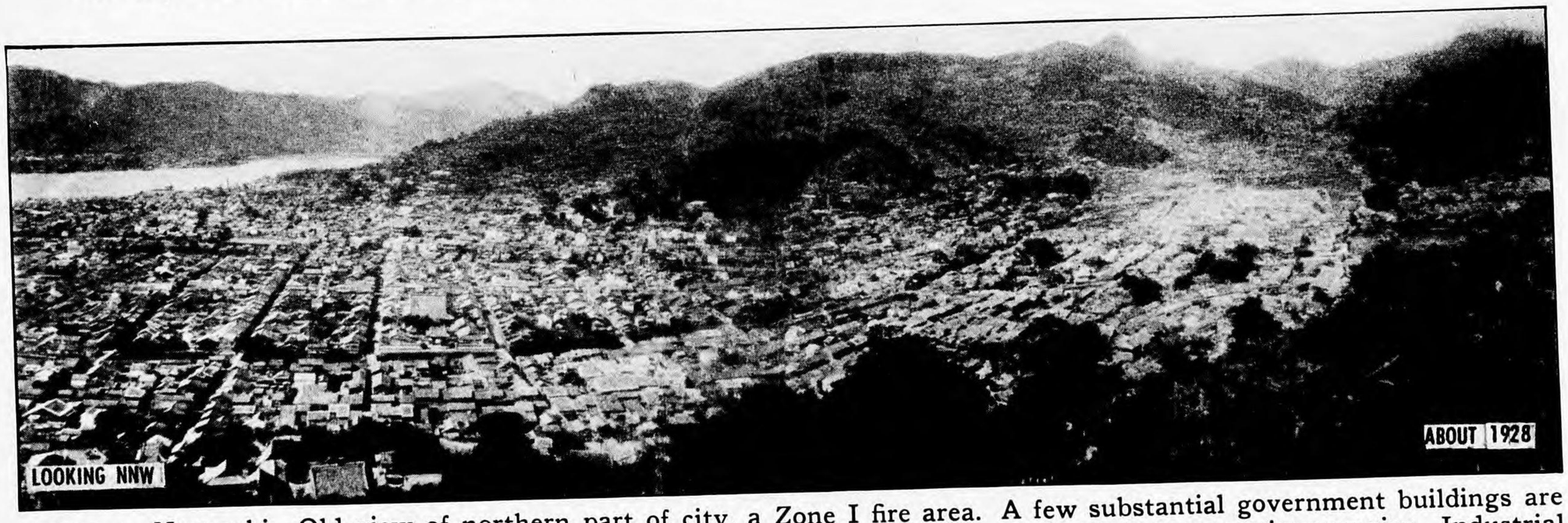


PHOTO 1—Nagasaki—Old view of northern part of city, a Zone I fire area. A few substantial government buildings are scattered throughout this section now, and warehouses extend along the waterfront, but congestion remains. Industrial suburb of Inase, a Zone II area, visible at upper left.

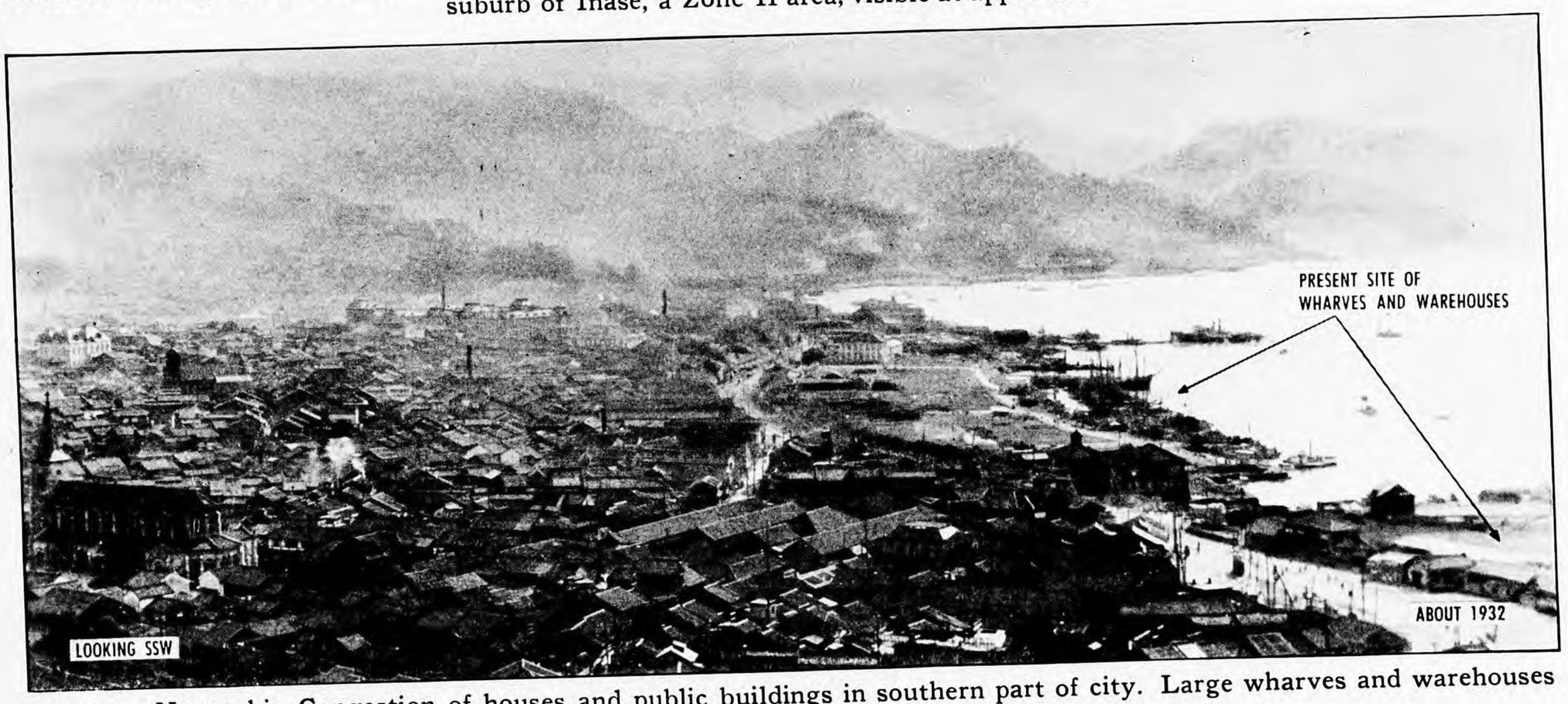


PHOTO 2—Nagasaki—Congestion of houses and public buildings in southern part of city. Large wharves and warehouses are now located along waterfront.

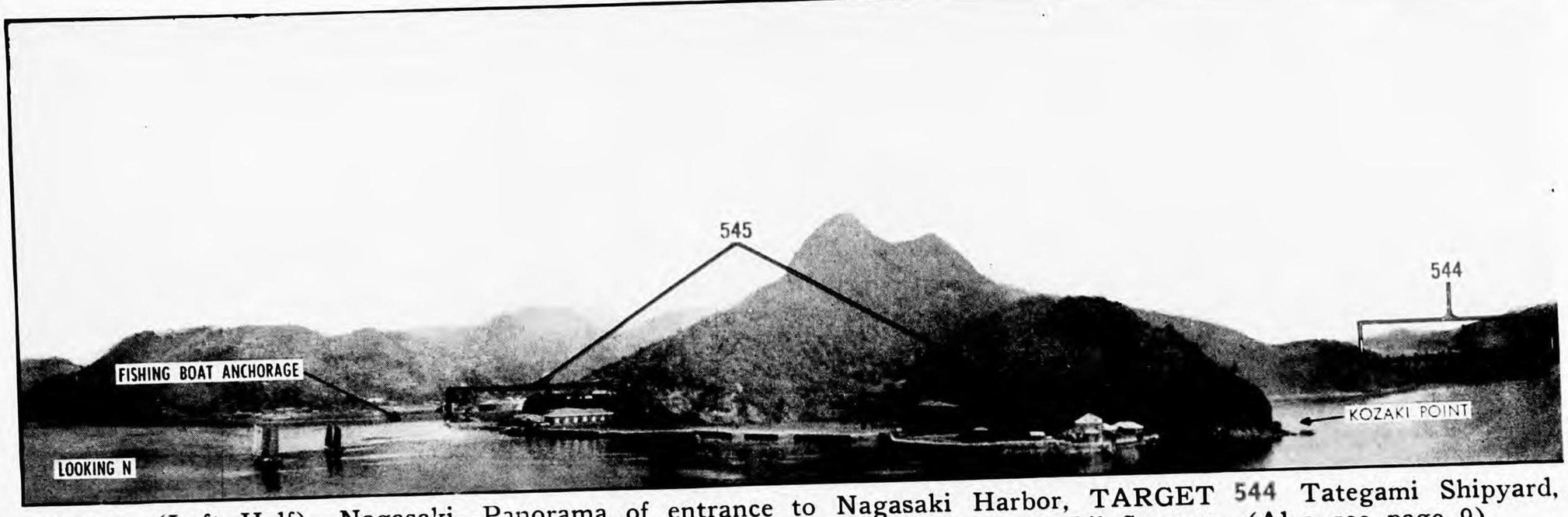


PHOTO 3—(Left Half)—Nagasaki—Panorama of entrance to Nagasaki Harbor, TARGET 544 Tategami Shipyard, TARGET 545 —Kozaki Point Oil Storages. TARGET 832—Megami Point Oil Storages (Also see page 9).

CONFIDENTIAL equals British Confidential

SASEBO 90.36, TSUSHIMA 90.39 INDEX AND SUMMARY (NAGASAKI REGION)

3648=Sasebo-Tsushima=8=6-30-44=First Proof

By EJR-mj NARA, Date 4-4-74

CONFIDENTIAL equals British Confidential

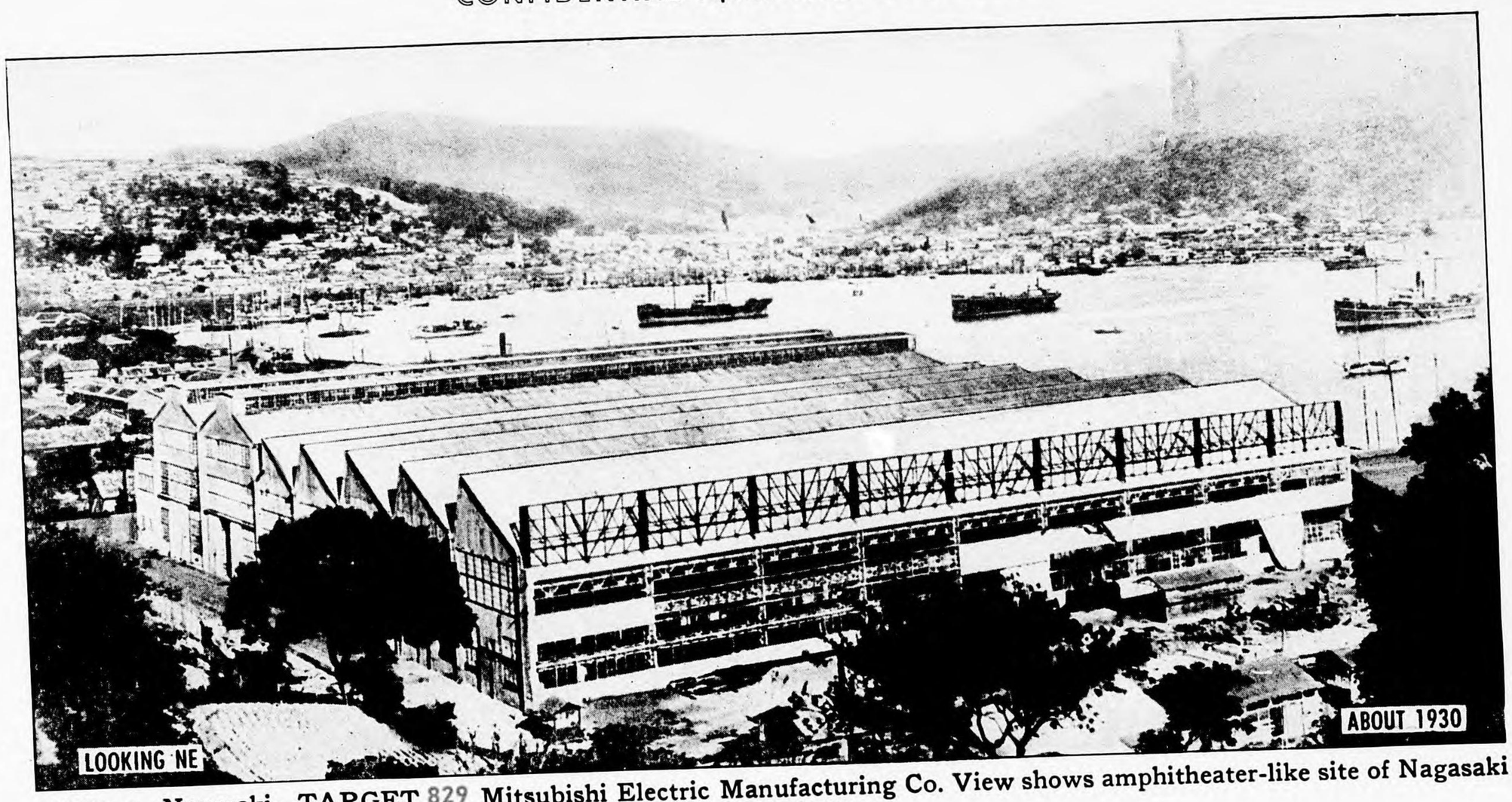
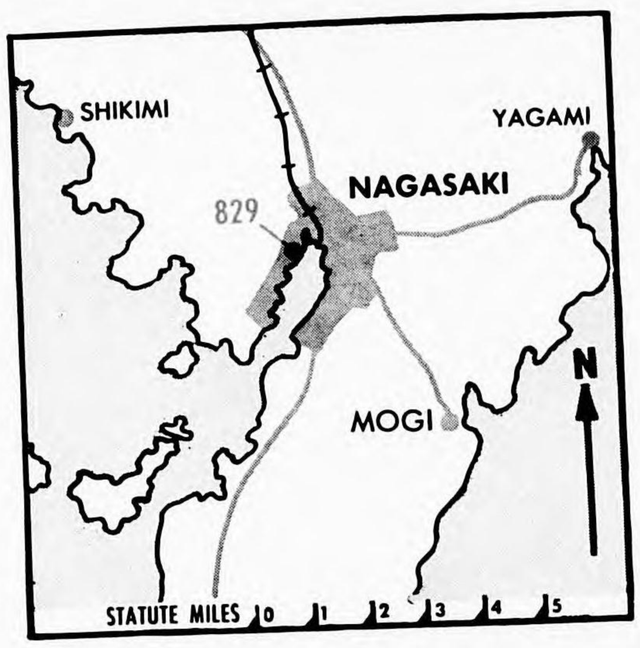


PHOTO 4—Nagasaki—TARGET 829 Mitsubishi Electric Manufacturing Co. View shows amphitheater-like site of Nagasaki city across harbor.



TARGET 90.36— **829**

MITSUBISHI ELECTRIC MFG. CO.

(Mitsubishi Denki KK)

NAGASAKI

(ELECTRICAL EQUIPMENT)

32° 45′ N 129° 52′ E (Approx)—Branch plant of one of leading electrical equipment concerns. Integrated with Akunoura Engine Works (Target 542). Located directly SW of Hayashi Commercial Co (Target 828) and to W of naval administration bldgs. Primarily a manufacturer of marine electric apparatus. Specializes in Diesel engines of Burmeister and Wain type. Also mining machinery, large turbo-generators, mill motors and heavy-duty loading machinery.

(See photos 4, 5 and 7; maps on pages M-5 and M-6.)

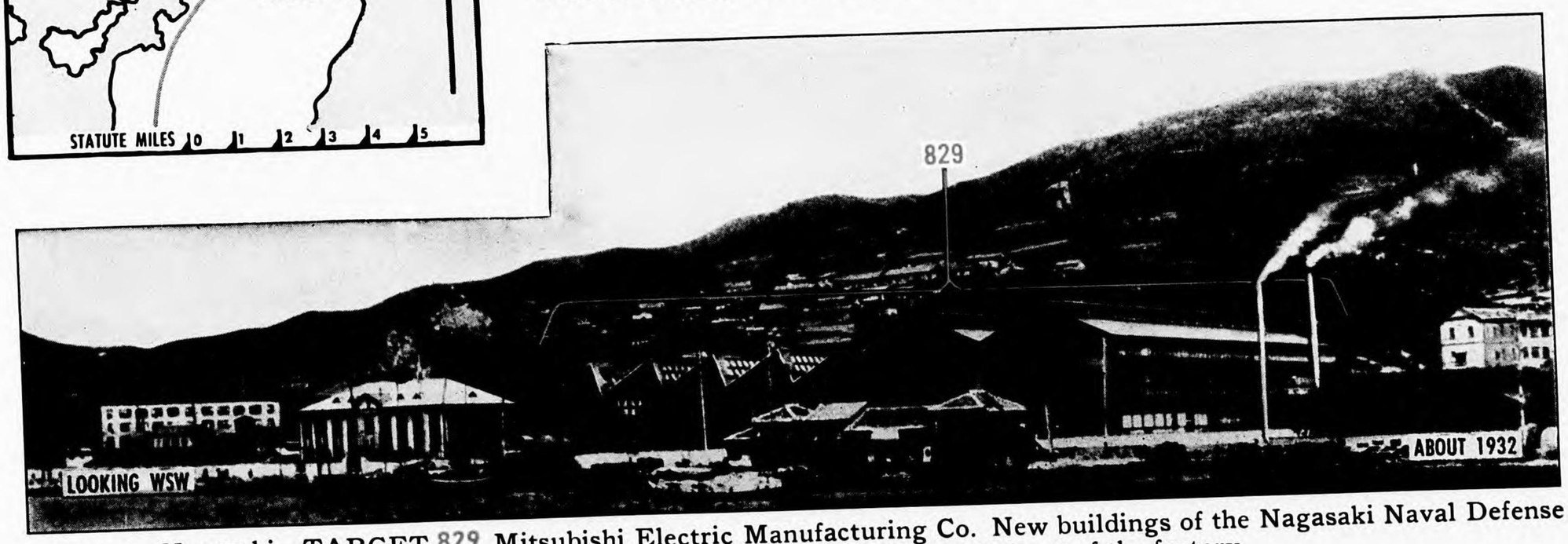


PHOTO 5—Nagasaki—TARGET 829 Mitsubishi Electric Manufacturing Co. New buildings of the Nagasaki Naval Defense Command are reported situated on reclaimed land in front of the factory.

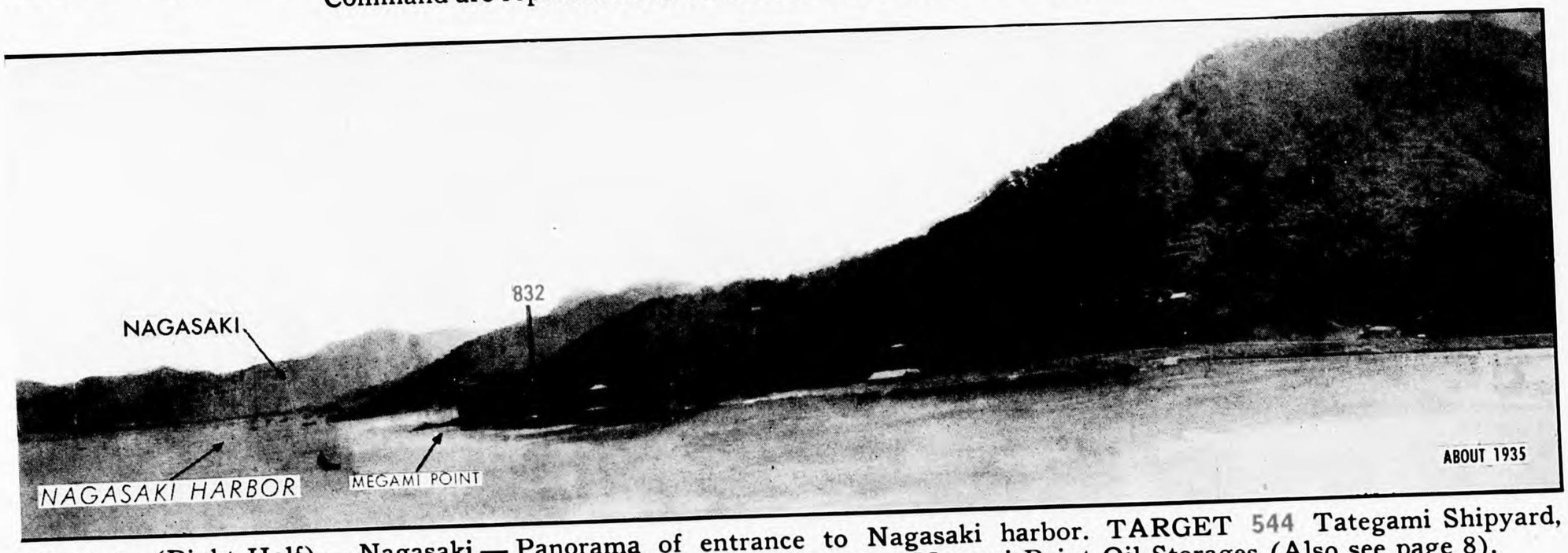


PHOTO 3—(Right Half) — Nagasaki — Panorama of entrance to Nagasaki harbor. TARGET 544 Tategami Shipyard, TARGET 545 — Kozaki Point Oil Storages. TARGET 832 — Megami Point Oil Storages (Also see page 8).

CONFIDENTIAL equals British Confidential

3648—Sasebo-Tsushima—9—6-30-44—First Proof

SASEBO 90.36, TSUSHIMA 90.39 TARGET 829 (NAGASAKI REGION)

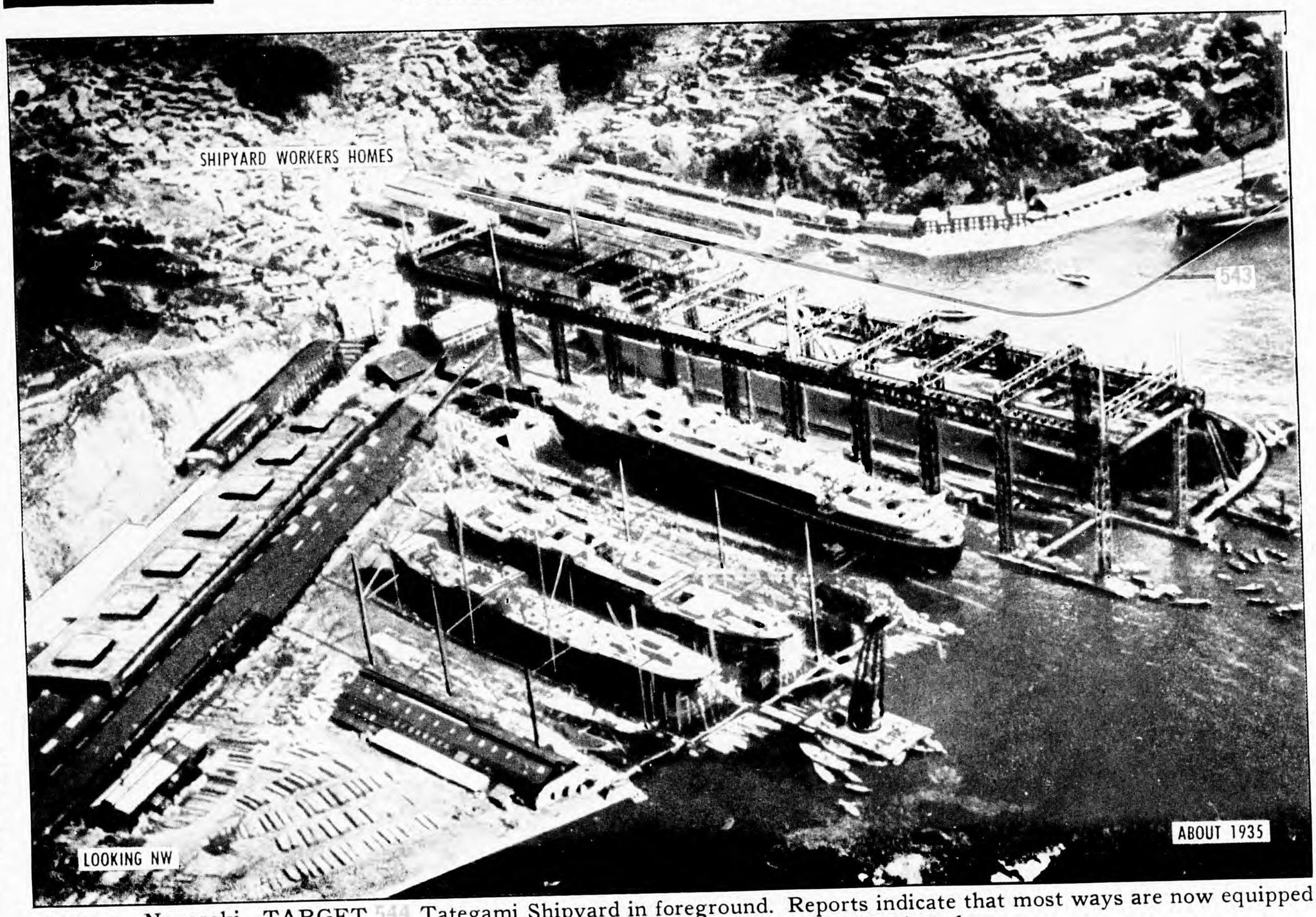
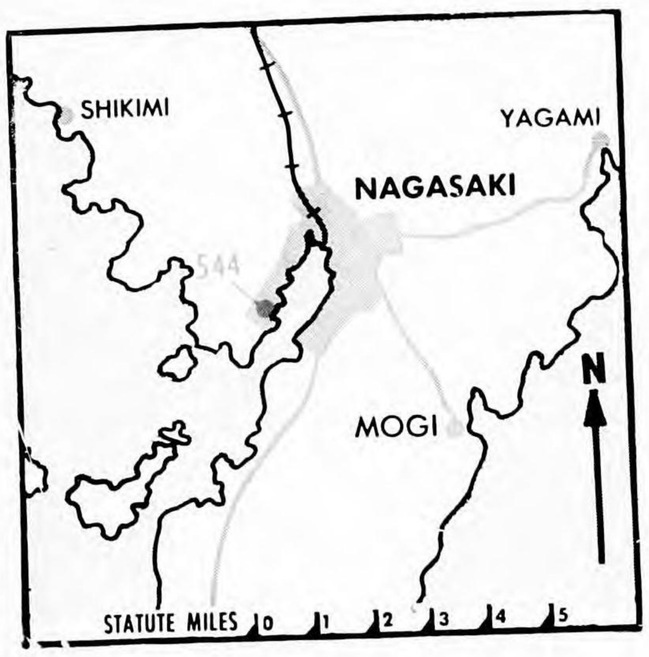


PHOTO 6—Nagasaki—TARGET 544 Tategami Shipyard in foreground. Reports indicate that most ways are now equipped with gantry cranes. TARGET 543 Mitsubishi Dockyard.



TARGET 90.36— 544

TATEGAMI SHIPYARD

(Mitsubishi Jukogyo KK)

NAGASAKI

(NAVAL BASES & SHIPYARDS)

32° 44′ N 129° 51′ E (Approx)—One of primary shipbuilding yards in Japan; has built all types of merchant vessels and some of the largest naval craft (including 40,000 tons). Bldg slips:

No. 1—450 by 80 ft (width between gantries)
No. 2—450 by 80 ft (width between gantries)
No. 3—650 ft by 170 ft (combined
No. 4—650 ft width)
No. 5—806 ft by 115 ft
No. 6—806 ft by 115 ft

Each slip now reported provided with gantry cranes. Portion of hill as well as part of plate shop reported cut away to accommodate second large gantry. Anchorage to N of ways reported used for partial outfitting. Shops include: plate shop, machine shops, tool, wood-working and iron shops. Complete outfitting done at Akunoura Engine Works (Target 542). Old power unit in yard not believed in use.

(See photos 3, 6, 7, 8 and 11; maps on pages M-5 and M-6.)

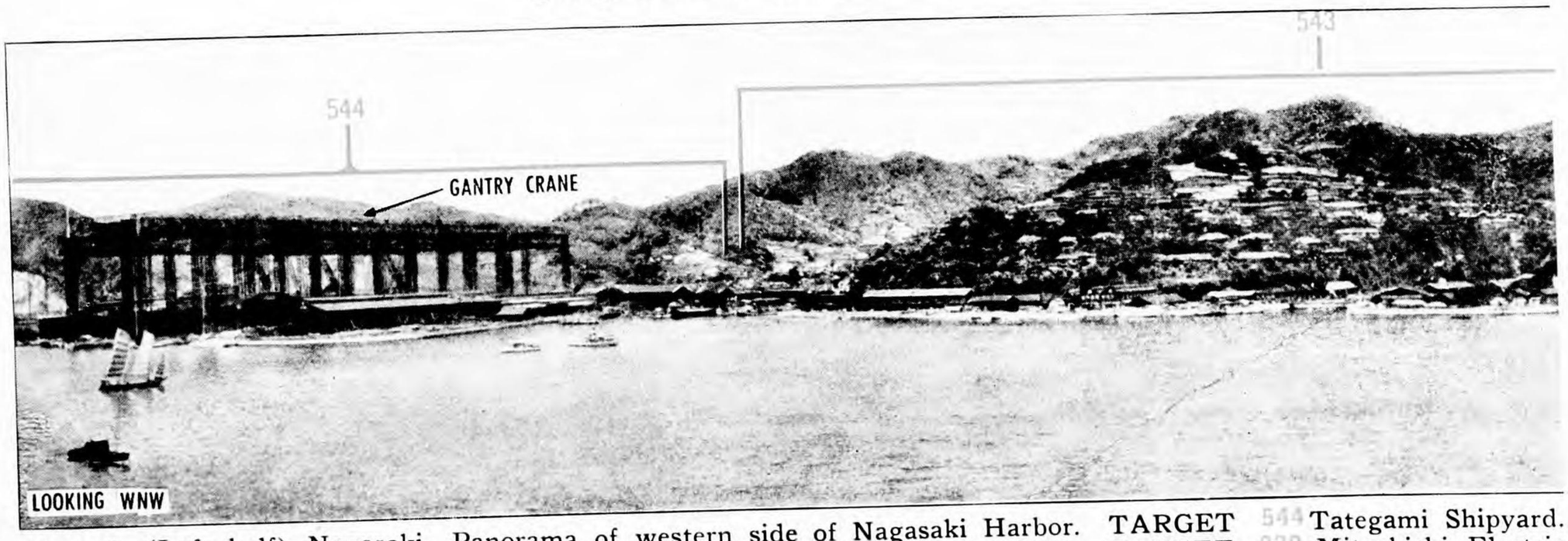


PHOTO 7—(Left half) Nagasaki—Panorama of western side of Nagasaki Harbor. TARGET 544 Tategami Shipyard. TARGET 543 Mitsubishi Dockyard. TARGET 542 Akunoura Engine Works. TARGET 829 Mitsubishi Electric Manufacturing Co. TARGET 828 Hayashi Commercial Co. Engine Works. (Also see page 11.)

SASEBO 90.36, TSUSHIMA 90.39 TARGET 544 (NAGASAKI REGION)

SASEBO 90.36, TSUSHIMA 90.39 TARGET 544 (NAGASAKI REGION)

3648—Sasebo-Tsushima—10—6-30-44—First Proof

CONFIDENTIAL equals British Confidential

PHOTO 8—Nagasaki—TARGET 543 Mitsubishi Dockyard (view shows only central of three drydocks). TARGET 544 Tategami Shipyard.

TARGET 90.36—542

AKUNOURA ENGINE WORKS

NAGASAKI

(NAVAL BASES & SHIPYARDS)

32° 44′ N 129° 52′ E (Approx)—One of leading marine engine works. In 1937 activities included large scale manufacture of Diesel engines, steam turbines, vertical water tube boilers, riveted and welded pipes, castings, and forgings. Compound comprises over 40 bldgs, including: boiler shop, electric steel plant with annual cap of 15,000 tons, copper works, experimental tank and laboratory, machinery assembly shop with gear cutting and propeller balancing equipment, etc. Most bldgs are of steel frame, galvanized iron on brick; some are reinforced concrete. Administration bldgs located on waterfront to N, alongside Target 829. Plant has standby power station of 4000 KW; obtaining balance of power from network through substation ½ mi to NW. 178 ft high hammer-head crane on dock. Also smaller fixed cranes and four floating cranes.

(See photos 7, 9, 10 and 11; maps on pages M-5 and M-6.)

TARGET 90.36—543

MITSUBISHI DOCKYARD

NAGASAKI

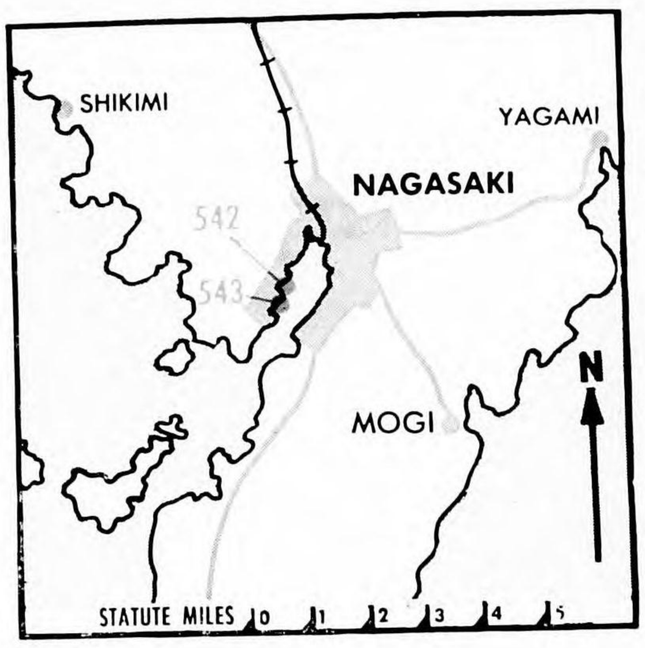
(NAVAL BASES & SHIPYARDS)

32° 44′ N 129° 51′ E (Approx)—Complete ship repair dockyard. Accredited with approx 7% of repair cap for commercial docks in Japan. Three drydocks of concrete, granitefaced construction.

	Extreme Length	Floor Head
No. 1 Dock	532 ft	447 ft
No. 2 Dock	375 ft	366 ft
No. 3 Dock	728 ft	679 ft

Large shops along waterfront. Reported camouflaged.

(See photos 6, 7, 8 and 11; maps on pages M-5 and M-6.)



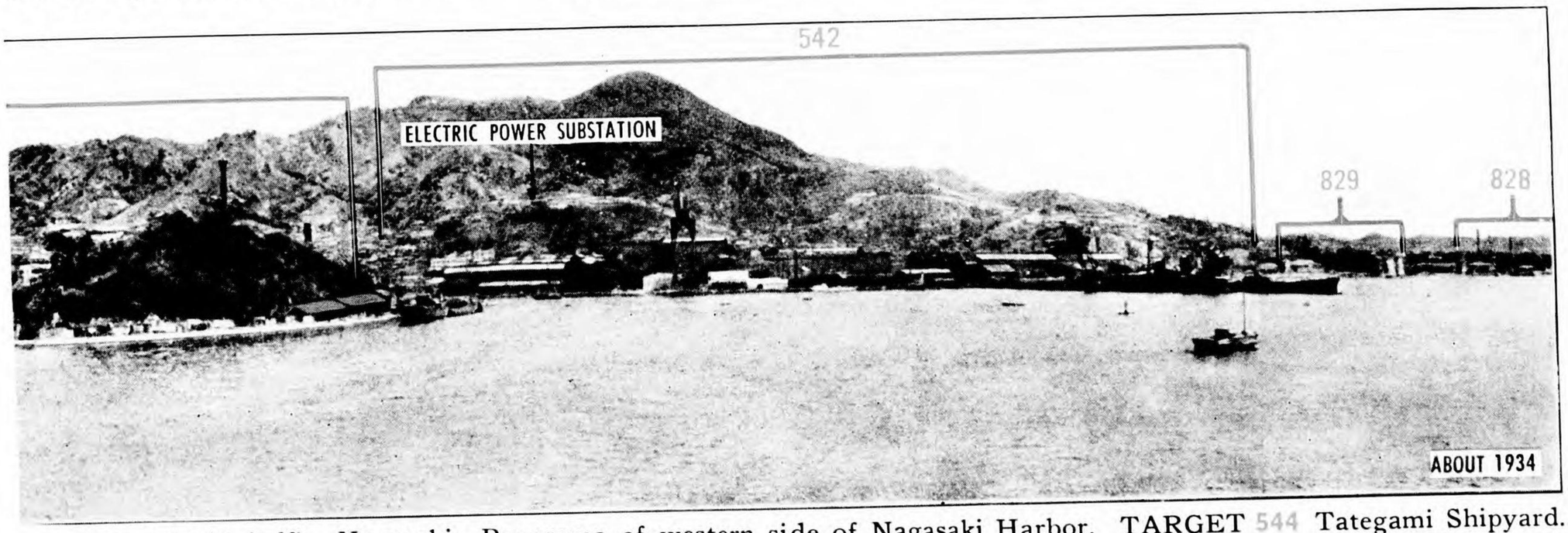


PHOTO 7—(Right half)—Nagasaki—Panorama of western side of Nagasaki Harbor. TARGET 544 Tategami Shipyard. TARGET 543 Mitsubishi Dockyard. TARGET 542 Akunoura Engine Works. TARGET 829 Mitsubishi Electric Manufacturing Co. TARGET 828 Hayashi Commercial Co. Engine Works. (Also see page 10.)

SASEBO 90.36, TSUSHIMA 90.39 TARGETS 542, 543 (NAGASAKI REGION)

3648—Sasebo-Tsushima—11—6-30-44—First Proof

By [illegible] NARA, Date [illegible]

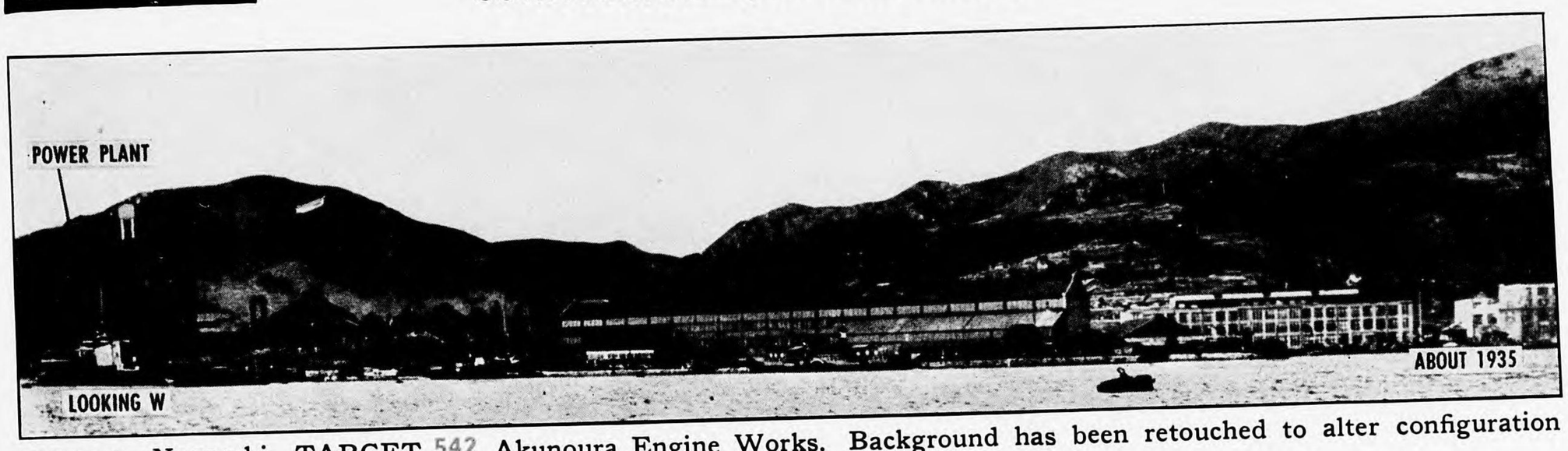


PHOTO 9—Nagasaki—TARGET 542 Akunoura Engine Works. Background has been retouched to alter configuration of hills.

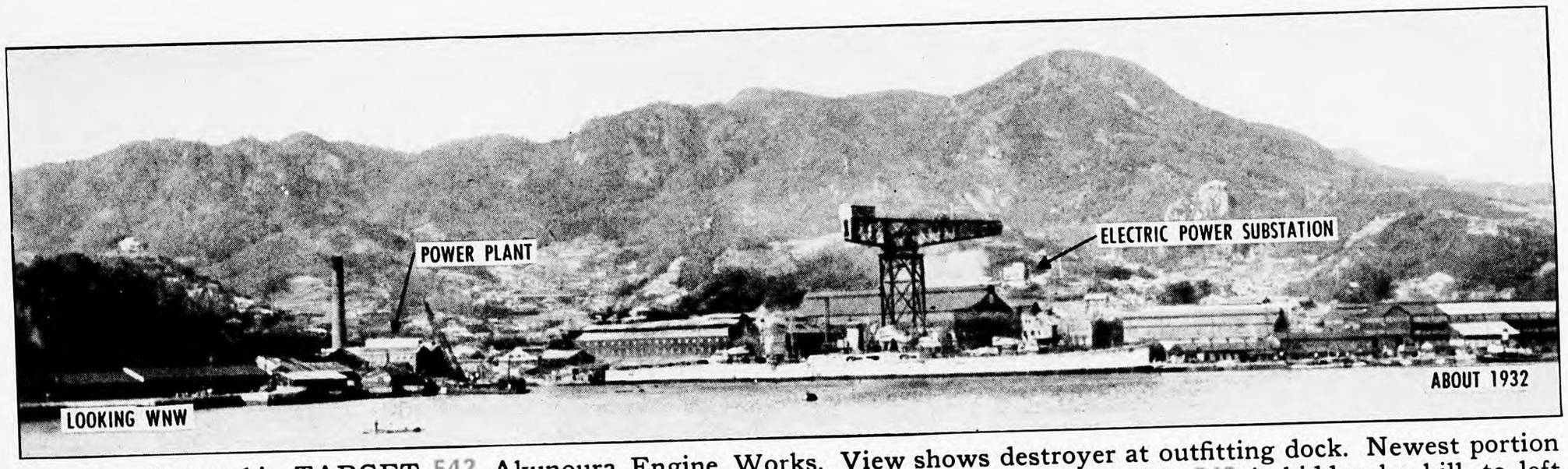
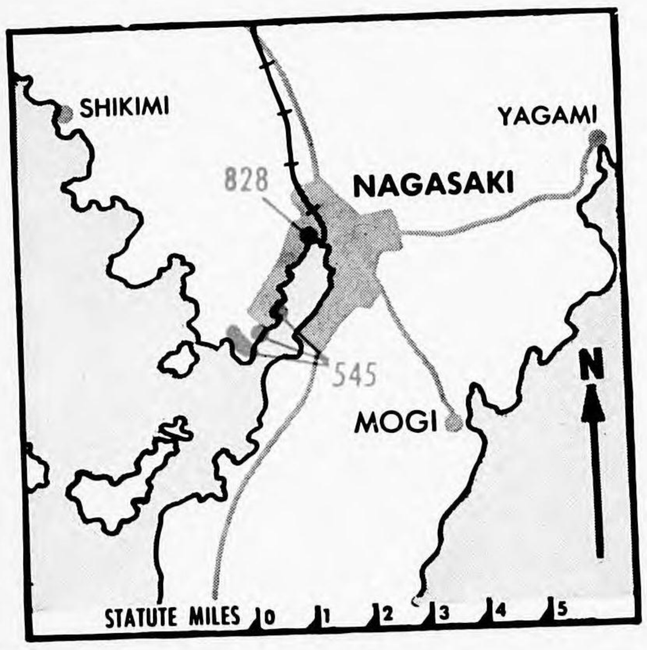


PHOTO 10—Nagasaki—TARGET 542 Akunoura Engine Works. View shows destroyer at outfitting dock. Newest portion of factory is off view to right. One of three drydocks of Mitsubishi Dockyard. TARGET 543 is hidden by hill, to left of power plant.



TARGET 90.36—
828

HAYASHI COMMERCIAL CO. ENGINE WORKS

(Hayashi Kane Shoten KK)

NAGASAKI

(NAVAL BASES & SHIPYARDS)

32° 45′ N 129° 52′ E (Approx)—Located just NE of Mitsubishi Electric Mfg Co (Target 829). Manufactures heavy marine engines. Believed to be former Matsuo Engine Works. Probably supplies Kawanami Industry Co. (See photo 7; maps on pages M-5 and M-6.)

TARGET 90.36—
545

KOZAKI POINT OIL STORAGES

NAGASAKI

(PETROLEUM)

32° 43′ N 129° 51′ E (Approx)—About six groups of fuel oil tanks situated on waterfront around Kozaki Point. Estimated major storage area. Recently enlarged. Probable underground storage. Largest units to SW.

(See photo 3; map on page M-6.)

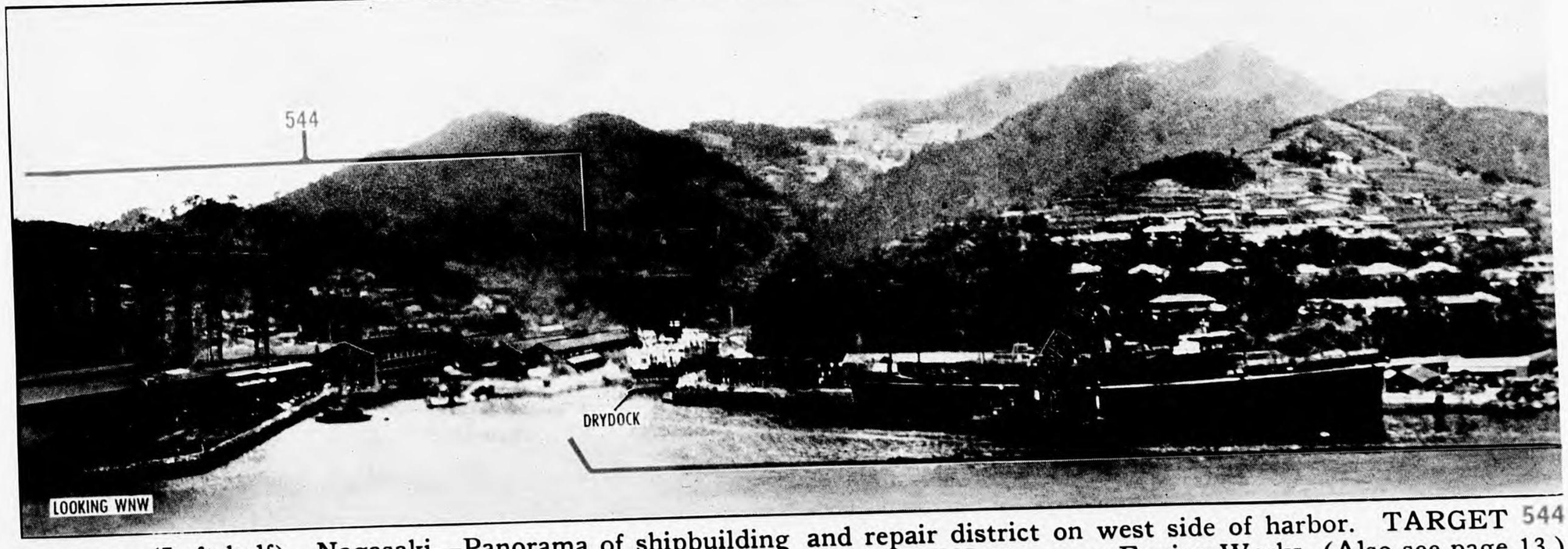


PHOTO 11—(Left half)—Nagasaki—Panorama of shipbuilding and repair district on west side of harbor. TARGET 544 Tategami Shipyard. TARGET 543 Mitsubishi Dockyard. TARGET 542 Akunoura Engine Works. (Also see page 13.)

SASEBO 90.36, TSUSHIMA 90.39 TARGETS 828, 545 (NAGASAKI REGION)

SASEBO 90.36, TSUSHIMA 90.39 TARGETS 828, 545 (NAGASAKI REGION)

3648—Sasebo-Tsushima—12—6-30-44—First Proof

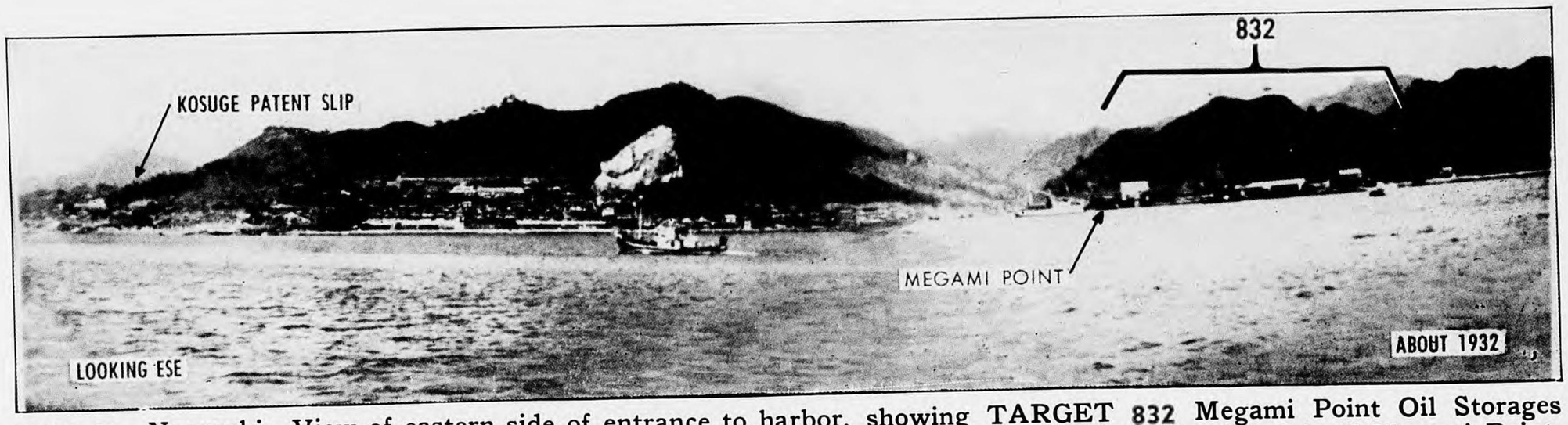


PHOTO 12—Nagasaki—View of eastern side of entrance to harbor, showing TARGET 832 Megami Point Oil Storages (oil tanks are not visible) and shops, foundries, etc., of series of small-boat yards which extend to left of Megami Point.

TARGET 90.36—

1842 NAGASAKI & DEJIMA WHARVES & RR YARDS

NAGASAKI

(HARBOR FACILITIES & WAREHOUSES)

32° 45′ N 129° 52′ E (Approx)—Entire region at the NE end of the harbor important not only to the immediate area, but for general transportation in southern Kyushu. Heavy troop and supply movement reported. New floating dock reported. Northern portion of target area congested with storehouses, oil storages, gas holders, and many small shops. Over 30 large whses of both wood and concrete construction, many used exclusively for military storage, located along western edge of city. Interspersed wood storage adds to fire hazard. Small piers to S used mainly for coastal shipping; also small storehouses.

(See maps on pages M-5 and M-6.)

TARGET 90.36—

1795 MITSUBISHI STEEL ROLLING MILL

NAGASAKI

(IRON & STEEL)

32° 45′ N 129° 52′ E (Approx)—New mill, located across from S portion of Mitsubishi Steel & Arms Works. (Target 546).

(See maps on pages M-4 and M-5.)

TARGET 90.36—

832 MEGAMI POINT OIL STORAGES

NAGASAKI

(PETROLEUM)

32° 43′ N 129° 51′ E (Approx)—Two groups of Oil Tanks, three S of Megami Point (also coal storage) and two N of Point. Explosives magazine reported in hillside to E. Small boat yards extend northward along coastline.

(See photos 3 and 12; map on page M-6.)

TARGET 90.36—

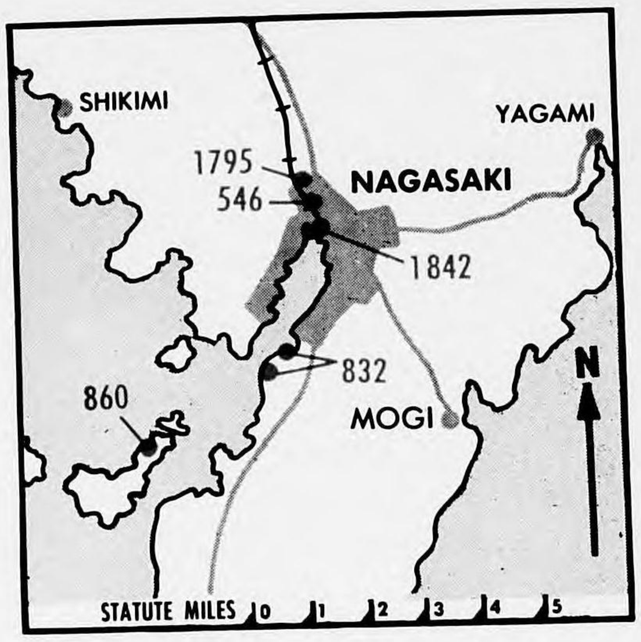
546 MITSUBISHI STEEL & ARMS WORKS

NAGASAKI

(ARMS & MUNITIONS)

32° 45′ N 129° 52′ E (Approx)—Integrated steel/rolling mill/arms works. Compound occupies extensive area on the E bank of Urakami River. Has been enlarged recently by a new extension to N and by conversion of former Nagasaki Spinning Mill to the S. New Rolling Mill (See Target 1795) on W bank of Urakami River, immediately across from S part of compound. Steel works produce largest types of castings, all types of forgings and ship plate. Annual output is believed close to 200,000 tons of steel products. About 12 open-hearth and electric steel furnaces (cap 6-30 tons). Arms works mfg torpedoes and naval munitions. Closely integrated with Steel Works.

(See maps on pages M-4 and M-5.)



TARGET 90.36—

860 KAWANAMI INDUSTRY CO. SHIPYARD

(Kawanami Kogyo KK)

KOYAGI SHIMA (ISLAND)

(NAVAL BASES & SHIPYARDS)

32° 42′ N 129° 49′ E (Approx)—(Formerly Matsuo Shipyards.) Accredited with about 5% of commercial shipyard bldg and repair in Japan. Recently modernized and expanded. Probably integrated with Hayashi Commercial Co (Target 828). Facilities for bldg ships up to 10,000 tons, but specialized in standardized, cargo vessels of 3-5000 tons. Reported mfg engines, boilers, etc. Three drydocks, one of which is reported capable of taking a 20,000 ton ship. Six shipbldg slips. Machine and boiler shops. Important not only for construction of standard cargo vessels but for its strategically located repair facilities.

(See map on page M-6.)

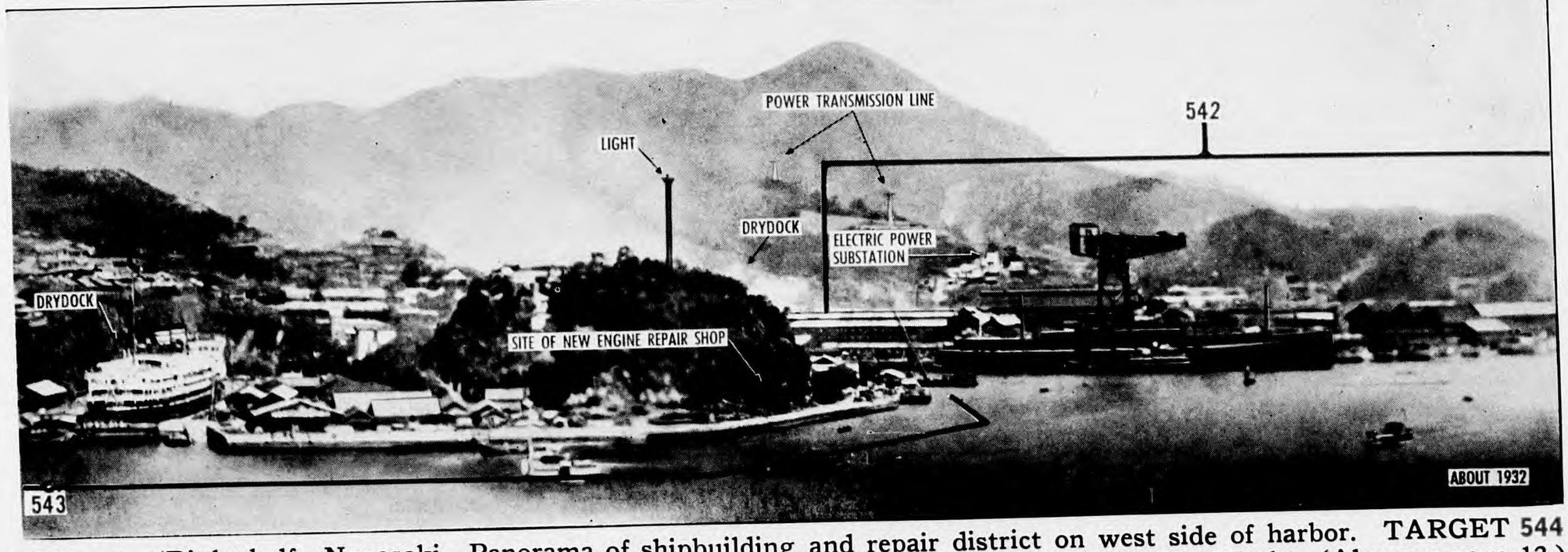


PHOTO 11—(Right half—Nagasaki—Panorama of shipbuilding and repair district on west side of harbor. TARGET 544 Tategami Shipyard. TARGET 543 Mitsubishi Dockyard. TARGET 542 Akunoura Engine Works. (Also see page 12.)

3-43648—Sasebo-Tsushima—13-44430-4H—First Proof

CONFIDENTIAL equals British Confidential

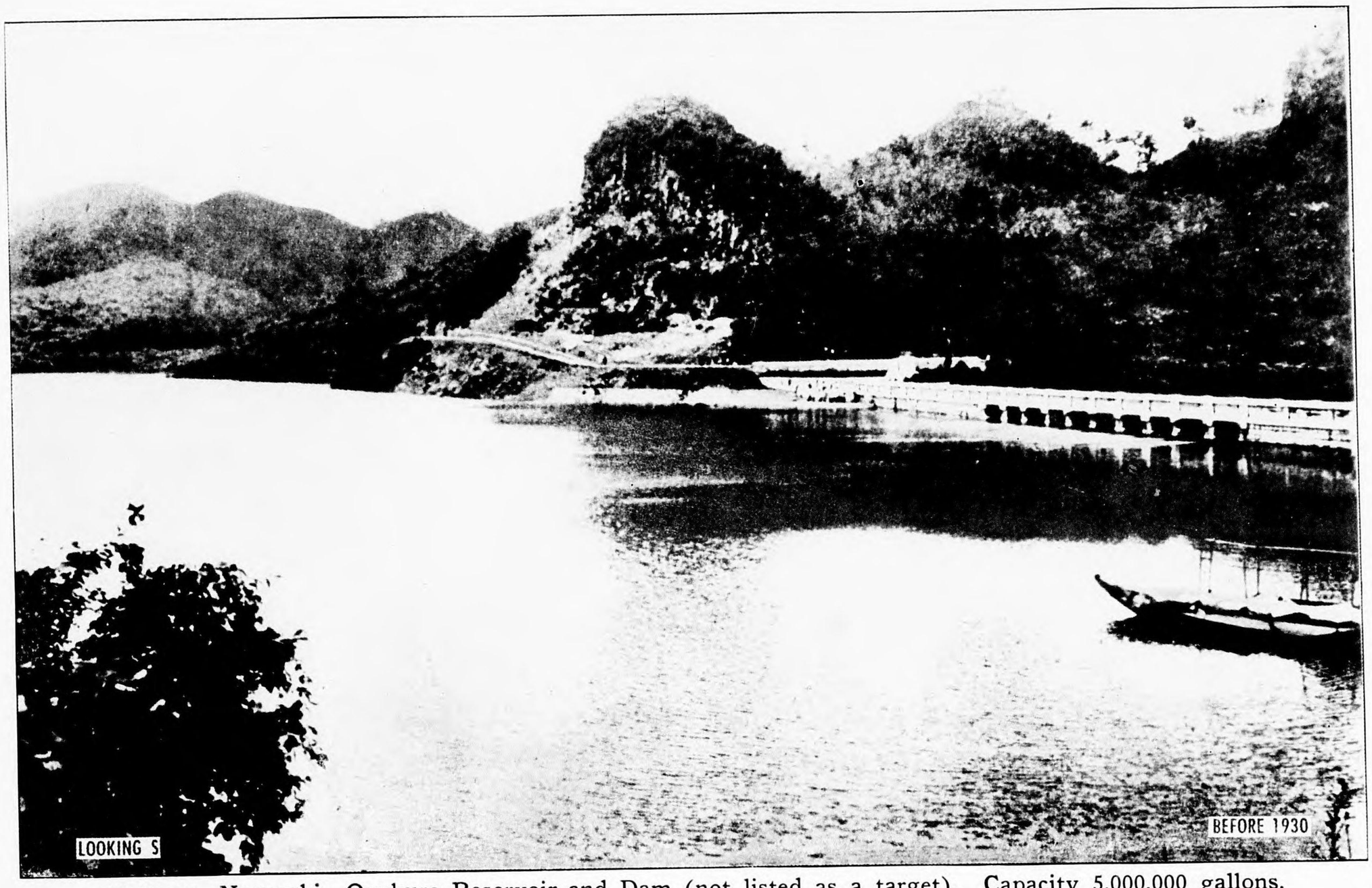


PHOTO 13—Nagasaki—Ogakura Reservoir and Dam (not listed as a target). Capacity 5,000,000 gallons.

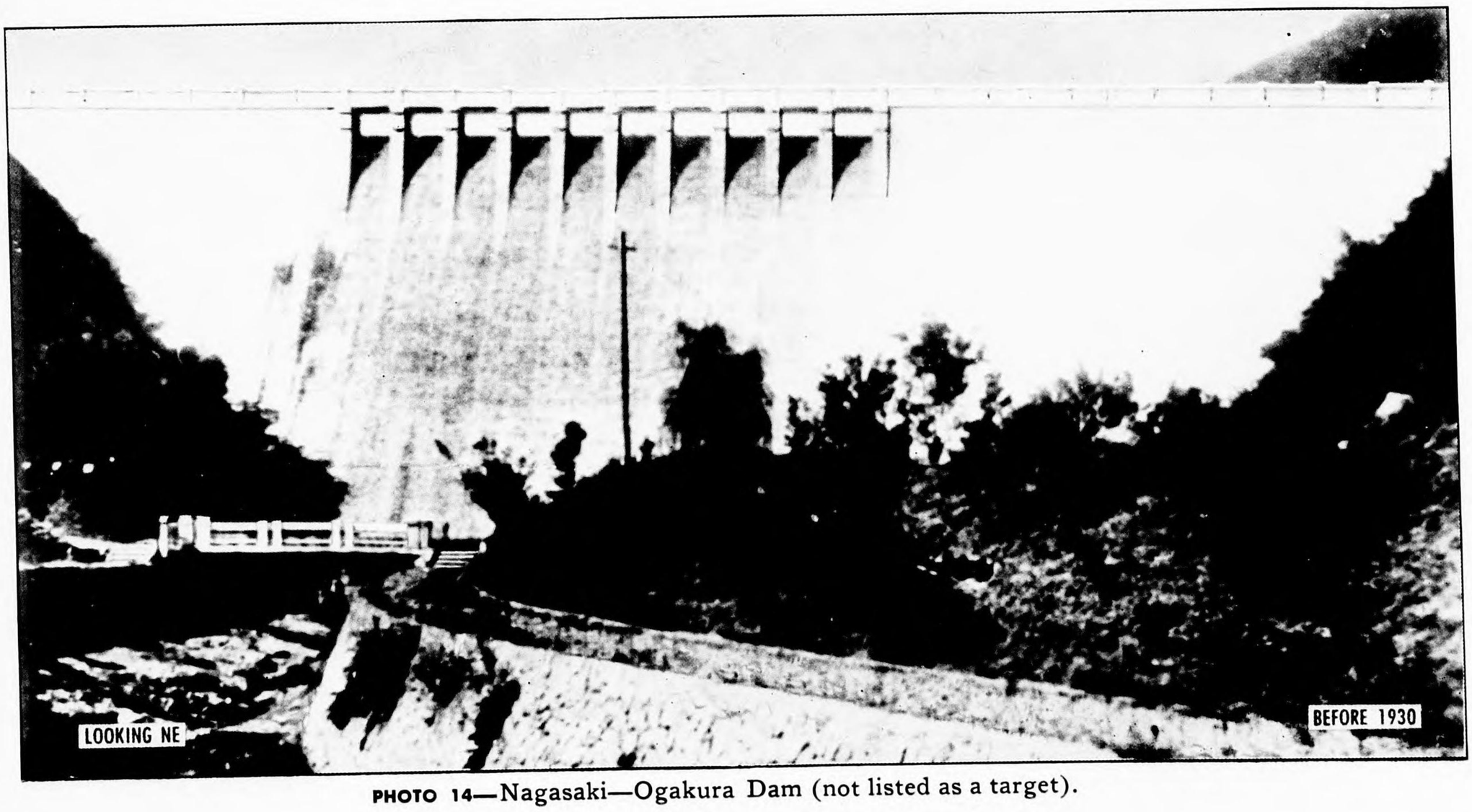


PHOTO 14—Nagasaki—Ogakura Dam (not listed as a target).

SASEBO 90.36, TSUSHIMA 90.39 GENERAL PHOTOS (NAGASAKI REGION)

3648—Sasebo-Tsushima—14—6-30-44—First Proof

CONFIDENTIAL equals British Confidential

CONFIDENTIAL equals British Confidential

Air Objective Folder
OMURA REGION
SASEBO AREA, No. 90.36

INDEX OF TARGETS BY NUMBER, CLASSIFICATION AND NAME

TARGET NO.	NAME	PAGE
	AIRCRAFT	
1627	Omura Aircraft Factory	16
	AIRPORTS	
849	Omura Naval Air Station	16

Summary and Evaluation of Omura Region

Photo reconnaissance of October 1943 establishes Omura as an important aircraft center. The previously unreported Omura Aircraft Factory **TARGET 1627** appears to be a major plant which may rank among Japan's leading aircraft works. There has been no evidence to date of this plant's production and the management is unknown. Based on interpretation of a single photo cover the plant appears to be an integrated engine/assembly works, producing fighter types (Zekes and Rufes are identifiable). It is also a primary repair depot, doing third and fourth echelon repair (Petes and Daves in various stages of rebuilding visible). Much of the plant was still under construction. The total floor space of factory-type buildings alone (including buildings under construction) is approximately 2,337,000 square feet. In addition there are numerous hangars and storage buildings. There is no confirming evidence of engine production, but the plant has six engine test stands and 15 probable engine test blocks are under construction.

An unconfirmed report states that a marine engine factory, operated by the Sasebo Naval Base, was projected at Omura. It is possible that some of the buildings under construction along the waterfront to the south of the completed group of aircraft buildings might be intended for such a plant. However, the layout and general appearance of these structures indicates they are additional units of the aircraft factory.

Most of the Omura Naval Air Station **TARGET 849** is not visible in the photo cover. About 26 hangar and shop-type buildings, administration buildings, etc., are located along the waterfront, just north of the aircraft factory. The field is an operational base and a basic training station for naval pilots.

The entire Omura district comprises a military zone, apparently under the joint jurisdiction of the Sasebo Naval Base and the Army divisional headquarters in the Kumamoto-Kurume region (Kurume Area No. 90.35). Extensive groups of barracks are located to the east of the aircraft plant. Unconfirmed reports refer to the use of Omura Bay as a fleet anchorage. There are no facilities for servicing large ships in the immediate vicinity of Omura.

SASEBO 90.36, TSUSHIMA 90.39 INDEX AND SUMMARY (OMURA REGION)

37 45 30-38—Sasebo-Tsushima—155—(630444—First Proof

SASEBO 90.36, TSUSHIMA 90.39 INDEX AND SUMMARY (OMURA REGION)

CONFIDENTIAL equals British Confidential

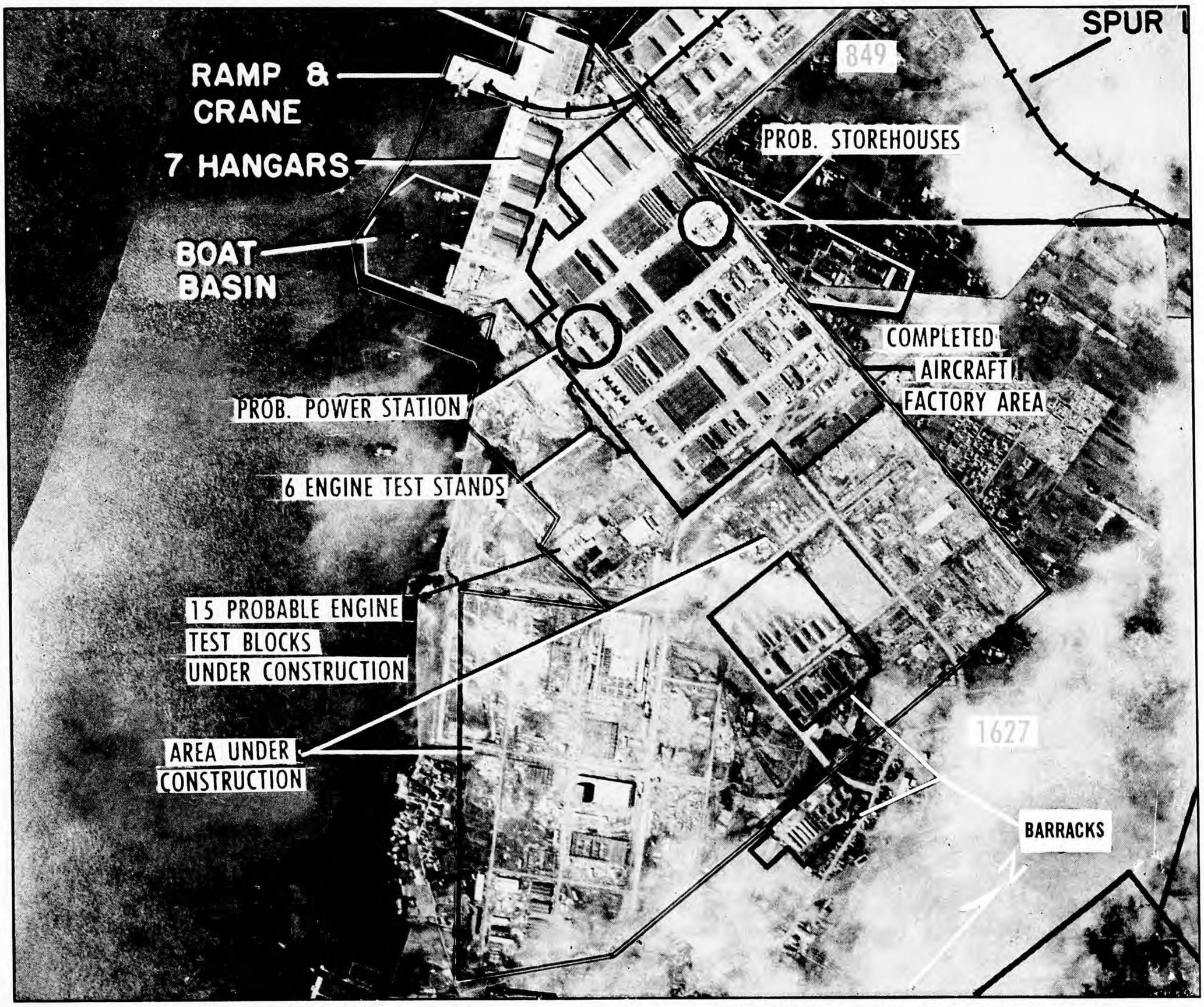
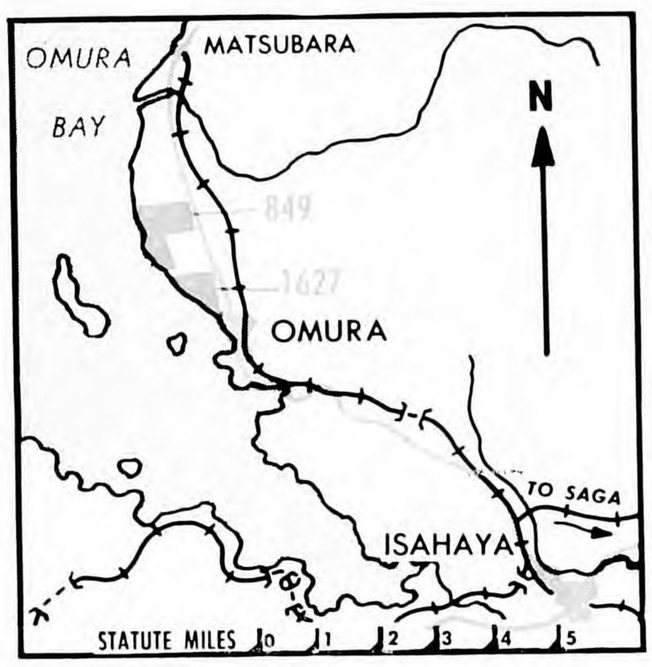


PHOTO 15—Omura—TARGET 1627 Omura Aircraft Factory. TARGET 849 Omura Naval Air Station.



TARGET 1627

OMURA AIRCRAFT FACTORY

OMURA

(AIRCRAFT)

32° 55′ 129° 56′ E (Approx)—Very large aircraft/engine factory. Based on interpretation of single photo cover, plant probably builds fighter types (Zekes and Rufes visible) and does third and fourth echelon repairs (Petes and Daves undergoing repair visible). Engine production likely: six engine test stands completed and an additional 15 probable engine test blocks under construction. Has appearance of major integrated aircraft works.

Much of plant under construction as of date of photography—31 October 1943. Total plant compound covered approx 15,000,000 sq ft. Total floor space of factory-type bldgs already completed was about 1,190,000 sq ft (excluding hangar, administration and storage-type bldgs). An additional 1,147,000 sq ft of factory-type bldgs were under construction.

Most completed bldgs concentrated in northern apex of triangular compound. This concentration includes shop-type bldgs at E end, engine test stands at S end, shop and assembly bldgs in center and final assembly bldgs at NW end (on waterfront). Additional shops, assembly bldgs and engine test blocks under construction to E and SE of main plant. A group of about 23 hangar and shop-type bldgs located along waterfront to N of aircraft plant is designated as part of Omura Naval Air Station (See Target 849), with which it is connected by a taxi strip. These bldgs may be used for storage, final testing or modification.

(See photo 15; maps on page M-8 and M-9.)

TARGET 849

OMURA NAVAL AIR STATION

OMURA

(AIRPORTS)

32° 56′ N 129° 56′ E (Approx)—Main operational land and seaplane base for Sasebo Area. Three large hangars, repair shops, barracks for 800-1000 men and radio masts SW corner of field. About 23 hangar and shop-type bldgs located along shore, toward Omura Aircraft Factory (Target 1627) to S. Probable training center. Considerable recent expansion and improvements. Auxiliary field reported short distance SE. Several extensive barracks areas to SE.

(See photo 15; maps on pages M-8 and M-9.)

SASEBO 90.36, TSUSHIMA 90.39 TARGETS 849, 1627 (OMURA REGION)

3648—Sasebo-Tsushima—16—6-30-44—First Proof

CONFIDENTIAL equals British Confidential

CONFIDENTIAL equals British Confidential

Air Objective Folder
SASEBO REGION
SASEBO AREA, No. 90.36

INDEX OF TARGETS BY NUMBER, CLASSIFICATION AND NAME

TARGET NO.	NAME	PAGE
	AIRCRAFT	
834	Sasebo Aircraft Factory	18
	AIRPORTS	
754	Sasebo Naval Air Station	18
	ARMS & MUNITIONS	
757	Sasebo Mine & Torpedo Storage	18
758	Naval Arsenal & Engineering Department	18
762	Sasebo Fuel & Munitions Depot	18
	ELECTRIC POWER	
1603	Ainoura Steam Power Station	18
	HARBOR FACILITIES & WAREHOUSES	
845	Sasebo Provision Wharf	18
	NAVAL BASES & SHIPYARDS	
752	Sasebo Naval Dockyard	18
	PETROLEUM	
755	Sasebo Oil Storages	18
1835	Yokose Oil Storage	18

Summary and Evaluation of Sasebo Region

One of Japan's three principal naval bases, Sasebo's functions include repair and maintenance of naval vessels, construction of naval vessels and defense and convoy escort throughout the East China Sea and down the island chain to the Philippines. It is also a supply base for the mainland and the Philippines as well as the naval administrative center for Kyushu and much of the island chain to the south.

The Sasebo Naval Dockyard **TARGET 752,** and the nearby Arsenal and Engineering Department **TARGET 758,** located at the NW head of the harbor, are not visible in the available photo coverage. However, available reports emphasize repair and maintenance as against new construction and it is likely that this may be the principal repair base for destroyers and other lighter naval vessels. Provision and supply depots **TARGET 845,** torpedo and munitions storages **TARGETS 757 and 762,** fuel storages **TARGETS 755 and 1835** and coal storages are located along the shores of the harbor. The oil storages are especially important, but they are well dispersed and many are underground. Several probable underground oil storages, in addition to those listed as targets, are annotated on Mosaic D. The Sasebo Aircraft Factory **TARGET 834** is a medium-size factory which has produced small reconnaissance types. Aircraft engines are reported supplied by the Naval Arsenal **TARGET 758.** The Sasebo Naval Air Station **TARGET 754** appears to be a second or third echelon repair depot as well as an operational base.

Fragmentary reports indicate that a new "commercial" harbor has been developed at Ainoura, just NW of Sasebo. It is possible that Ainoura Bay now serves as an auxiliary naval anchorage. The largest power plant in this area and one of the principal stations in the West Kyushu power network is the Ainoura Steam Power Station **TARGET 1603.** Its exact location is not known, but it is reported located on the shore near Ainoura. The coast to the West of Ainoura is marked by numerous small anchorages, several of which have been developed as coal bunkering and export stations for the Matsuura and other coal fields in the vicinity of Sasebo. While very small producers, the Matsuura mines are said to produce the best metallurgical coking coal in Japan proper.

It should be noted that storages, barracks and other facilities of the Sasebo Naval Base extend along the shore of Hario Island to the SE and along the north coast of Omura Bay (See SUMMARY AND EVALUATION, OUTLYING TARGETS).

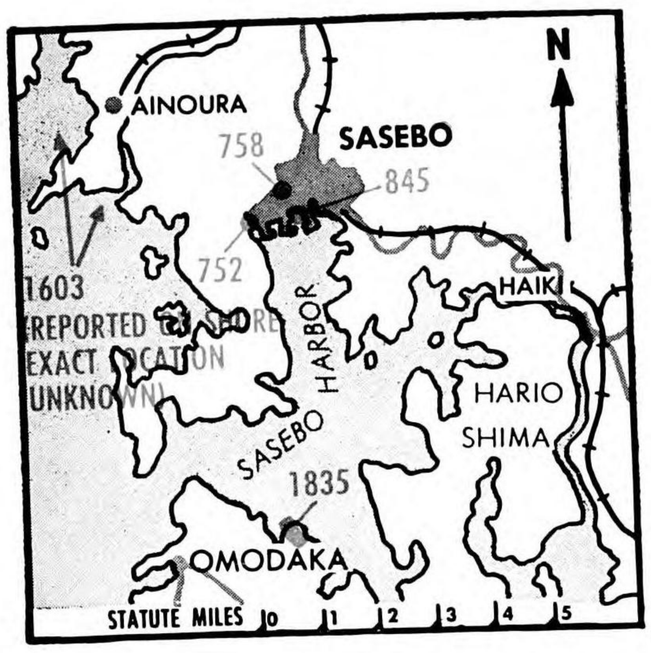
INCENDIARY ATTACK DATA: Flanked by high hills to the NE and the Sasebo River to the east, the city of Sasebo is confined within a relatively small area. The bulk of the city's population of over 200,000 (1940) lives in an area of approximately two miles by 2000 ft. Virtually all public and commercial buildings are located in the south central part of the city, just NNE of the railroad station. This part of the city is regularly laid out, with medium width streets separating groups of about four to ten small and congested blocks. A wide avenue which runs NW/SW the length of the city divides the regularly zoned southwestern section from the irregular eastern part. Only fragmentary information is available concerning that portion of the city to the west of the Sasebo River and north of the naval base.

The Incendiary Zone Map of Sasebo City (See map on page M-11) indicates two general zones for incendiary attack. Zone I extends along the entire northeastern portion of the city which is primarily a residential district. Population density and housing congestion are very high, but the conflagration hazard is somewhat reduced by three spurs of low hills which project SW into the city and tend to break it up into smaller fire areas.

Zone II covers the southwestern part of the city, which although less congested than Zone I, covers the bulk of the city's small factories, storage and commercial districts and utilities. It also covers the central barracks and most of the storage depots of the Sasebo Naval Base.

SASEBO 90.36, TSUSHIMA 90.39 INDEX AND SUMMARY (SASEBO REGION)
3648—Sasebo-Tsushima—17— 6-30-44—First Proof

SASEBO 90.36, TSUSHIMA 90.39 INDEX AND SUMMARY (SASEBO REGION)



TARGET 90.36— **758**

NAVAL ARSENAL & ENGINEERING DEPARTMENT

SASEBO

(ARMS & MUNITIONS)

33° 10′ N 129° 42′ E (Approx)—Integral part of dockyard. Believed equipped to outfit and repair all types of naval craft, produce ship's engines, turbines, boilers, machinery, guns and gun mounts, shell casings and aircraft engines. Reports emphasize mainly repair work. Section NE of Naval Hospital and SE of reservoir, labelled as Hydrographic Office, has been reported converted to an arsenal. No further information.

(See maps on pages M-10, M-11, M-13 and M-14.)

TARGET 90.36— **1603**

AINOURA STEAM POWER STATION

AINOURA

(ELECTRIC POWER)

33° 12′ N 129° 39′ E (Approx)—Cap 30,000 KW in 1939; reported expanded to 50,000 KW in 1940-41. One of five principal generating stations in W Kyushu network. Only large plant in Sasebo Area. Primarily serves Sasebo Naval Base district. Located on shore of Ainoura Bay, NW of Sasebo. Reinforced concrete bldg, estimated 180 by 225 ft, with adjacent coal handling and wharfage facilities. Large jib crane.

(See map on page M-10.)

TARGET 90.36— **1835**

YOKOSE OIL STORAGE

YOKOSE

(PETROLEUM)

33° 05′ N 129° 42′ E (Approx)—Large underground fuel storage, comprising at least eight very large tanks (measuring about 250-350 ft in diameter). Four small bunkering piers to N.

(See map on page M-13.)

TARGET 90.36— **845**

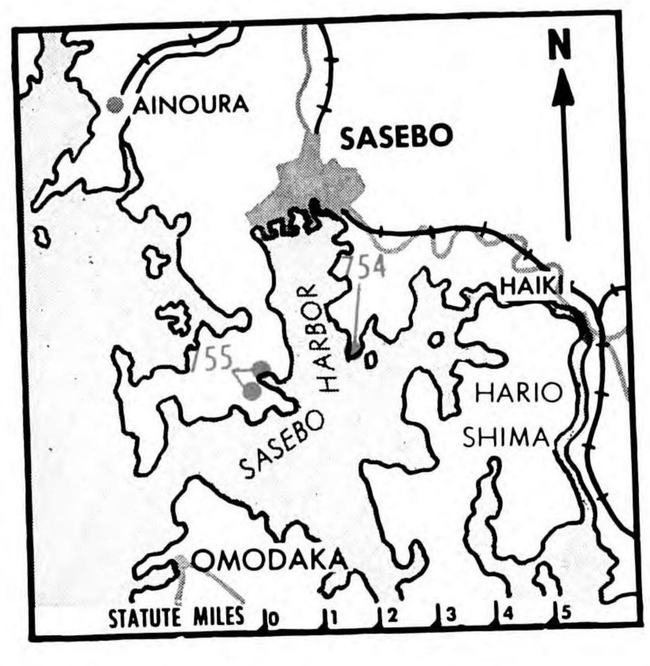
SASEBO PROVISION WHARF

SASEBO

(HARBOR FACILITIES & WAREHOUSES)

33° 10′ N 129° 43′ E (Approx)—Large, "U"-shaped, concrete dock. Congested with storehouses and shop-type bldgs. Believed to be main supply depot.

(See maps on pages M-10, M-11, M-13 and M-14.)



TARGET 90.36— **754**

SASEBO NAVAL AIR STATION

SASEBO

(AIRPORTS)

33° 08′ N 129° 43′ E (Approx)—Operational field for coastal patrol and fleet aircraft training and maintenance. Shops and storehouses at N end; administration bldgs, revetted stores and seaplane ramp at NE end; eight hangars (six large and two very small), three ramps, a probable engine test house and two cranes at SE end.

(See maps on pages M-10, M-11 and M-13.)

TARGET 90.36— **755**

SASEBO OIL STORAGES

SASEBO

(PETROLEUM)

33° 07′ N 129° 42′ E (Approx)—Three separate tank farms along W shore of inner harbor. Some tanks enclosed with heavy concrete walls, others underground. Some reported to drain into underground reservoirs. Several piers, believed to be oil bunkering piers, located in inlets near tank farms.

(See maps on pages M-10, M-11 and M-13.)

TARGET 90.36— **752**

SASEBO NAVAL DOCKYARD

SASEBO

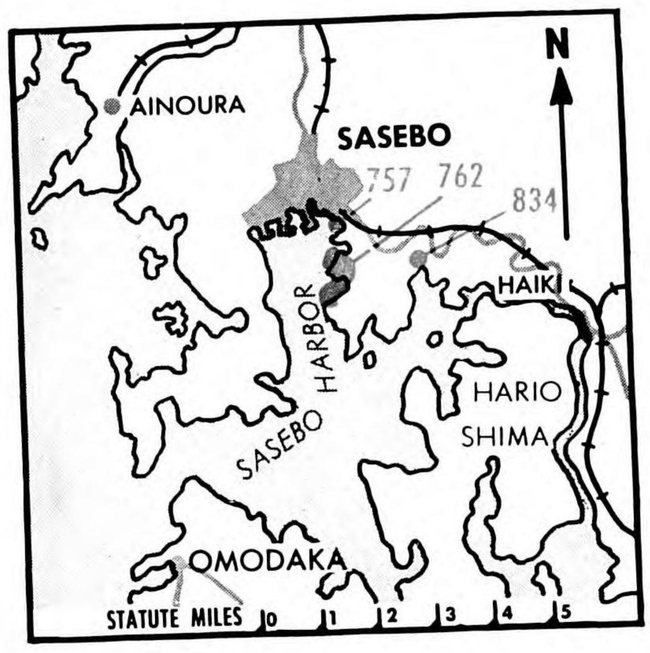
(NAVAL BASES & SHIPYARDS)

33° 10′ N 129° 42′ E (Approx)—One of three primary naval shipyards and principal fleet repair base. Information concerning facilities in this part of naval base is from ground intelligence, largely of pre-war origin. Facilities include:

(1) Three bldg ways, two 600 ft and one 350 ft long.
(2) About six drydocks (exact number in doubt). Reported lengths: 454 ft 900 ft (may be bldg dock), 568 ft, 1000 ft (believed to be bldg dock), 606 ft and 266 ft. Concrete, granite-faced construction.
(3) Repair basin, enclosing about nine acres, accommodates 10-12 ships alongside. Concrete, granite-faced construction.

Repair shops, equipped for complete repair and maintenance, are located to N of docks and repair basin. Engines, turbines, etc., built at Naval Arsenal & Engineering Department (See Target 758.)

(See maps on pages M-10, M-11, M-13 and M-14.)



TARGET 90.36— **757**

SASEBO MINE & TORPEDO STORAGE

SASEBO

(ARMS & MUNITIONS)

33° 09′ N 129° 43′ E (Approx)—Reported destroyer base. About 16 storehouses; other small bldgs. Reported torpedo and mine depot.

(See maps on pages M-10, M-11 and M-13.)

TARGET 90.36— **762**

SASEBO FUEL & MUNITIONS DEPOT

SASEBO

(ARMS & MUNITIONS)

33° 09′ N 129° 43′ E (Approx)—General munitions and fuel storage extending along coast from Sasebo Mine and Torpedo Storage (Target 757) to Sasebo Naval Air Station (Target 754). Northern portion includes several shop-type bldgs, concrete magazines, storehouses and quays. Southern part includes two large underground fuel tanks, revetted magazines and underground storages in the flanking hillside. Torpedoes and mines reported adjusted and set here.

(See maps on pages M-10, M-11 and M-13.)

TARGET 90.36— **834**

SASEBO AIRCRAFT FACTORY

SASEBO

(AIRCRAFT)

33° 09′ N 129° 45′ E (Approx)—Medium-size aircraft factory; has assembled small naval observation planes and probably does complete repair and overhaul to fleet aircraft. Engines reported manufactured in Naval Arsenal and Engineering Department (Target 758). Comprises approx 16 shop-type bldgs, six hangars, several storehouse and administration bldgs, small powerhouse, ramp and piers. Additional shop and storage-type bldgs located NE across canal from main plant. Other bldgs to SW of main plant. Some bldgs under construction as of 31 October 1943.

(See maps on pages M-10, M-11 and M-13.)

3648—Sasebo-Tsushima—18—6-30-44—First Proof

Air Objective Folder
OUTLYING TARGETS
SASEBO AREA, No. 90.36

INDEX OF TARGETS BY NUMBER, CLASSIFICATION AND NAME

TARGET NO.	NAME	PAGE
	COAL	
842	Taka Shima Colliery	22
843	Ha Shima Colliery	22
1843	Kyushu Coal & SS Co. Colliery	23
	MACHINES & MACHINE TOOLS	
833	Karatsu Iron Works	21
	TRANSPORTATION	
838	Isahaya RR Junctions	21
839	Haiki RR Terminal	23

Summary and Evaluation of Outlying Targets

With the exception of the Karatsu Iron Works **TARGET 833** all objectives of major importance in the area are located in the Nagasaki, Omura and Sasebo regions. Several minor outlying targets are listed primarily as an aid to the interpretation of photographic reconnaissance and also as possible alternative objectives.

Karatsu Region: Karatsu is a secondary coal exporting port for the small mines located to the south of the city. The tidal harbor has very limited facilities and coal is lightered from the Mitsubishi Coal Dock on O Shima to ships in the anchorage. The Karatsu Iron Works **TARGET 833,** an integrated alloy steel and machine tool plant, is considered one of Japan's model tool plants and is an important objective. Several machine tool plants, foundries, etc., are reported in the city, but they are small and dispersed. A reported ordnance factory (Karatsu Kakohin Seizosho) has not been identified. Small railroad shops of the north Kyushu railroad, which serves the region's coal fields, are located just NE of the town.

Imari Region: Imari is reported as a secondary naval station and Imari Bay may serve as an auxiliary anchorage for convoy escort vessels based at Sasebo. A sizable chemical plant (Kawanami Soda Ash Co.), located on the western shore of Imari Harbor, is considered unimportant. Arita, about six miles south of Imari, is an unimportant ceramics center.

Haiki-Kawatana Region: (See Mosaic E.) In effect, the Haiki-Kawatana district constitutes an extension of the Sasebo Naval Base. Available photo coverage is inadequate for detailed interpretation, but it establishes the location of several barracks and storage sites along the railroad. Haiki is the site of a small but important railroad terminal **TARGET 839** which controls Sasebo's single rail connection. A number of very small, unidentified factories are located in and near the town. Kawatana, on the northern shore of Omura Bay, is the site of a large unidentified factory which comprises about nine shop-type buildings (each about 300 by 180 ft.), three other large buildings and several storage sheds. The factory fronts on a 2400 ft. quay. A number of warehouses are located to the west of the town.

Off-Shore Islands: Numerous coal fields are located throughout the area, but none are considered of major importance. Three of the largest mines **TARGETS 1843, 842 and 843** are located on small islands off the Kyushu coast. These are listed as minor targets since they are underwater mines and their pumping equipment may be vulnerable to air attack. They supply the bulk of Nagasaki's and Sasebo's bunker coal. The island of O Shima, SW of the entrance to Sasebo Bay, is reported to contain extensive oil storages. However, these could not be identified in the available photo coverage.

Isahaya: Although located in the adjacent Kurume Area (90.35), the railroad terminal and junctions at Isahaya **TARGET 838** are included in this folder because they control Nagasaki's only railroad connection.

SASEBO 90.36, TSUSHIMA 90.39 INDEX AND SUMMARY (OUTLYING TARGETS)

Sasebo-Tsushima—19—633044—FirstProof

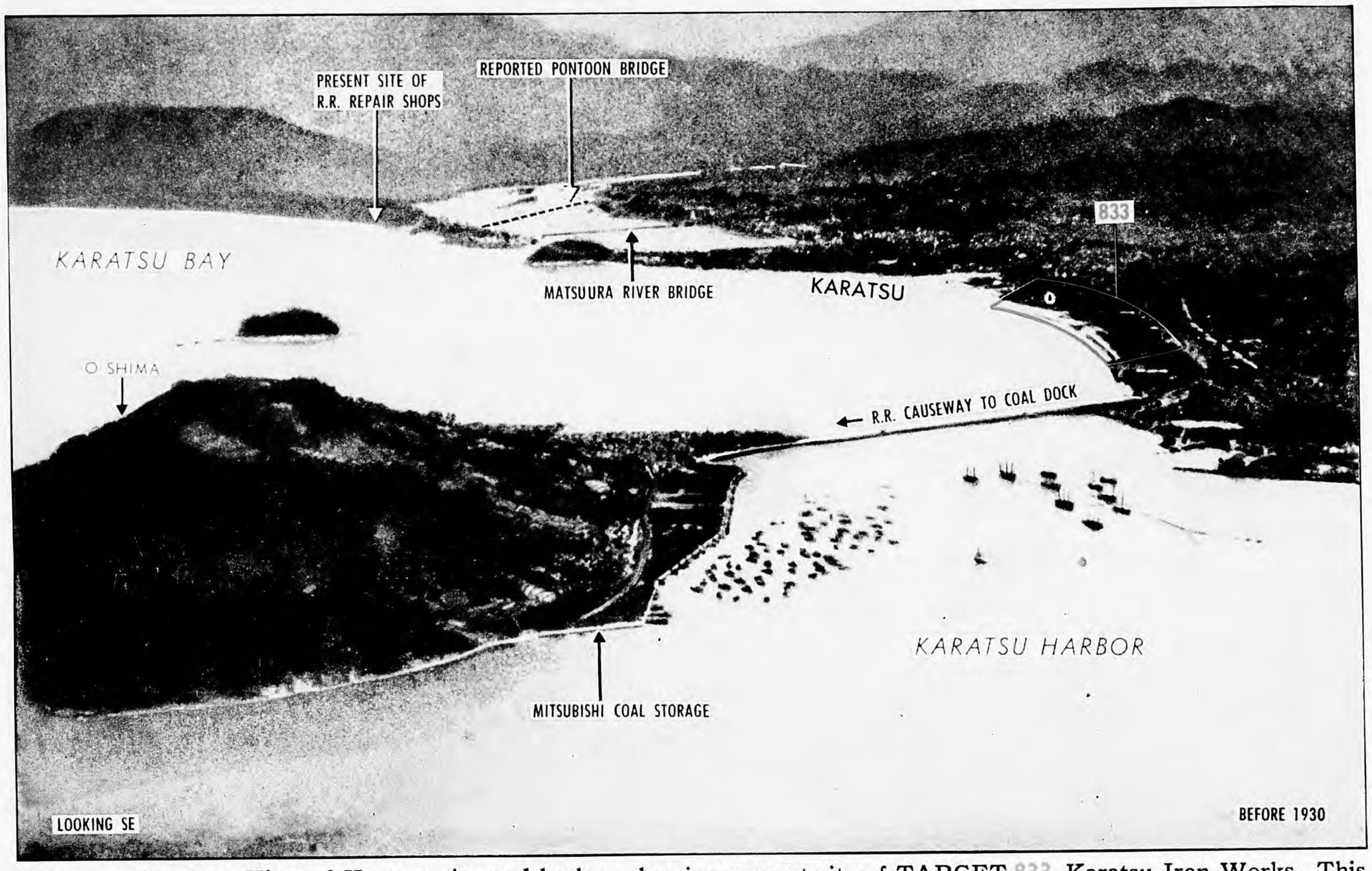


PHOTO 16—Karatsu—View of Karatsu city and harbor, showing present site of TARGET 833 Karatsu Iron Works. This is a shallow anchorage and coaling is done by lighter.

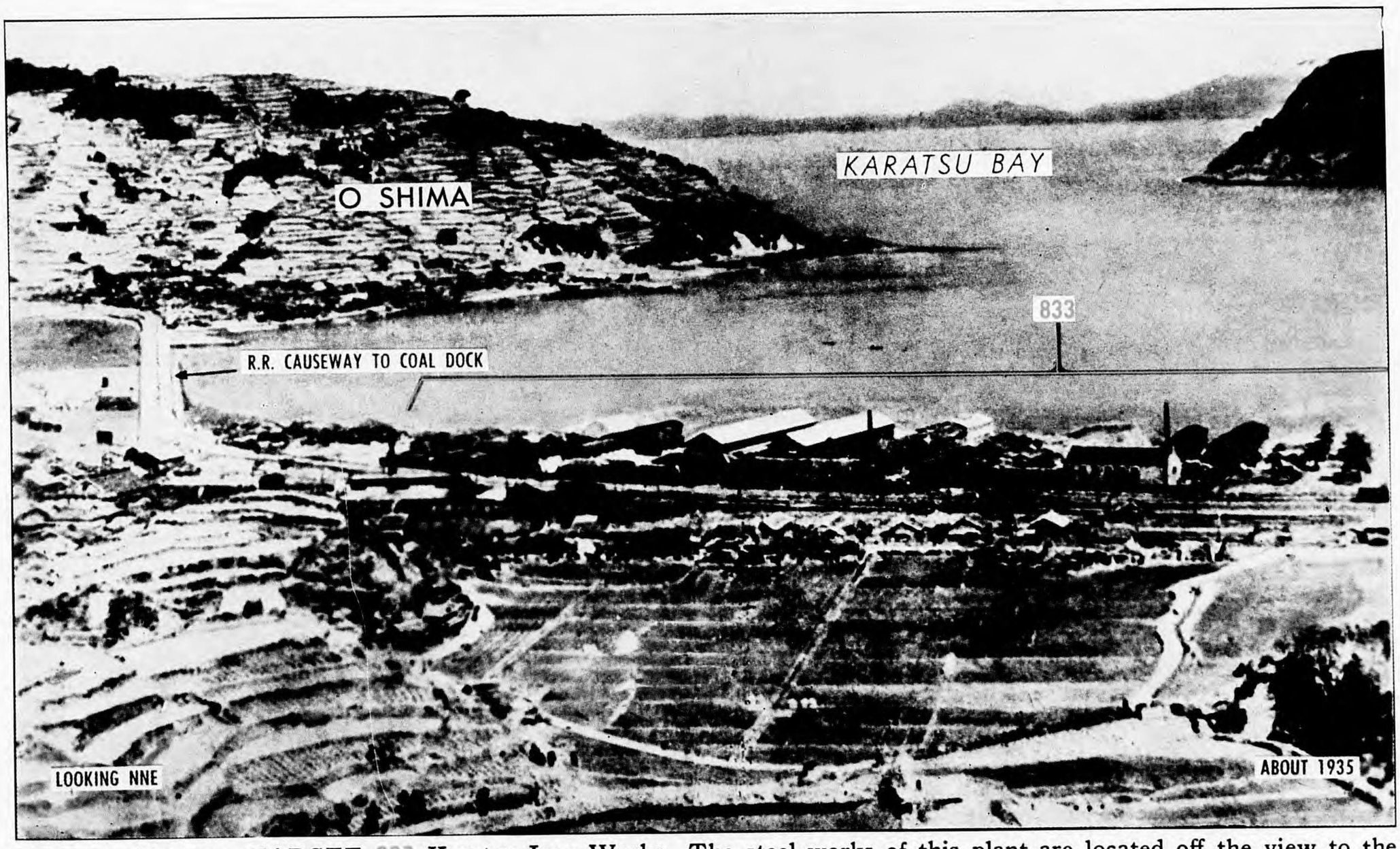
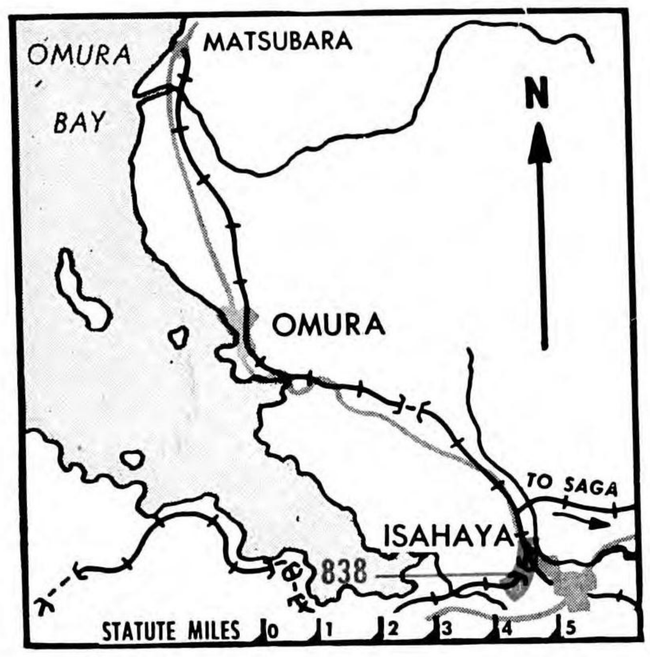


PHOTO 17—Karatsu—TARGET 833 Karatsu Iron Works. The steel works of this plant are located off the view to the right. Plant has been considerably expanded since view was taken.

SASEBO 90.36, TSUSHIMA 90.39 TARGET 833 (OUTLYING)

3648—Sasebo-Tsushima—20—6-30-44—First Proof



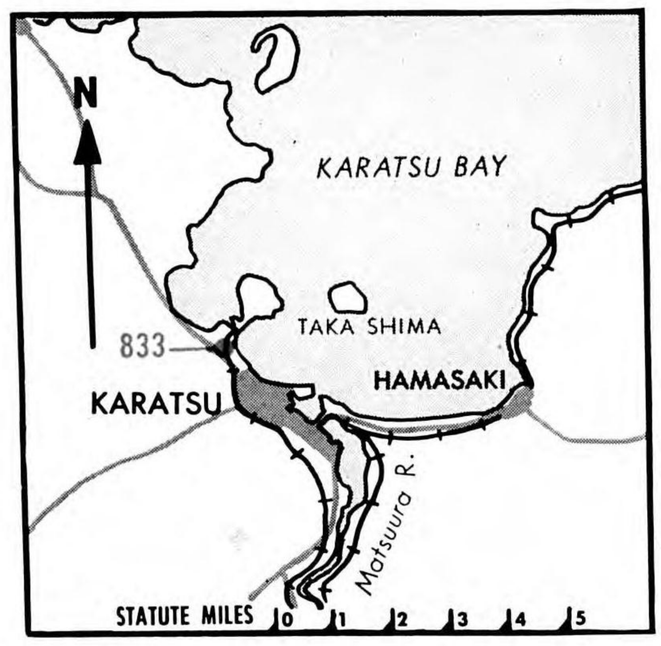
TARGET 90.36—

838 ISAHAYA RR JUNCTIONS

ISAHAYA

(TRANSPORTATION)

32° 51′ N 130° 03′ E (Approx)—Junction of Sasebo-Nagasaki and Saga-Isahaya lines in NW Isahaya. Controls single RR to Nagasaki. Junction of Sasebo-Nagasaki and Shimabara lines in SW Isahaya. Switchboard extends beyond two junctions. Although this objective lies in the Kurume Area (90.35), it is included because of its direct relation to this Area's transportation system.



TARGET 90.36—

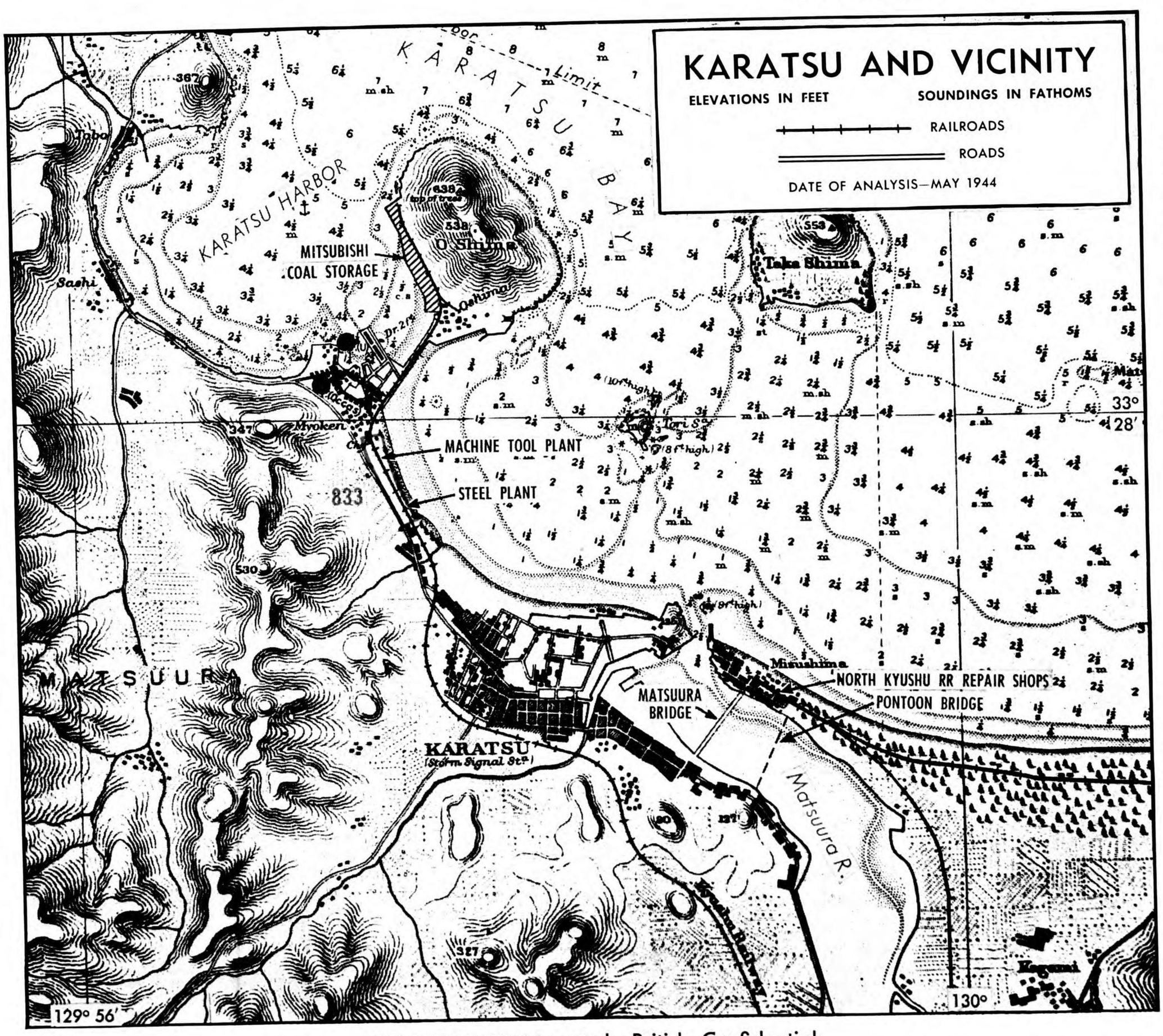
833 KARATSU IRON WORKS

(Karatsu Tekkosho KK)

KARATSU

(MACHINES & MACHINE TOOLS)

33° 28′ N 129° 57′ E (Approx)—One of outstanding machine tool plants in Japan. Probably first in quality and among first six in output. Plant comprises integrated alloy steel/machine tool works. Products include: lathes, drilling and boring machines, milling machines, gear cutters, ingot slicing machines, portable cranes, etc. At least 9000 tons of alloy steel annually. (See photos 16 and 17.)



3648—Sasebo-Tsushima—21—6-30-44—First Proof

CONFIDENTIAL equals British Confidential

SASEBO 90.36, TSUSHIMA 90.39 TARGETS 838, 833 (OUTLYING)

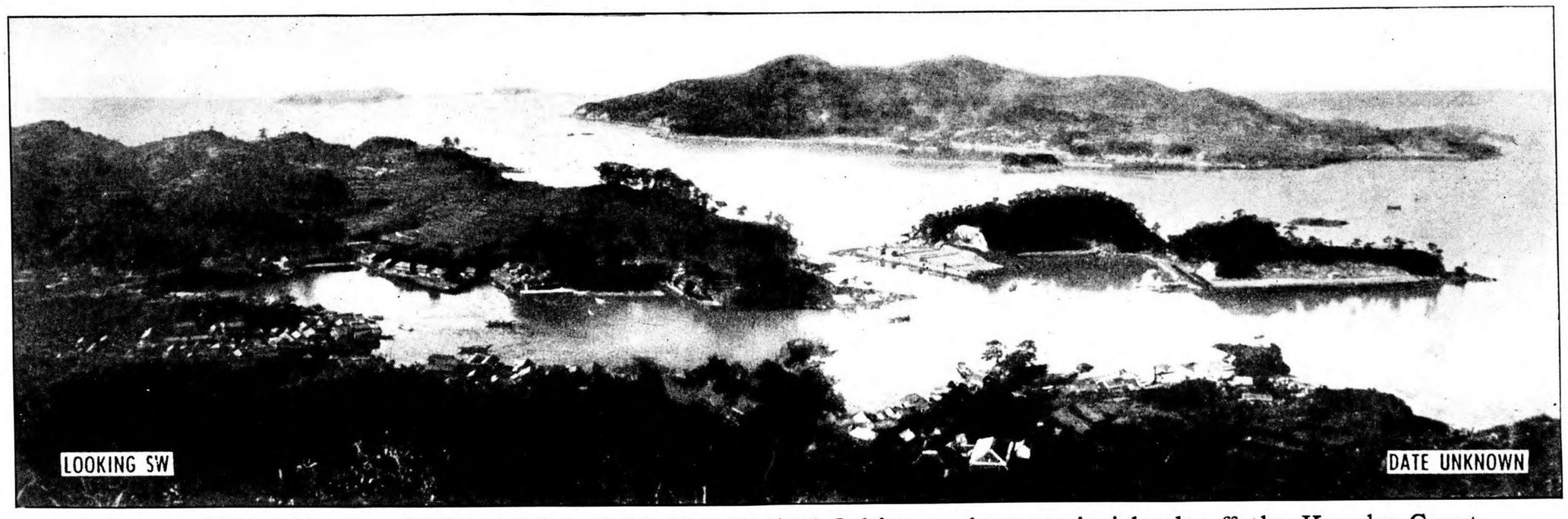
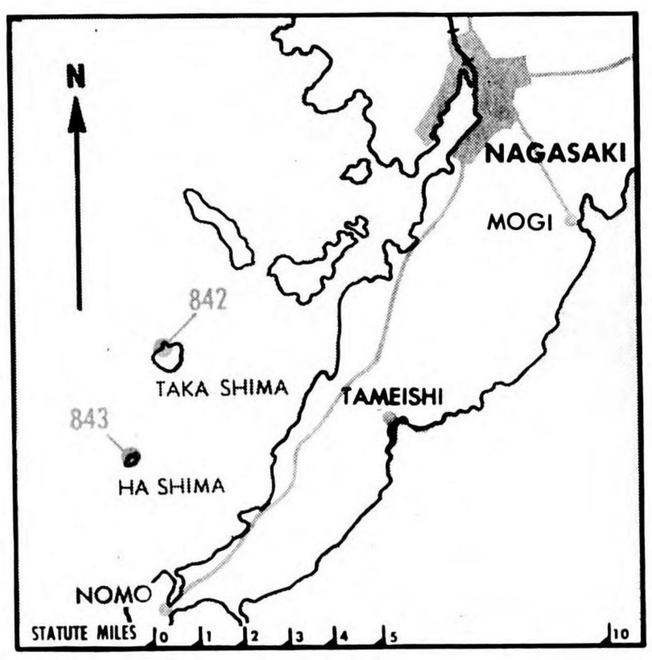


PHOTO 18—Fukushima and Matsushima Islands. Typical fishing anchorages in islands off the Kyushu Coast.



TARGET 90.36— 843

HA SHIMA COLLIERY

HA SHIMA (ISLAND)

(COAL)

32° 37′ N 129° 45′ E (Approx)—Situated 2.5 mi SSW of Takashima. Model mine, modern equipment. Installations at S end of Is, living quarters at N end.

(See photo 20.)

TARGET 90.36— 842

TAKA SHIMA COLLIERY

TAKA SHIMA (ISLAND)

(COAL)

32° 39′ N 129° 46′ E (Approx)—Now connected by causeway to Futagoshima. Accredited with 700,000 tons per year. Approx 1.3% of total Japanese production.

(See photo 19.)

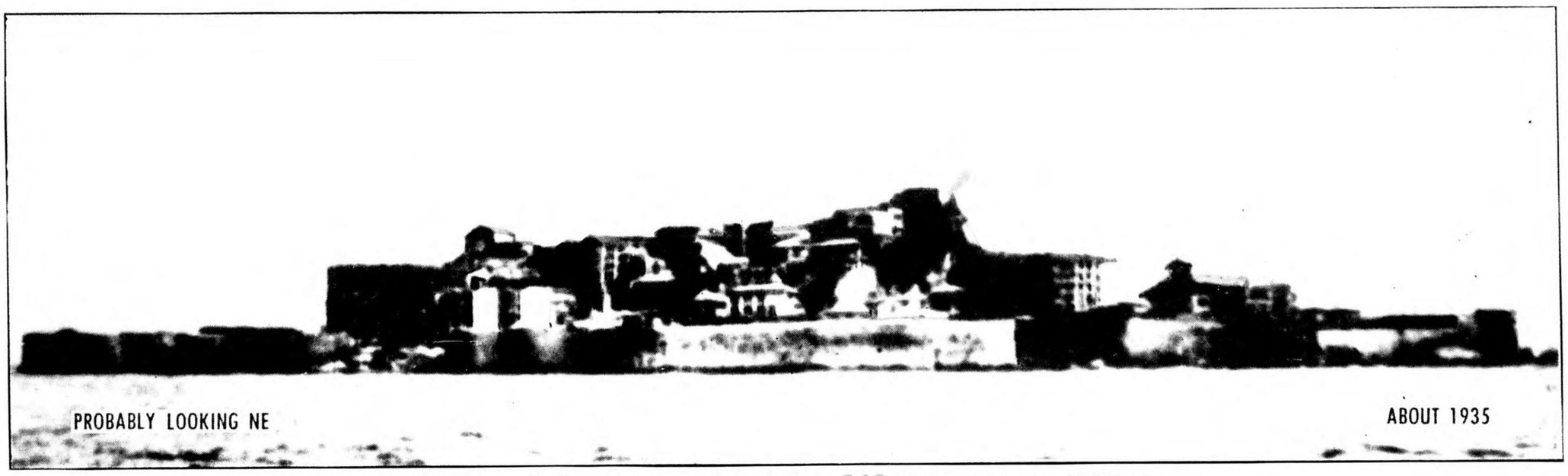
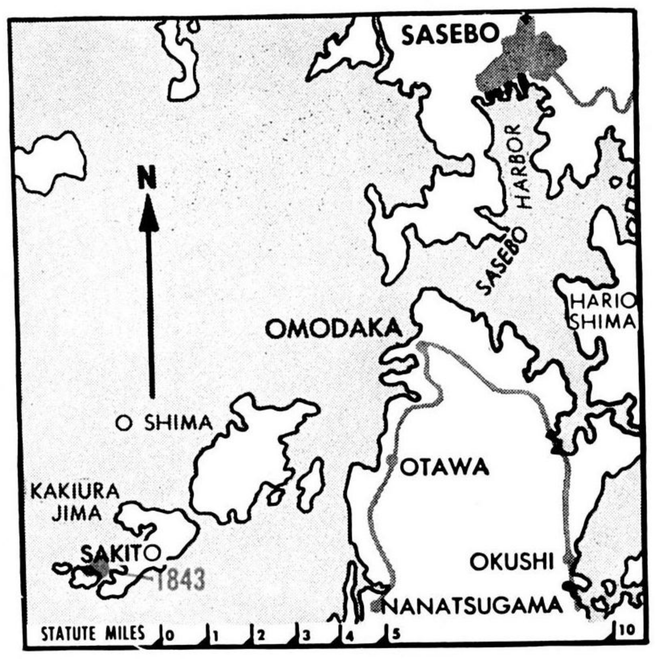


PHOTO 19—Taka Shima—TARGET 842 Taka Shima Colliery.

PHOTO 20—Ha Shima—TARGET 843 Ha Shima Colliery.

SASEBO 90.36, TSUSHIMA 90.39 TARGETS 843, 842 (OUTLYING)

3648—Sasebo-Tsushima—22—6-30-44—First Proof



TARGET 90.36—1843

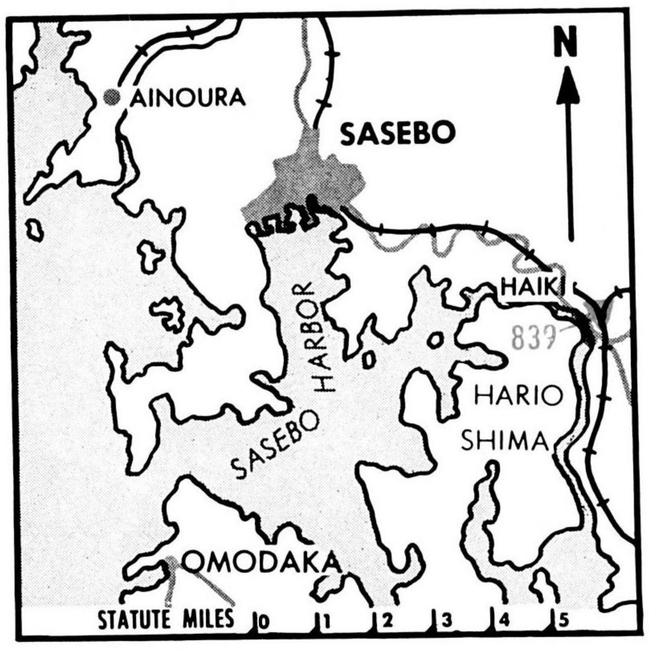
KYUSHU COAL & SS CO. COLLIERY

(Kyushu Tanko Kisen KK)

SAKITO SHIMA (ISLAND)

(COAL)

33° 00′ N 129° 33′ E (Approx)—Located on small Is 14.3 mi SW of Sasebo Naval Base and believed to supply coal to that area. Co operating mine also operates a few small coal ships. 1937 production listed at 1,071,000 metric tons, 2.3% of total for Japan Proper. Small steam power station which supplies mine is located nearby. Exact spotting unknown.



TARGET 90.36—839

HAIKI RR TERMINAL

HAIKI

(TRANSPORTATION)

33° 08′ N 129° 48′ E (Approx)—Important junction of Sasebo-Nagasaki RR with trunk line from NE region of Kyushu.

(See map on page M-12.)

SASEBO 90.36, TSUSHIMA 90.39 TARGETS 839, 1843 (OUTLYING)

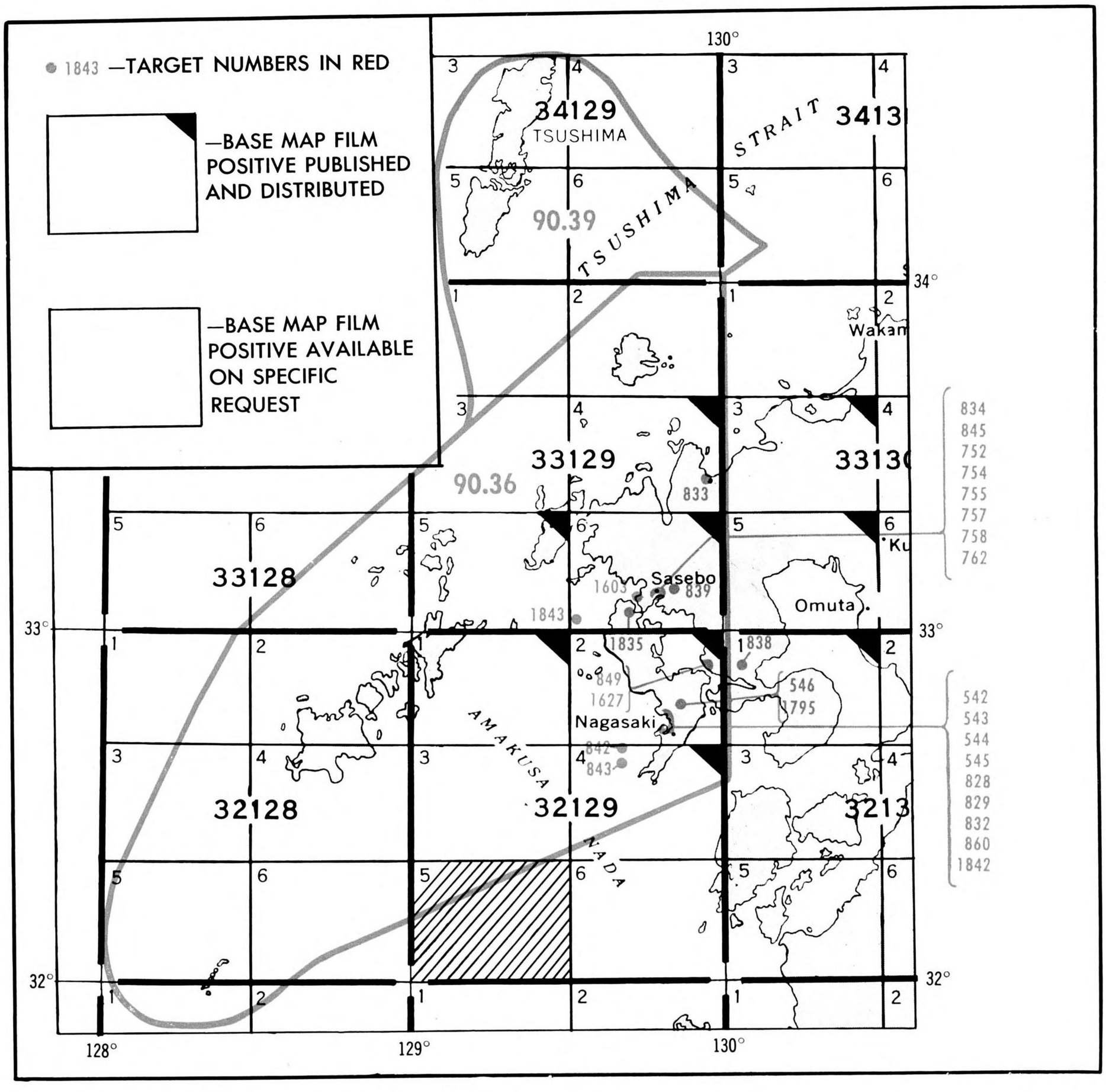
3648—Sasebo-Tsushima—23—6-30-44—First Proof

SASEBO 90.36, TSUSHIMA 90.39 TARGETS 839, 1843 (OUTLYING)

CONFIDENTIAL equals British Confidential

Target Chart Information for Sasebo, No. 90.36, Tsushima, No. 90.39

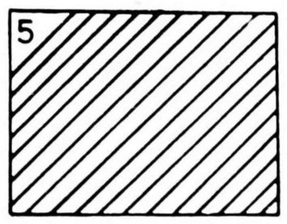
INDEX
AAF TARGET AREA BASES, 1:75,000



EXPLANATION: In lieu of the AAF Target Charts which heretofore have been distributed in conjunction with Air Objective Folders, Target Area Bases are being distributed in limited quantities to Theater Air Force Headquarters according to the coverage indicated by this index map. These maps are in the form of color-separation film positives which can be amplified with field intelligence and used as a base for target charts. In the event that the theater is unable to prepare specific charts, these will be prepared by Headquarters, AAF upon request.

PURPOSE AND USE: These film positives provide Theater Air Force Headquarters with the best map compilation of target areas that is available at Headquarters, AAF. Targets are identified by number on the film positives and are coordinated with the targets listed in Air Objective Folders. The maps are on a scale of 1:75,000 and are suitable for use with a bombardier grid in the bombing of obscured targets. Adjacent maps of the area may be joined to form a film positive from which a four-color target chart with a 12-mile radius may be prepared on any target or targets in this Air Objective Folder. These bases also provide ground control for the laying of aerial mosaics.

INDEX: The objective area covered by this Air Objective Folder is indexed for base map coverage in "blocks" bounded by one full degree of latitude and longitude. These blocks are further subdivided into six (6) individual sheets numbered from 1 to 6.



Thus a block is identified by the *reading of the coordinates at its SW corner*, and the sheet by its *individual sheet number*.

FOR EXAMPLE: Sheet 5 in the Index Map above is identified by the block, (the reading at its SW corner is Lat. 32° N., Long. 129° E.) and then the sheet (Sheet 5).

The correct sheet number is therefore "32129-5".

3128—Sasebo Tsushima—24—(630)44—First Proof

Weather Information, Sasebo No. 90.36, Tsushima No. 90.39

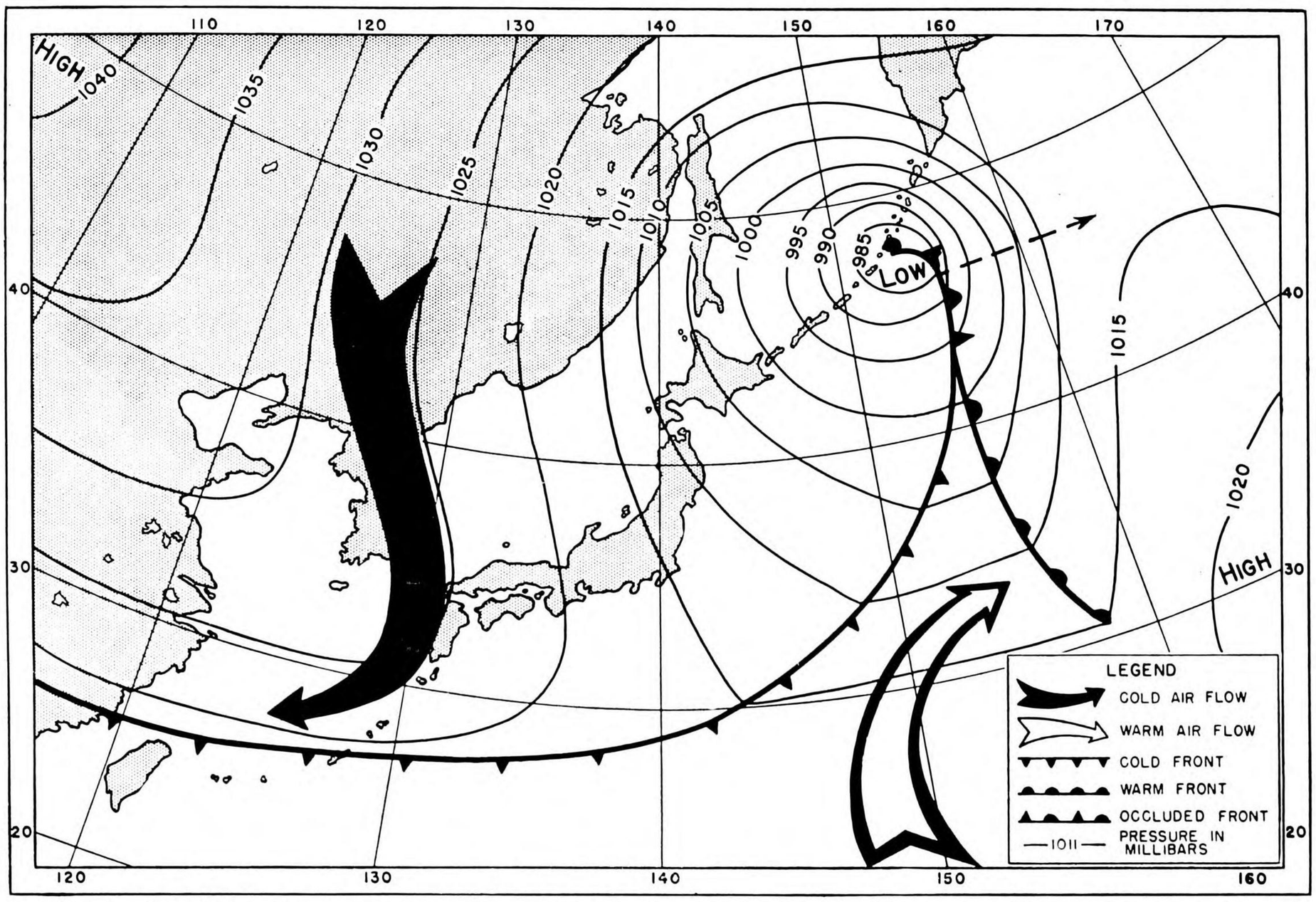


Figure 1.—Weather Situation Which is Frequent in Winter, and Usually Gives Excellent Bombing Weather at Stations in Tsushima Straits and on the Southwest Coast of Kyushu.

FREQUENCY OF SUITABLE BOMBING WEATHER

The frequency with which weather conditions suitable for various types of bombing may be expected in the Sasebo-Tsushima area depends upon the season and upon the direction of air flow over the area. In general, winds from westerly and northerly directions bring the best bombing weather, and since winds from these directions are more frequent in winter than in other seasons, winter is, on the average, the best season for aerial bombardment of the area.

The percentage frequencies of air flow from eight directions for winter, summer, and the transitional months are given in table 1.

Table 1.—Percentage Frequencies of Air Flow by Directions and Seasons*

	N	NE	E	SE	S	SW	W	NW
Winter (Oct.-Mar.)	21	17	8	6	3	6	7	32
Summer (June-Aug.)	3	16	11	10	10	36	10	4
Spring and Autumn (Apr., May, Sept.)	6	19	9	9	14	21	7	15

*From observations at 0600 and 1800 L.C.T. for a 2-year period.

The percentages show that about 50 percent of the time from October through March the general air flow is from the northwest and north. In summer, air from southerly directions prevails about 60 percent of the time, while air flow from the northwest and north occurs only 7 percent of the time.

WINTER WEATHER

During the months of October through March, when the most frequent direction of air flow is from the northwest, a common type of weather situation is one in which a deep, low-pressure center lies to the northeast of Japan, with a cold front aligned east-west, south of Japan. To the north of the cold front, northerly and northwesterly winds blow over Tsushima Straits and southwestern Japan. This type of situation is shown in figure 1.

Convective-type clouds form in the air from the north and northwest as it moves across the Sea of Japan and Tsushima Straits. At Izuhara, there are, on the average, 6 clear days in January, but at Sasebo there are only 2. (See figures 2 and 3.) Rain and snow showers are frequent, occurring on from one-third to one-half the days of the month. (See tables 3 and 4.)

The frequency of conditions suitable for various types of bombing at Izuhara, on the island of Tsushima, are shown in table 2. The values given in the table are the percentage frequencies of occurrence of weather suitable for eigher high-level or low-level visual bombing, suitable for low-level bombing only, or unsuitable for flying. It should be noted that the values refer only to conditions over Izuhara, and cannot be assumed to indicate the frequency of conditions favorable for operations from bases to the target and return.

If for any given direction and speed of air flow, conditions favorable for a certain type of bombing occur 75 percent or more of the time, this fact has been considered particularly significant, and has been emphasized in the table by underlining the value.

In winter, the highest frequency of good bombing weather occurs with westerly, northwesterly, and northerly air flow, while unfavorable weather occurs usually with easterly, southeasterly and southerly air flow.

Above about 6,000 feet, and up to at least 20,000 feet, westerly winds prevail about 90 percent of the time in winter. The average velocity of this westerly current at 10,000 feet is 28 m.p.h.

Between October and May, the freezing level in the upper air is normally below 10,000 feet, and icing may occur on aircraft below this level whenever clouds are present.

SUMMER WEATHER

Summers are cloudy over the entire region. Consequently, the opportunities for high-level visual bombing are infrequent at this season. Low-level bombing, however, is possible about 50 percent of the time. The best weather for high-level visual bombing is associated with westerly or northeasterly air flow of 15 to 25 m.p.h. (see table 2). Westerly air flow occurs about 10 percent of the time in summer, and northeasterly flow about 16 percent of the time (table 1).

A typical weather situation for the summer months, and one which usually brings favorable conditions for low-level bombing, is shown on figure 4. Southwesterly air flow occurs to the south of a warm front lying north of Tsushima. Clouds are prevalent over the entire area in this type of weather situation.

Izuhara, in July, has an average of 18 days with cloud cover of 0.8 or greater, while only two days, on the average, are clear (see figure 3). Rainfall occurs on about one-half the days of June and July.

Icing on aircraft will seldom occur in this region in summer, except in the tops of towering cumulus clouds. The prevailing southwesterly winds of lower levels become westerly above about 6,000 feet, and velocities increase to about 20 m.p.h. at 10,000 feet.

3648 ~~3628~~—Sasebo-Tsushima—25— 6-30-44—First Proof

WEATHER INFORMATION FOR SASEBO AREA, No. 90.36, TSUSHIMA AREA No. 90.39—Continued

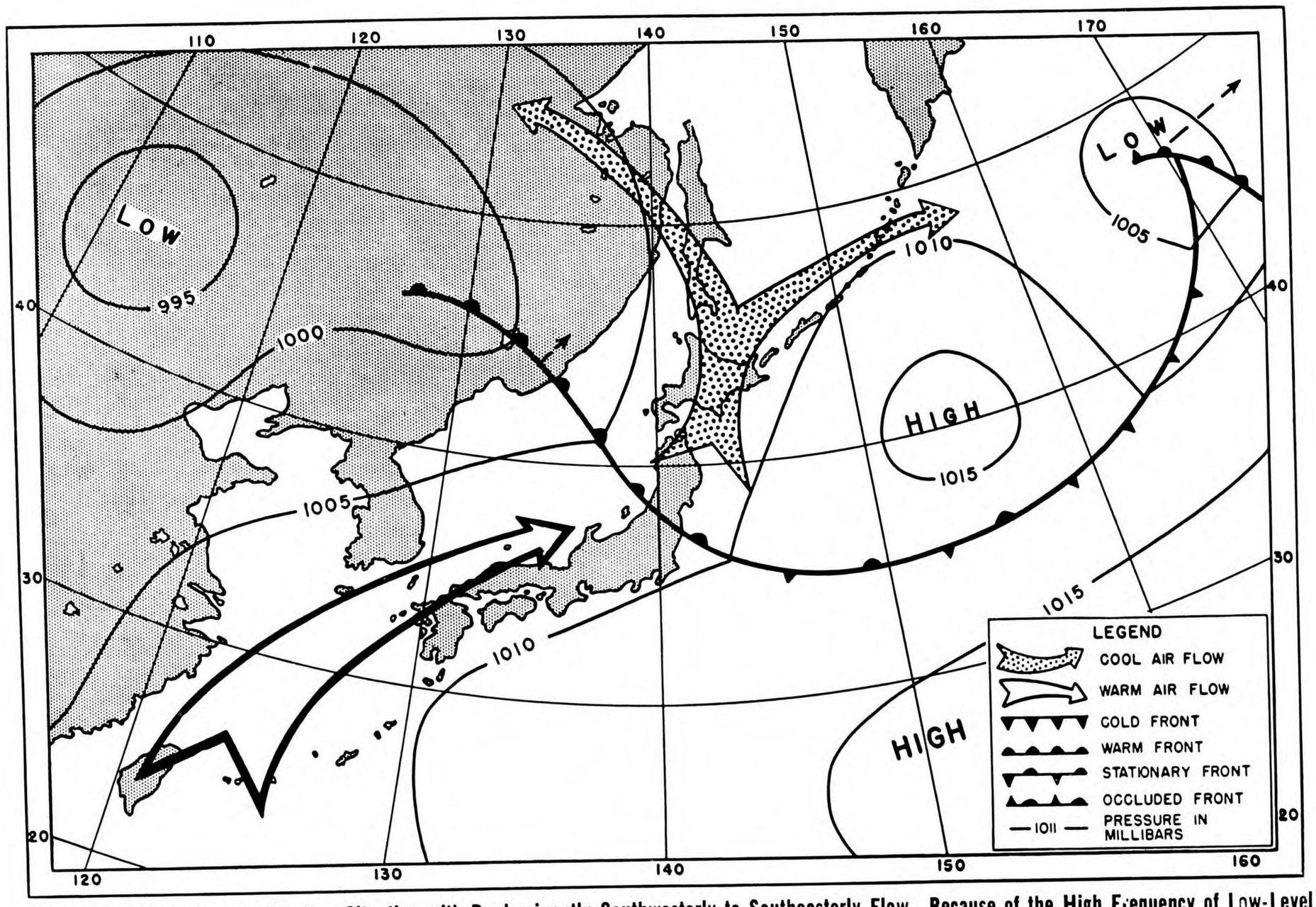


Figure 4.—Typical Summer Weather Situation with Predominantly Southwesterly to Southeasterly Flow. Because of the High Frequency of Low-Level and Middle-Level Clouds Associated with This Type, Usually only Low-Level Bombing May Be Employed.

Fog is very rare in this region. Only when warm air moves over colder water are advection fogs formed over the sea, and this condition obtains in this region only during the summer months. Izuhara has a maximum frequency in June, when fog occurs, on the average, 5 days of the month.

WEATHER OF THE TRANSITIONAL MONTHS

In spring and autumn, a series of storm centers moves through this region, and air flow alternates frequently between northerly and southerly directions. Conditions suitable for high-level visual bombing occur about 15 percent of the time, generally with air flow from the northwest. Low-level bombing operations are possible about 80 percent of the time, and are most favorable with east or southeast winds.

On the southwest coast in the vicinity of Sasebo, the months of October and November are the sunniest of the year, having, respectively, six and five clear days. At Izuhara, October and November rank with December and January as the best months for bombing operations (see figure 3 and table 3).

INCENDIARY BOMBING

The weather on the western part of the island of Kyushu is not particularly well suited to effective incendiary bombing. The south shores in the vicinity of Nagasaki are protected from those winds (north and west) which have the highest velocities, and wind speed is the most important factor in the spread of fire. High rainfall in the summer months and frequent showers at all seasons also reduce the number of days when surfaces are in condition for easy ignition. Generally, those days in any month when high-level visual bombing is possible will be suitable for incendiary bombing. This is particularly true of the spring and autumn months, because at these seasons the wind velocities tend to be higher. Figure 5 shows the average number of days in each month when conditions are rated good, excellent or superior for the spread of fire at Nagasaki at 0800 L.C.T.

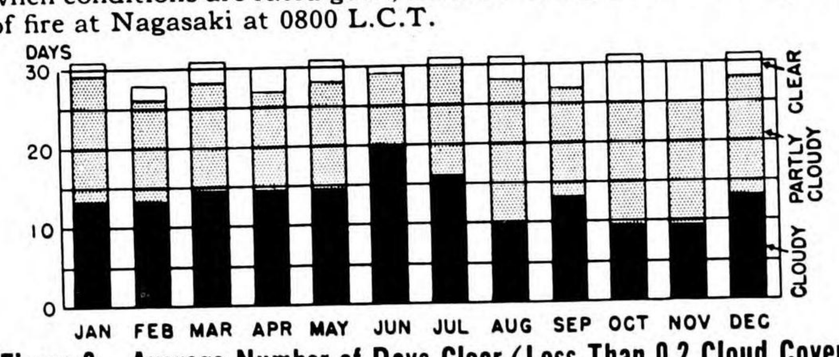


Figure 2.—Average Number of Days Clear (Less Than 0.2 Cloud Cover), Partly Cloudy (0.2 to 0.8 Cloud Cover), and Cloudy (Over 0.8 Cloud Cover) at Sasebo.

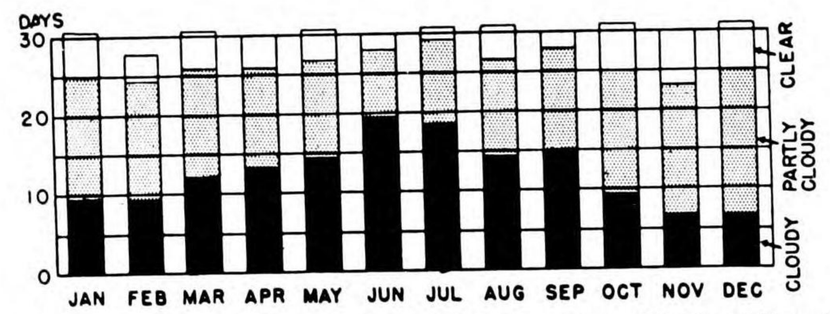


Figure 3.—Average Number of Days Clear (Less Than 0.2 Cloud Cover), Partly Cloudy (0.2 to 0.8 Cloud Cover), and Cloudy (Over 0.8 Cloud Cover) at Izuhara, Tsushima.

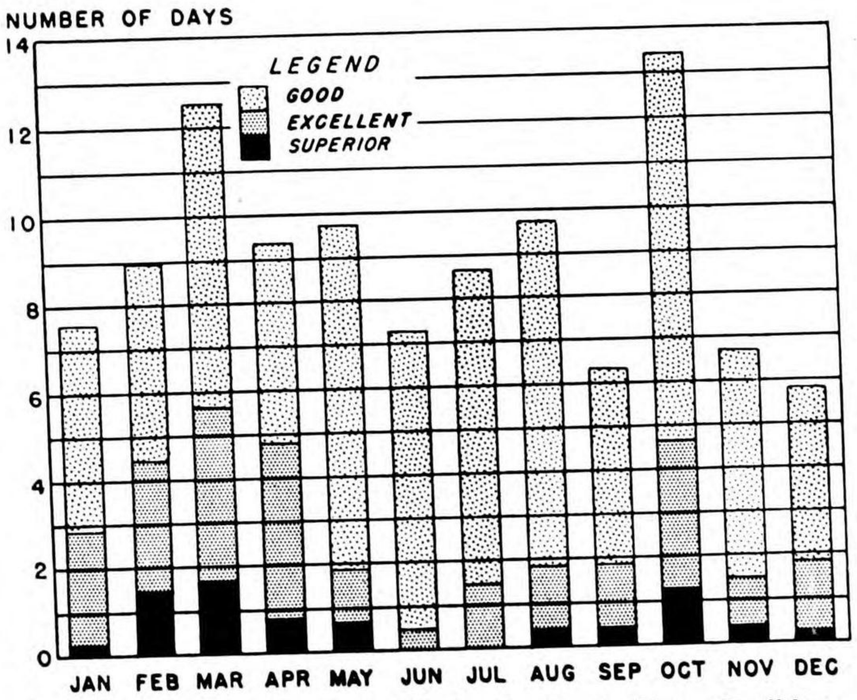


Figure 5.—Average Number of Days per Month When Conditions at Nagasaki are Rated Good, Excellent, or Superior for the Spread of Fire.

3 C 48 — Sasebo-Tsushima—26— 6-30-44—First Proof

WEATHER INFORMATION FOR SASEBO AREA, No. 90.36, TSUSHIMA AREA, No. 90.39—Continued

Table 2.—Percentage Frequency of Conditions Suitable for Various Types of Bombing# for Various Directions and Velocities of Air Flow at Izuhara, Tsushima

Velocity, m.p.h.	Bombing Conditions	Direction of Free-Air Flow							
		N	NE	E	SE	S	SW	W	NW
	Winter (Oct.-Mar.)								
5-10	Suitable for high- and low-level	67	62	28	0	33	73	91	81
	Suitable for low-level only	28	32	67	81	67	27	9	19
	Unsuitable for either type	5	6	5	19	0	0	0	0
10-15	Suitable for high- and low-level	58	33	26	8	0	27	71	61
	Suitable for low-level only	32	54	65	77	67	60	18	34
	Unsuitable for either type	10	13	9	15	33	13	11	5
15-25	Suitable for high- and low-level	45	24	0	0	0	10	50	60
	Suitable for low-level only	48	48	16	12	16	70	50	32
	Unsuitable for either type	7	28	84	88	84	20	0	8
25 or >	Suitable for high- and low-level	58	*	*	*	*	28	75	38
	Suitable for low-level only	42	*	*	*	*	14	0	62
	Unsuitable for either type	0	*	*	*	*	58	25	0
	Summer (June-Aug.)								
5-10	Suitable for high- and low-level	25	23	40	33	60	48	42	66
	Suitable for low-level only	75	65	60	67	33	48	58	34
	Unsuitable for either type	0	12	0	0	7	4	0	0
10-15	Suitable for high- and low-level	0	31	18	7	57	10	43	57
	Suitable for low-level only	100	53	77	93	31	77	36	43
	Unsuitable for either type	0	16	5	0	12	13	21	0
15-25	Suitable for high- and low-level	*	83	0	0	25	9	100	*
	Suitable for low-level only	*	17	87	50	50	72	0	*
	Unsuitable for either type	*	0	13	50	25	19	0	*
25 or >	Suitable for high- and low-level	0	0	*	*	*	5	43	*
	Suitable for low-level only	100	71	*	*	*	70	57	*
	Unsuitable for either type	0	29	*	*	*	25	0	*
	Spring and Autumn (April, May, and Sept.)								
5-10	Suitable for high- and low-level	29	44	20	10	11	43	44	41
	Suitable for low-level only	71	56	80	85	78	43	56	47
	Unsuitable for either type	0	0	0	5	11	14	0	12
10-15	Suitable for high- and low-level	56	26	0	9	11	24	30	55
	Suitable for low-level only	33	52	90	82	53	73	70	41
	Unsuitable for either type	11	22	10	9	36	3	0	4
15-25	Suitable for high- and low-level	50	9	0	*	9	7	25	100
	Suitable for low-level only	33	59	43	*	45	73	50	0
	Unsuitable for either type	17	32	57	*	46	20	25	0
25 or >	Suitable for high- and low-level	*	*	*	*	*	25	*	100
	Suitable for low-level only	*	*	*	*	*	50	*	0
	Unsuitable for either type	*	*	*	*	*	25	*	0

#Weather suitable for high-level and low-level bombing—clear sky to scattered clouds.
Weather suitable for low-level bombing only—broken to overcast cloud cover.
Weather unsuitable for either type—rain, snow, thunderstorm, or fog.

*Insufficient data or no cases.

Table 3.—Climatic Summary for Izuhara, Tsushima

34°11′ N.; 129°15′ E. Elevation, 24 feet (30-year record)

	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
Cloudiness													
No. of days													
Clear (<0.2)	6	4	5	4	4	2	2	4	2	6	7	6	52
Cloudy (>0.8)	9	9	12	13	14	19	18	14	15	9	7	7	146
Precipitation													
Mean amount (in.)	3.6	3.7	5.0	8.8	7.6	14.0	13.1	9.9	12.6	5.5	3.2	3.1	90.1
No. of days with 0.004 in.	12	11	13	12	11	14	15	13	14	9	10	10	144
Temperature (°F.)													
Mean Maximum	49	49	55	63	71	76	82	86	79	71	62	52	66
Mean Minimum	33	34	39	48	55	62	71	73	67	55	45	36	52
Fog													
No. of days	1	1	2	2	2	5	3	1	1	1	1	1	21
Snowfall													
No. of days	4	4	1	—	—	—	—	—	—	—	—	3	12

3648 -Sasebo-Tsushima-27 - 6-30-44—First Proof

WEATHER INFORMATION FOR SASEBO AREA, No. 90.36, TSUSHIMA AREA, No. 90.39—Concluded

Table 4.—Climatic Summary for Sasebo

33°11′ N.; 129°40′ E. Elevation, 48 feet (36-year record)

	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
Cloudiness													
No. of days													
Clear (<0.2)	2	2	3	3	3	1	1	3	3	6	5	3	35
Cloudy (>0.8)	13	13	14	14	14	20	16	10	13	9	9	13	158
Precipitation													
Mean amount (in.)	2.9	3.3	5.1	7.3	6.1	13.5	11.4	7.2	10.0	4.3	3.4	3.1	77.6
No. of days with 0.004 in.	16	13	14	13	12	16	14	11	13	10	11	15	158
Temperature (°F.)													
Mean Maximum	50	51	57	67	73	79	86	89	83	74	64	54	69
Mean Minimum	36	36	41	49	56	65	73	74	68	57	47	39	53
Fog													
No. of days	*	*	*	1	*	*	*	—	—	—	*	*	2
Snowfall													
No. of days	6	5	2	—	—	—	—	—	—	—	*	3	16

*Less than 0.5 day.

Tabulation of Airports and Seaplane Anchorages Sasebo No. 90.36, Tsushima No. 90.39

TABULATION OF AIRPORTS IN SASEBO AREA, No. 90.36

Name	Location	Comment
	AIRPORTS	
Kodakamura	32° 50′ N 129° 50′ E About 6 mi NNW of Nagasaki, on S shore of Omura Bay.	Civil landing field reported. Also training center for Fleet Air Arm Pilots.
Nagasaki	32° 45′ N 129° 51′ E Near entrance to Nagasaki Harbor.	Civil airfield reported.
Omura (T.N. **849**)	32° 56′ N 129° 56′ E 2½ mi NW of Omura on W shore of Omura Bay.	Naval Air Base & Seaplane Station. Auxiliary field 1 mi SE.
Sasebo (T.N. **754**)	33° 08′ N 129° 43′ E E side of Sasebo Inner Harbor.	Naval Air Base and Seaplane Station.
Tomie	32° 36′ N 128° 46′ E On S shore of Fukue Shima.	Naval airfield. Also called Hukuejima.
	SEAPLANE BASES	
Iki Shima	33° 44′ N 129° 41′ E SW side of Iki Shima.	Seaplane base reported. Unconfirmed.
Nagasaki	32° 43′ N 129° 52′ E In Nagasaki Harbor.	Reported

NOTE: A new Naval Air Station is reported on the Doinikubi Peninsula. Exact location not known.

3748 3628—Sasebo-Tsushima—28—6-30-44—First Proof

Map Information for Sasebo Area, No. 90.36, Tsushima Area, 90.39

LEGEND FOR THE USE OF JAPANESE IMPERIAL LAND SURVEY MAPS, 1:50,000

Density of Construction in Urban Areas

Dense | Moderate | Sparse

- Navy Lookout Tower
- Factory
- Bank
- Powder Magazine
- Water Wheel or Mill
- Power Transformer
- Masonry Wall
- Fences
- Bamboo Fences
- Stone Wall
- Earthen Wall
- Hedge
- Cemetery
- Ditches
- Shrine Gate
- Stone Lantern
- Monument
- Statue
- Signpost
- Stone Steps
- Crane
- Oil Well
- Mileage Marker
- Stumps
- Isolated Trees
- Chimney
- 96.1 Triangulation Point
- 365.37 Secondary Control Point
- 423.42 Bench Mark
- 32.5 Spot Elevation

All above Sea Level

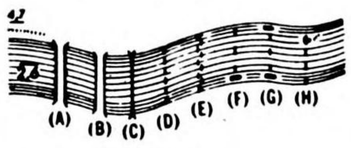
- Old Battlefield
- Spring
- Tomb
- Castle Site
- Volcano
- Mineral Spring
- Material Dump
- Mine
- Boundary Marker

- Shrine
- Temple
- Grave
- Pagoda
- Church
- Japanese Government Building
- Foreign Government Building
- Military Reservation
- Naval Reservation
- Division Headquarters
- Brigade Headquarters
- Fortress and Defense Headquarters
- Battalion Headquarters and Garrison
- Regimental Headquarters
- Naval Station
- Secondary Naval Station
- Naval Camp
- Army Camp
- Shipyard
- Prefectural Seat
- Sub-prefectural, Island-office or Gun Seat
- City Office
- Town, Village or Ward Office
- School
- Hospital
- Isolation Hospital
- Gendarmerie Post
- Police Station
- Court of Appeals
- Prison
- Customs House
- Tax Office
- Forestry Office
- Mining Office
- Government Monopoly Bureau Office or Factory
- Office of Maritime Affairs
- Meteorological Station
- Post Office (with Telegraph and Telephone service)
- Post Office
- Telegraph Office
- Telephone Office

CONTOUR INTERVAL 20 METERS
HEIGHTS IN METERS

- National Highway
- Main Prefectural Roads
- More than 3 Meters Wide
- More than 2 Meters Wide
- More than 1 Meter Wide
- Less than 1 Meter Wide
- Impassable for Carts
- Tree-lined Roads: (A) Narrow (B) Wide
- Power Lines along Road: (A) Ordinary (B) High Tension
- Government Railways: (A) Two Tracks (B) Single Track (C) Station
- Feeder Railways: (D) Double (E) Single

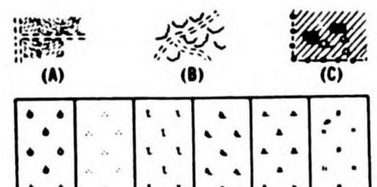
Boundaries: International
Prefectural (A) Fixed (B) Approximate
Province (Obsolete)
Gun, shi or Sub-prefectural
Ward, Machi or Mura (A) Fixed (B) Approx.
Government Lands
Property Lines (A) Fixed (B) Approximate



4.2 Height of Bank
2.6 Depth of Water

- (A) Iron Bridge
- (B) Wooden Bridge
- (C) Foot Bridge
- (D) Foot Ford
- (E) Vehicular Ford
- (F) Passenger Ferry (Single Boat)
- (G) Passenger and Horse Ferry (Two Boats)
- (H) Steam Ferry

- Lighthouse
- Radio Mast
- Warning Signal
- Boat Anchorage
- Ship Anchorage
- Anchorage
- Commercial Port
- Fixed Beacon
- Fixed Beacon (Lightless)
- Buoy (Lightless)



(A) Flower Garden
(B) Grove
(C) Truck Garden

(A) Orchard (D) Cultivated marsh
(B) Tea (E) Irrigated rice field
(C) Mulberry (F) Dry Rice Field

(A) Wild Land (D) Conifers
(B) Palm (E) Broad-leaf Trees
(C) Bamboo (F) Grass Land

(A) Cliff (E) Depression
(B) Rock Outcropping (F) Ravine, Gully
(C) Scattered Rock (G) Crumbling Bank
(D) Talus Slope

CONVERSION GRAPH

Meters	Feet
3,000	10,000
	9,000
2,500	8,000
	7,000
2,000	6,000
1,500	5,000
	4,000
1,000	3,000
	2,000
500	1,000
0	0

GLOSSARY

VARIANTS IN PARENTHESES

-bae (-hae) rock	-goe (-koe) mountain pass	-jima (-shima, -tō) island	-mura township	-suidō channel
-bakufu waterfall	-gun county	-kai (-umi) bay, gulf	-nada sea	-tai (-dai) plateau, plain
-bama (-hama) beach, field	-guntō archipelago	-kaikyō strait	-no plain, field	-take (-dake) mountain
-bana (-hana) point	-fuji mountain	-kawa (-gawa) river	-onsen hot spring, spa	-taki (-daki) waterfall
-bara (-hara) plain, field	-hae (-bae) rock	-ken prefecture	-rettō island chain	-tani (-dani) valley, stream
-chō (-machi) township	-hama (-bama) beach, field	-ko lake	-saki (-zaki, -misaki) cape	-tō (-shima, -jima) island
-dai (-tai) plateau, plain	-hana (-bana) point	-kō harbor	-san (-zan, -yama) mountain, ridge	-tōge mountain pass
-dake (-take) mountain	-hantō peninsula	-koe (-goe) mountain pass	-se reef, shoal, rapid	-uchi inlet
-daki (-taki) waterfall	-hara (-bara) plain, field	-kojima small isle	-seto strait	-umi (-kai) bay, gulf
-dani (-tani) valley, stream	-ike pond	-machi (-chō) township	-shi municipality, city	-ura inlet, beach
-gan (-iwa) rock, cliff	-ishi rock, cliff	-mine mountain	-shima (-jima, -tō) island	-wan bay
-gata bay, inlet, lake	-iso rock, skoal	-misaki (-saki, -zaki) cape	-shō reef, shoal	-yama (-san, -zan) mountain, ridge
-gawa (-kawa) river	-iwa (-gan) rock, cliff	-mori mountain, forest	-shotō island group	-yu mineral spring, spa
				-zaki (-saki, -misaki) cape
				-zan (-san, -yama) mountain, ridge

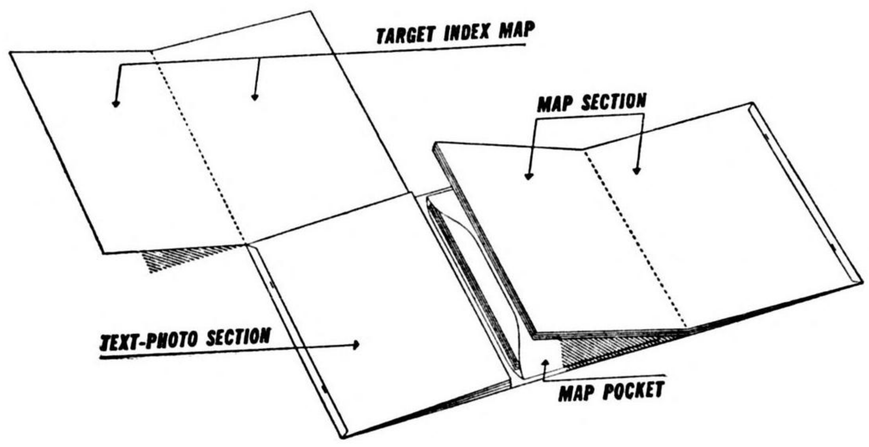
—Sasebo-Tsushima—29—6-30-44—First Proof

AIR OBJECTIVE FOLDERS

Air Objective Folders are primarily for the use of group and squadron commanders, operations officers, and intelligence officers in the planning of operations and the briefing of crews.

As an aid to staff planning, a summary and evaluation of main divisions within the area is included. Target and objective areas are numbered in a separate series for each country. For example, in this folder: 90.36-849 indicates Japan (90), Sasebo Area (36) and TARGET 849, Omura Naval Air Station.

Supplementing the Air Objective Folder are Target Area Base Maps, distributed in lieu of AAF Target Charts formerly provided for the use of air crews. These maps are being distributed in limited quantities to Theater Air Force Headquarters and are described on the Target Chart Information page in this folder.



The Air Objective Folder is divided into a Text-Photo Section, a Map Section, and a Map Pocket.

In the Text-Photo Section a Target-Index Map opens upward to form a handy reference in locating ALL TARGETS.

The Map Section unfolds to permit cross-checking with material in the Text-Photo Section.

The Map Pocket contains oversize maps.

There are three quick-reference Index Pages at the beginning of the Text-Photo Section which list targets by classification, by name, or by number. An additional Index of Targets appears at the beginning of each regional division. Thus in locating a target in the Air Objective Folder you need to know only the classification, name or number of the target.

Target description pages in this folder have been perforated, so that they may be extracted and adapted to any filing system. All text and photo pages are indexed for filing. Individual target descriptions and illustrations are grouped together so that photographs, city plans and orientation maps may be used in a baloptican while briefing the crews.

It will be noted that one photograph may include several targets for orientation purposes. However, in every instance, the best available photograph of a target will *accompany the description of that target.*

NEITHER THE FOLDER NOR ANY PART OF IT MAY BE TAKEN INTO THE AIR ON OFFENSIVE MISSIONS

SASEBO, TSUSHIMA AREA

AREA MAP OF SASEBO 90.36 LOCATING ALL TARGETS

RAILROADS

ADAPTED FROM U.S.H.O. CHART V-457—1940

DATE OF ANALYSIS—JUNE, 1944

NAGASAKI

FOR TARGETS 546 AND 1795
SEE MAPS ON PAGE M-4
AERIAL VIEW ON PAGE M-5

FOR TARGETS 542, 543, 544, 828, 829 AND 1842 SEE AERIAL VIEW ON PAGE M-5
MAP ON PAGE M-6

FOR TARGETS 545, 832 AND 860
SEE MAP ON PAGE M-6

OMURA

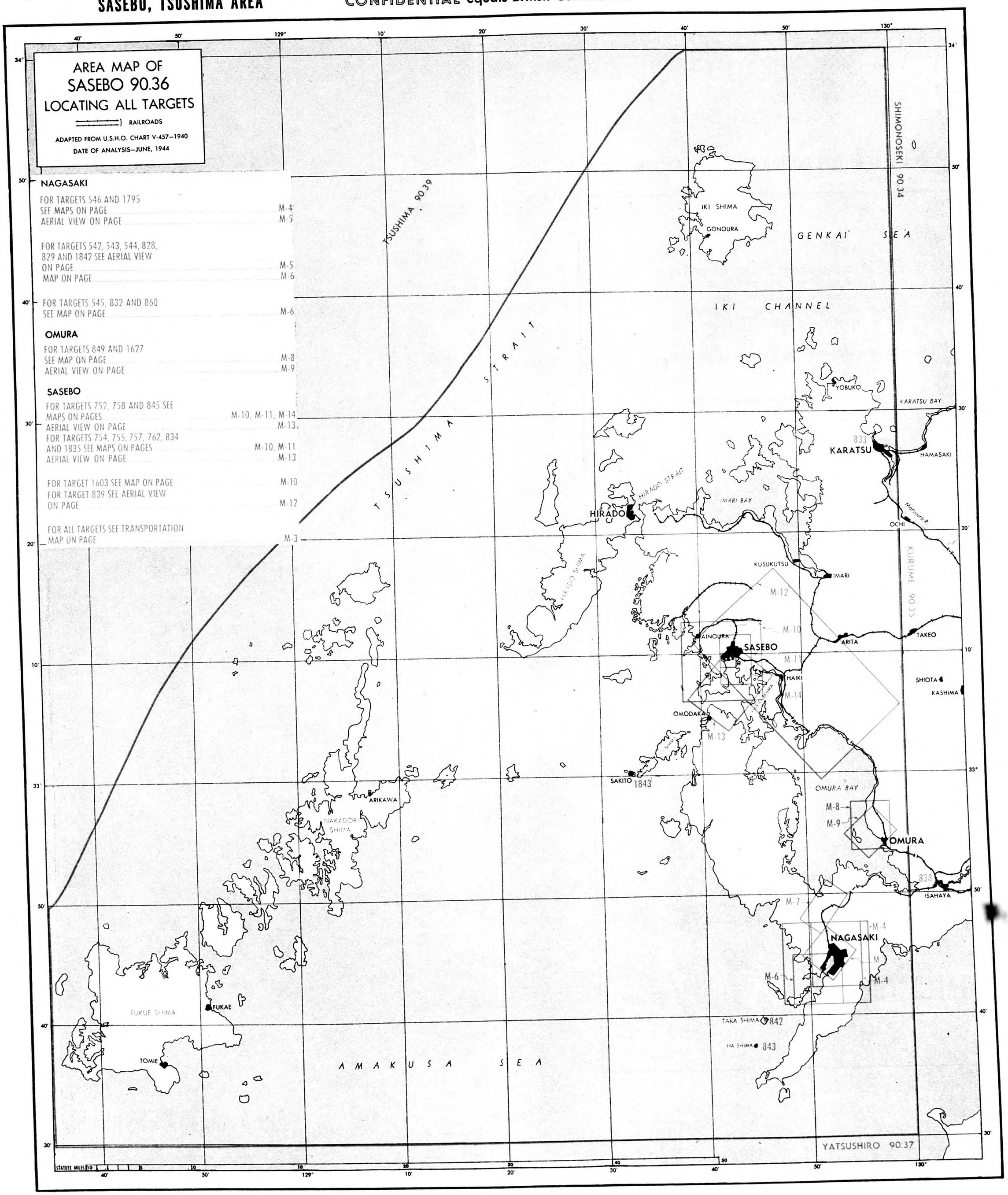
FOR TARGETS 849 AND 1627
SEE MAP ON PAGE M-8
AERIAL VIEW ON PAGE M-9

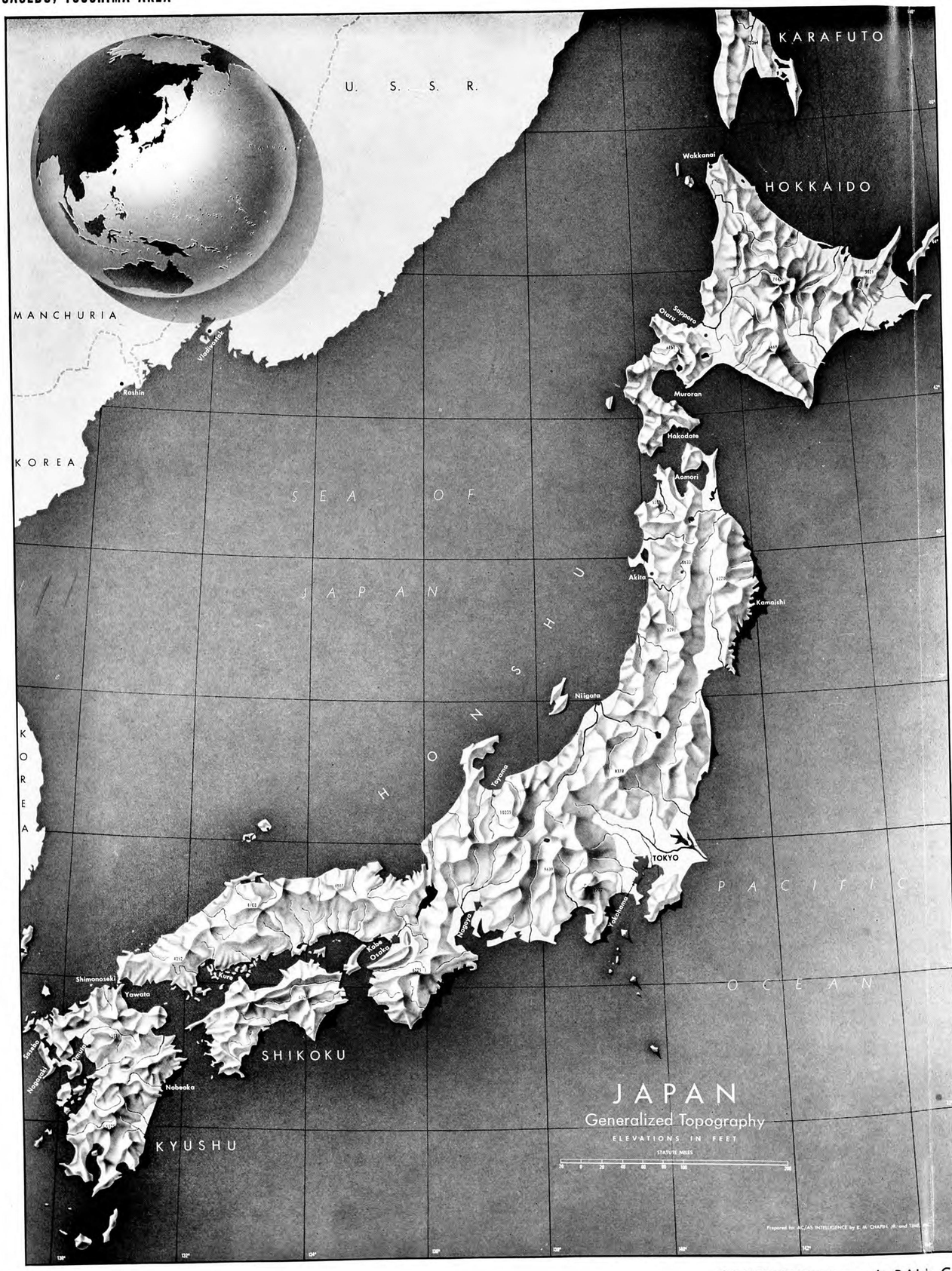
SASEBO

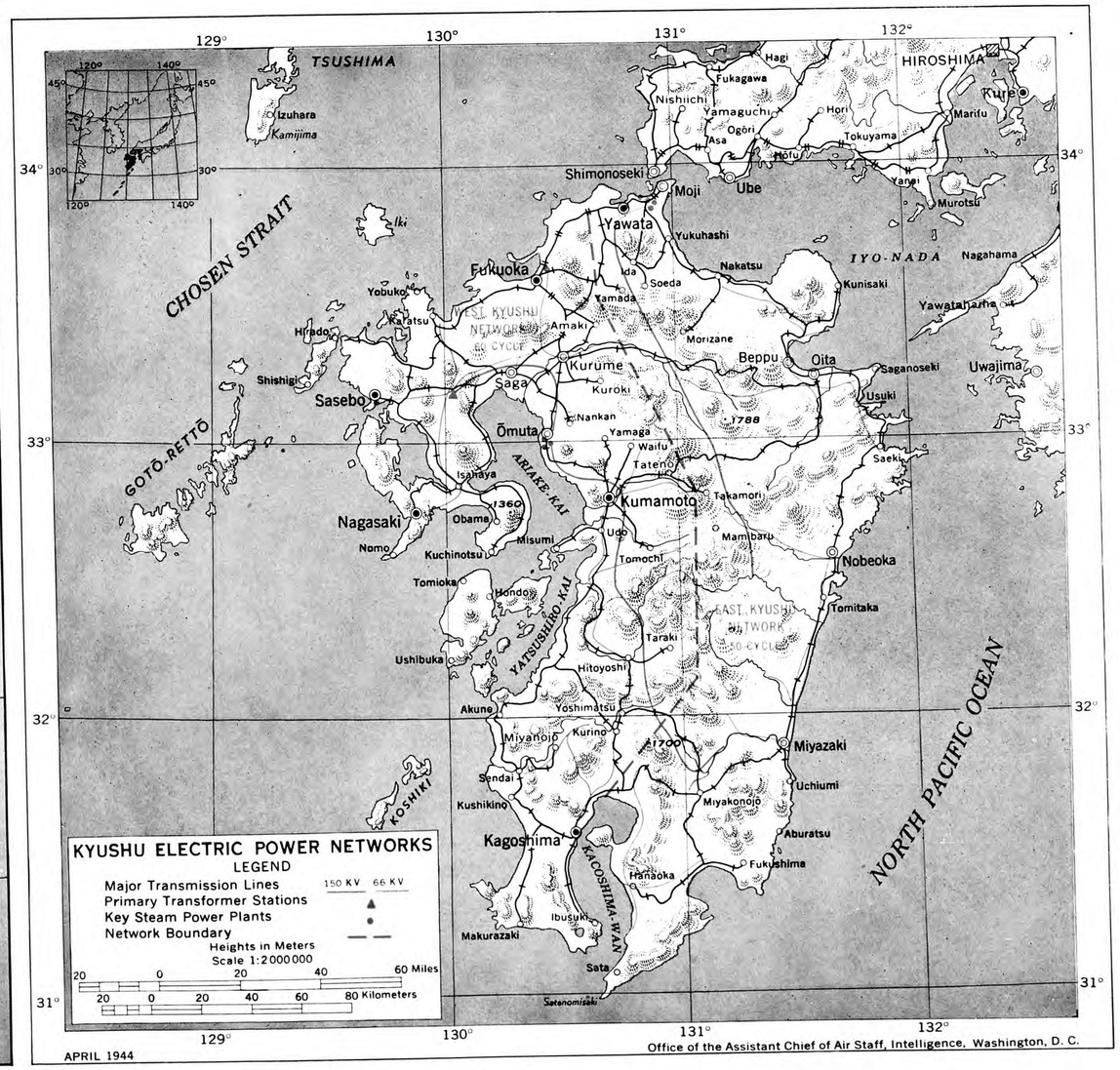
FOR TARGETS 752, 758 AND 845 SEE MAPS ON PAGES M-10, M-11, M-14
AERIAL VIEW ON PAGE M-13
FOR TARGETS 754, 755, 757, 762, 834 AND 1835 SEE MAPS ON PAGES M-10, M-11
AERIAL VIEW ON PAGE M-13

FOR TARGET 1603 SEE MAP ON PAGE M-10
FOR TARGET 839 SEE AERIAL VIEW ON PAGE M-12

FOR ALL TARGETS SEE TRANSPORTATION MAP ON PAGE M-3

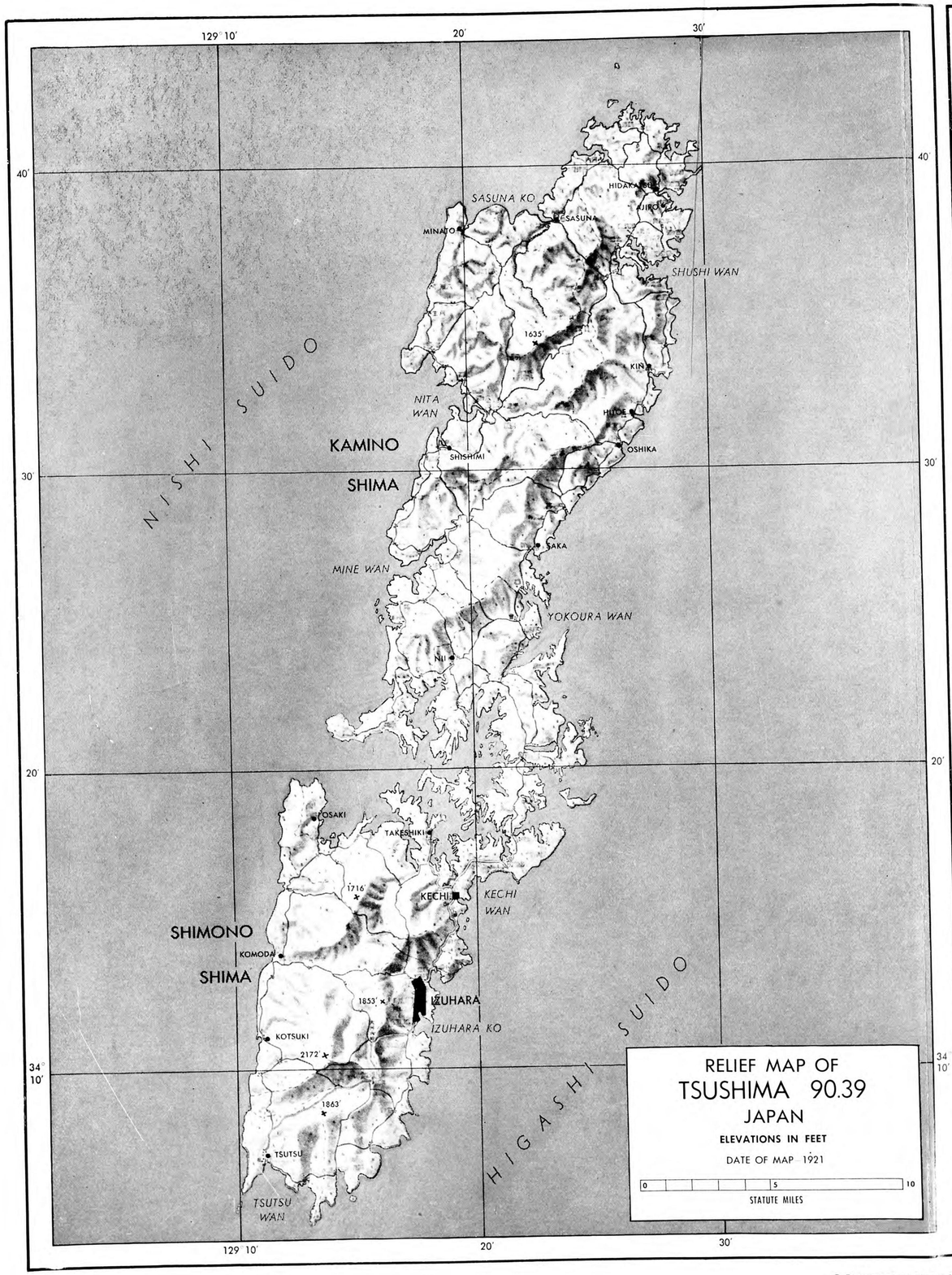


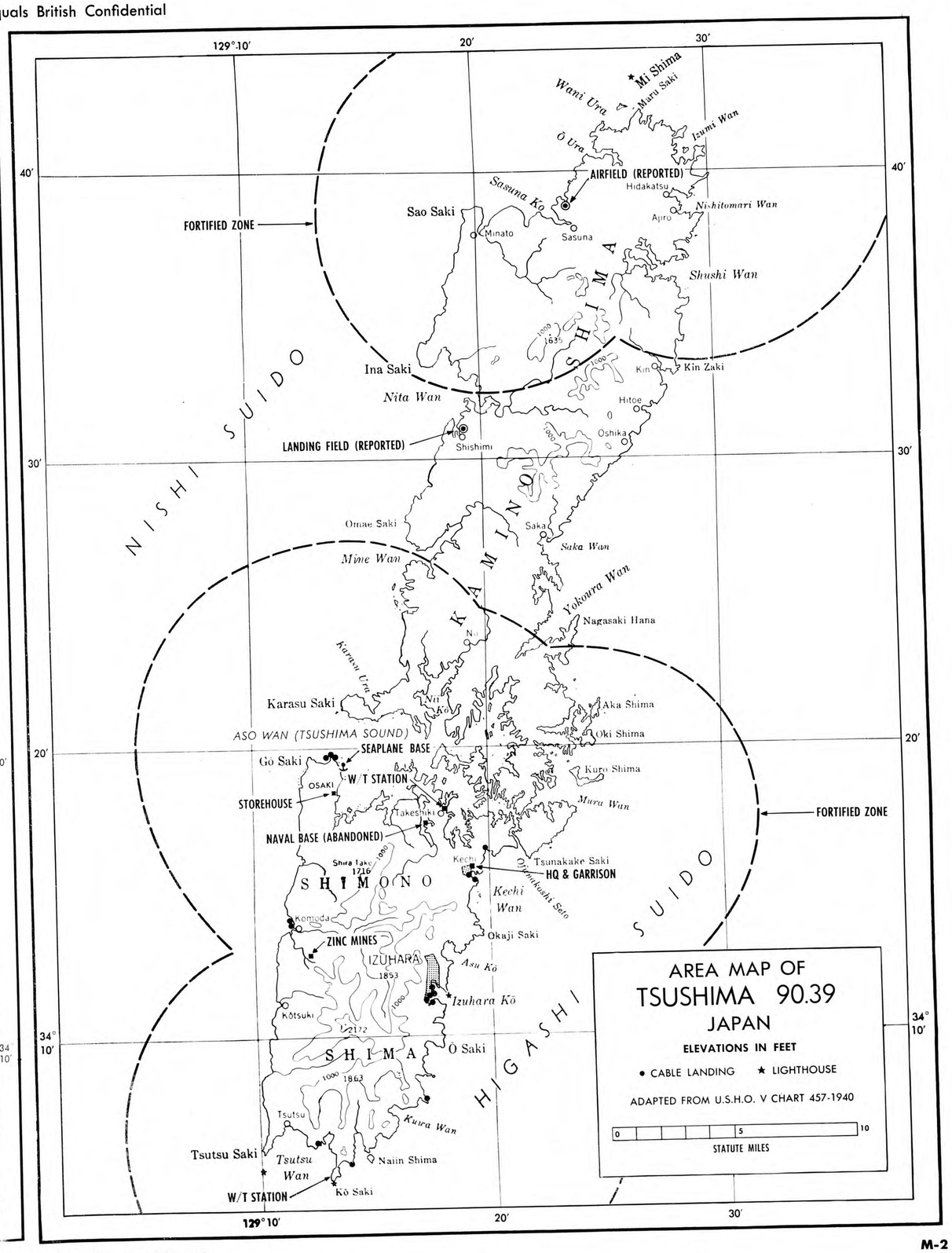




APRIL 1944

Office of the Assistant Chief of Air Staff, Intelligence, Washington, D. C.





3648 Sasebo-Tsushima—M 2—6-30-44—First Proof

SASEBO 90.36

LOCATING ALL TARGETS AND AIRPORTS

RAILROADS
PRIMARY ROADS
AIRPORTS
SEAPLANE STATIONS

ADAPTED FROM U.S.H.O.–V CHARTS–455–457–1940
DATE OF ANALYSIS–JUNE, 1944

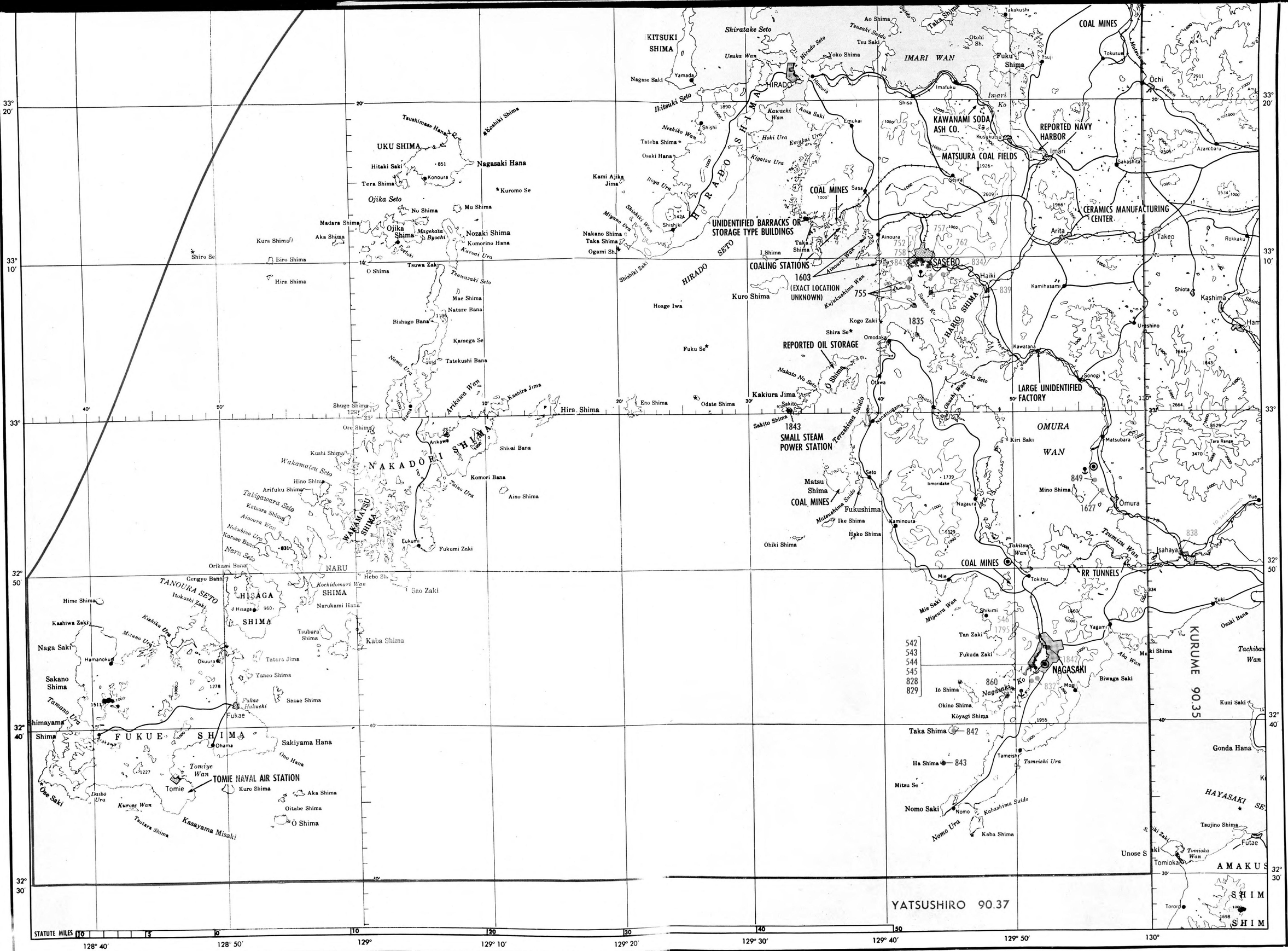
SUPPLEMENTARY ANNOTATIONS APPEAR ON LARGE SCALE MAPS

128° 40′ 128° 50′ 129° 129°10′ 129° 20′ 129° 30′ 129° 40′ 129° 50′ 130°

33° 50′ 33° 40′ 33° 30′ 33° 20′

SUIDO
HIGASHI
TSUSHIMA 90.39
SHIMONOSEKI 90.34
GENKAI NADA
IKI SUIDO
IMARI WAN
KARATSU WAN
HIRADO SHIMA
SETO

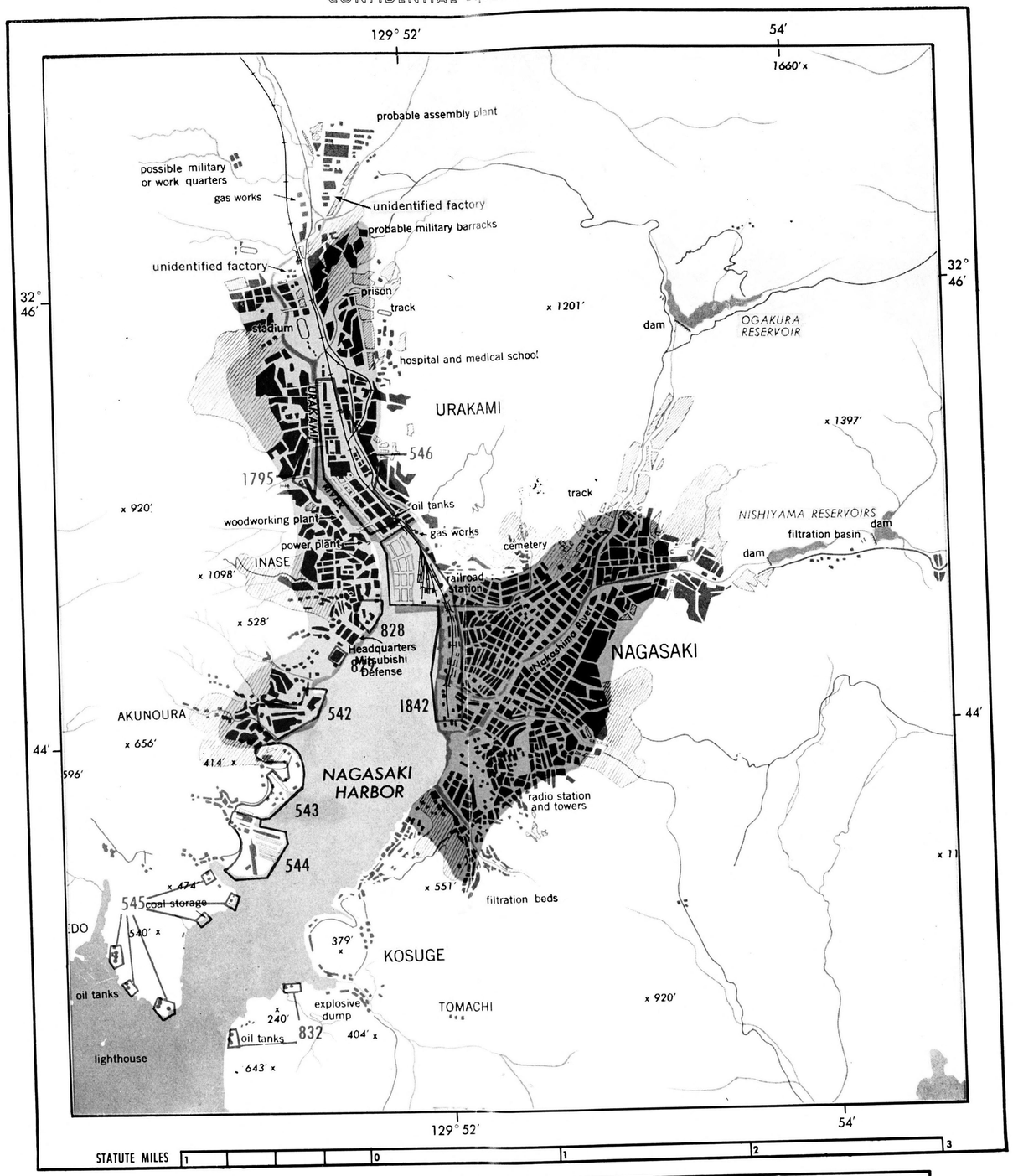
Nyaku Shima
Kazamoto Ko
Akase Hana
FORT TAKENOMIE
Kazamoto
Yunomoto
Ashibe Ura
Ashibe
Sakyō Bana
Yawata Ura
Hansei Ura
IKI SHIMA
Jogashima Seto
Gonoura
Indoji
O Shima
Naga Shima
Hira Shima
Gonoura Ko
Iruka Saki
Eboshi Shima*
Na Shima
Kami Izumi Iwa
Orono Shima
Todai Se
Katsuseki S
Ko Futagami Shima
Futagami Shima
Kakara Shima
Matsu Shima
Ogawa Shima
Ōto Saki
Hotoke Saki
Hime Shima
Madara Shima
Yobuko Ko
Kabe Shima
Taka Shima
Hato Misaki
SMALL SHIP REPAIR YARDS
Yobuko
Kashiwa Shima
Funakoshi Ura
Chiga Saki
Ōka Saki
Fukaye
Nagasaki Hana
AZUCHI Ô SHIMA
Azuchi
Oga Hana
Kaminoura
Muka Shima
Kariya Ko
Hibi Suido
Kariya
Ao Hana
Kuro Shima
Ōshima Seto
FORT AZUCHIYAMA
Taku Shima
Aoshima Suido
Takakushi
Ōbae Hana
Shiratake Seto
KITSUKI SHIMA
Ao Shima
Tsusaki Suido
Tsu Saki
Otobi Sh.
Usuka Wan
Hirado Seto
Yoko Shima
Fuku Shima
Tsuji
Yamada
Nagase Saki
HIRADO
Hinoura
Imafuku
Ochi
Kawa
Ii-tsuki Seto
Shisa
Imari Ko
Kawachi Wan
Aosa Saki
Emukai
Shishi
Nishiko Wan
Hoki Ura
Emukai Ura
Tateba Shima
Osaki Hana
Kigatsu Ura
Tsushimase Hana
Konaki Shima
UKU SHIMA
Hitaki Saki
Nagasaki Hana
Konoura
Tera Shima
Kuromo Se
Ojika Seto
Kami Ajika Jima
Iroya Ura
Nu Shima
Mu Shima
Madara Shima
Ojika Shima
Magekata Byochi
Nozaki Shima
Aka Shima
Komorino Hana
Kura Shima
Shishiki Wan
Miyano Ura
Nakano Shima
Taka Shima
I Shima
Ainoura
Sasa
Seira
Kusukutsu
Sakashita
Azanobaru
Arita
Takeo
Rokkaku
Tokusue
Mizuta
Hamasaki
Tori Shima
Kushi Saki
Karatsu Ko
Ō Shima
Taka Shima
Kariya
KARATSU
COAL MINES
KAWANAMI SODA ASH CO.
REPORTED NAVY HARBOR
MATSUURA COAL FIELDS
CERAMICS MANUFACTURING CENTER
UNIDENTIFIED BARRACKS OR STORAGE TYPE BUILDINGS
COAL MINES
Imari
833
1890
1424
1926
2609
1966
2911
2642
1534
752
758
757
762



CONFIDENTIAL equals British Confidential

3648—Sasebo-Tsushima—M-3.—6-30-44—First Proof

CONFIDENTIAL equals British Confidential



INCENDIARY ZONE MAP OF
NAGASAKI and VICINITY

ZONE 1

ZONE 2

SOURCE: AAF TARGET CHART, JAPAN, NO. 90.36—542—FEBRUARY, 1944

DATE OF ANALYSIS—JUNE, 1944

ELEVATIONS IN FEET

RAILROADS

ROADS

546 . . MITSUBISHI STEEL AND ARMS WORKS

1795 . . MITSUBISHI STEEL ROLLING MILL

3648—Sasebo-Tsushima—M.3—6-30-44—First Proof

NAGASAKI and VICINITY

ELEVATIONS IN FEET

SINGLE TRACK RAILROADS

ROADS

SOURCE: AAF TARGET CHART, JAPAN, NO. 90.36–542–FEBRUARY, 1944

DATE OF ANALYSIS–JUNE, 1944

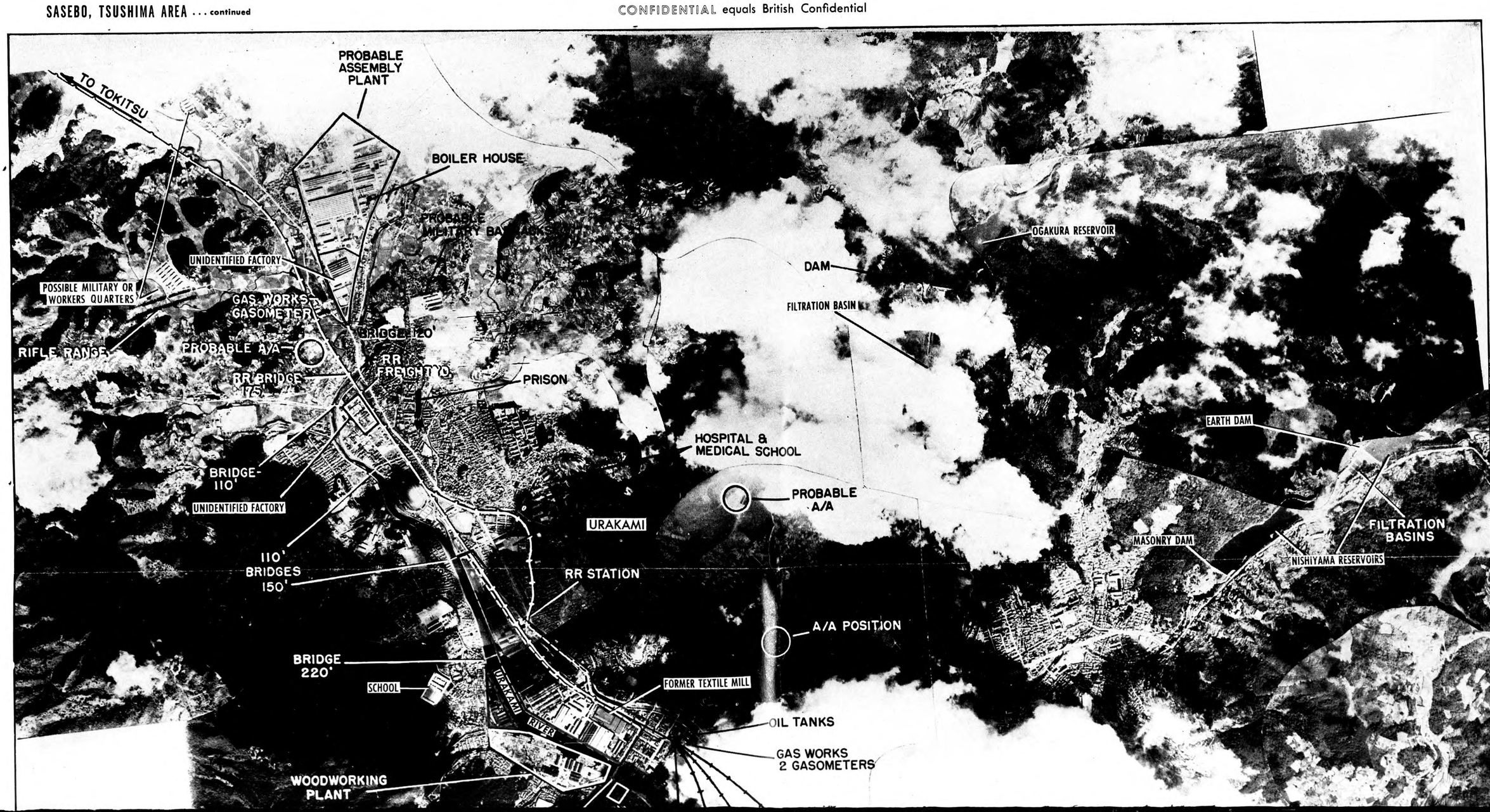
546 . . **MITSUBISHI STEEL AND ARMS WORKS**
1795 . . **MITSUBISHI STEEL ROLLING MILL**

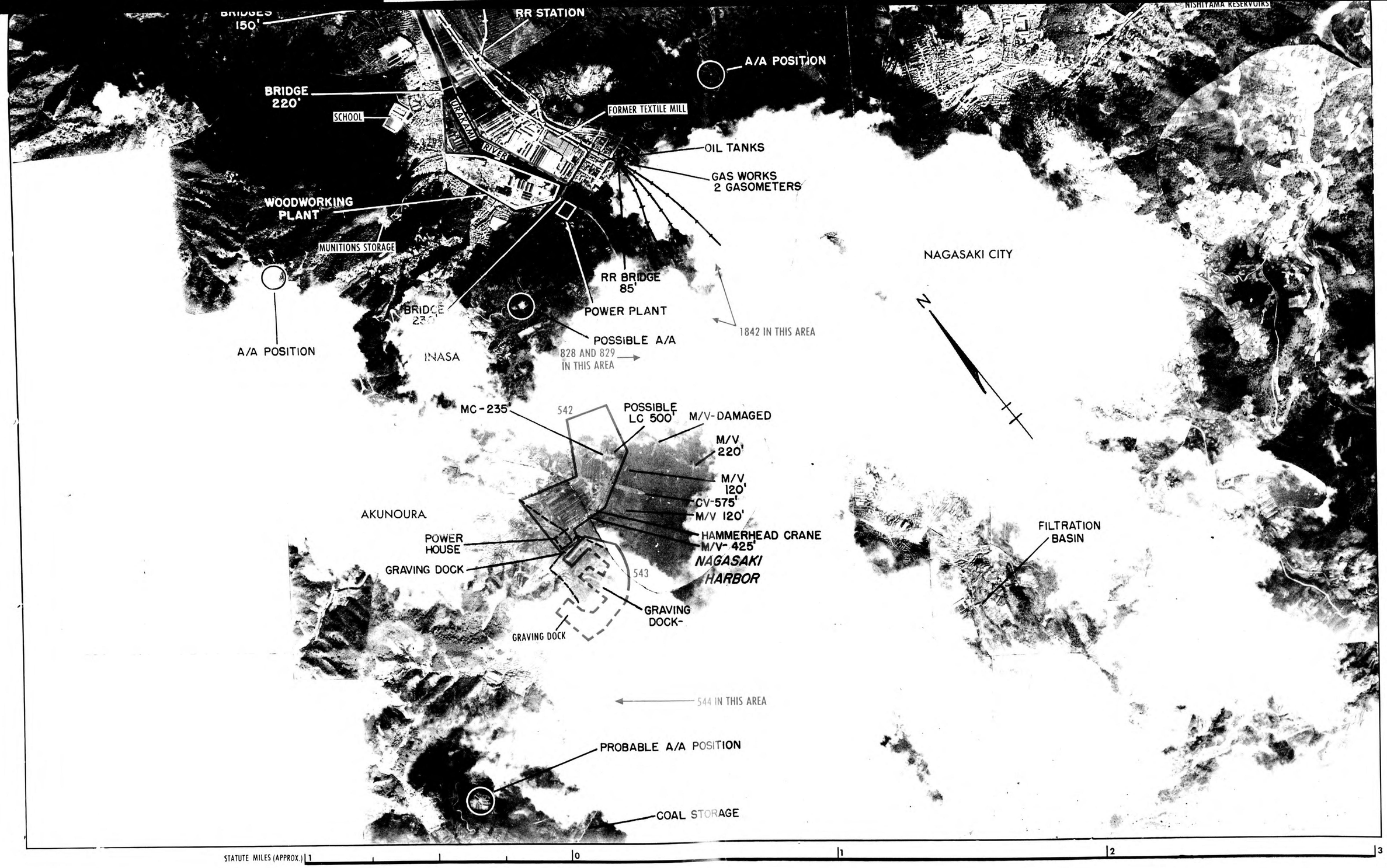
CONFIDENTIAL equals British Confidential

3648—Sasebo-Tsushima—M-4—6-30-44—First Proof

SASEBO, TSUSHIMA AREA ... continued

CONFIDENTIAL equals British Confidential





MOSAIC A

NAGASAKI and VICINITY

32°45'N 129°52'E (TARGET 546)

DATE OF PHOTOGRAPHY—OCTOBER 31, 1943
DATE OF ANALYSIS—JUNE, 1944
OFFICE OF AC AS INTELLIGENCE

542 . . AKUNOURA ENGINE WORKS
543 . . MITSUBISHI DOCKYARD
544 . . TATEGAMI SHIPYARD
546 . . MITSUBISHI STEEL AND ARMS WORKS
828 . . HAYASHI COMMERCIAL CO. ENGINE WORKS
829 . . MITSUBISHI ELECTRIC CO.
1795 . . MITSUBISHI STEEL ROLLING MILL
1842 . . NAGASAKI AND DEJIMA WHARVES AND RR YARDS

CONFIDENTIAL equals British Confidential

3648—Sasebo-Tsushima M-5 6-30-44 First Proof

CONFIDENTIAL equals British Confidential

129° 50′ 51′ 52′ 44′ 32° 43′

長崎縣
NAGASAKI
肥前
HIZEN

福田村
Hukuda

小浦 大浦川 大浦 ANCHORAGE FOR SMALL FISHING BOATS 田浦 Nara St.

稲佐山 Inasa Y. 1094′ 稲佐町 Inasa 小学校 657′ 528′ 470′ 414′ 474′ 540′ 545 544 543 542 829 828 1842

長崎 中ノ島 魚市場 RR STATION 水産試験場 ZAT 三菱電機工場 SMALL OIL TANKS FISH MARKET NAGASAKI WHARF 九州商船会社 NAVAL DEFENSE COMMAND ADMINISTRATION BUILDINGS NEW DOCK REPORTED IN THIS AREA NAGASAKI PERFECTURAL OFFICE 岩害炭油 MARUNOUCHI-MACHI-JR 出島 Dejima 大阪商船会社 DEJIMA WHARF

水ノ浦町 AKUNOURA 瀬ノ脇町 飽ノ浦町 大橋 八軒屋 立神町 TATEGAMI 帆掛山 HokakeY. 西泊町 木鉢 身投埼 第1区 BANKS, CONSULATES AND SCHOOLS POST AND TELEGRAPH OFFICE 女学校 中学校 小学校 天主堂(旧) 大浦町 測候所 午砲所 2 RADIO TOWERS

NOTE: NEW GANTRY CRANES ARE REPORTED OVER MOST SLIPWAYS

LARGE CHURCH SSW 報時燈及SSW 報時観測所 Naminohira 浪之平町 SMALL CHEMICAL PLANT 芳平町 鍋冠山 Nabekamuri Y. 551′ WATER FILTERING BEDS

小菅町 Kosuge PATENT SLIP トノオ山 379′ 戸町 西彼杵郡 Nisi-Sonoki

SMALL BOAT YARDS IN THIS AREA MEGAMI POINT 女神 女神井 REPORTED MUNITIONS STORAGE 225′ 309′ 832 QUARANTINE STATION 404′ 焦見山 643′ 大久保山

小瀬戸 Kosedo 小榊村 Kosakaki 観音埼 八ノ脇 ANCHORAGE FOR SMALL FISHING BOATS 鍋見嶽 Iwasen T. 陣子岩山 大田尾 COAL STORAGE 西泊浦 KOZAKI POINT 女埼

神ノ島 302′ KAMINO ISLAND 高鉾島 Takahoko S. 245 大曽根 O/Sone 第3

MAGS. Var.n 5° 20′W(1940) +2′.1 annually

日本
九州西岸
長崎港及附近

實形 1/12000

昭和8年我ガ海軍ノ測量

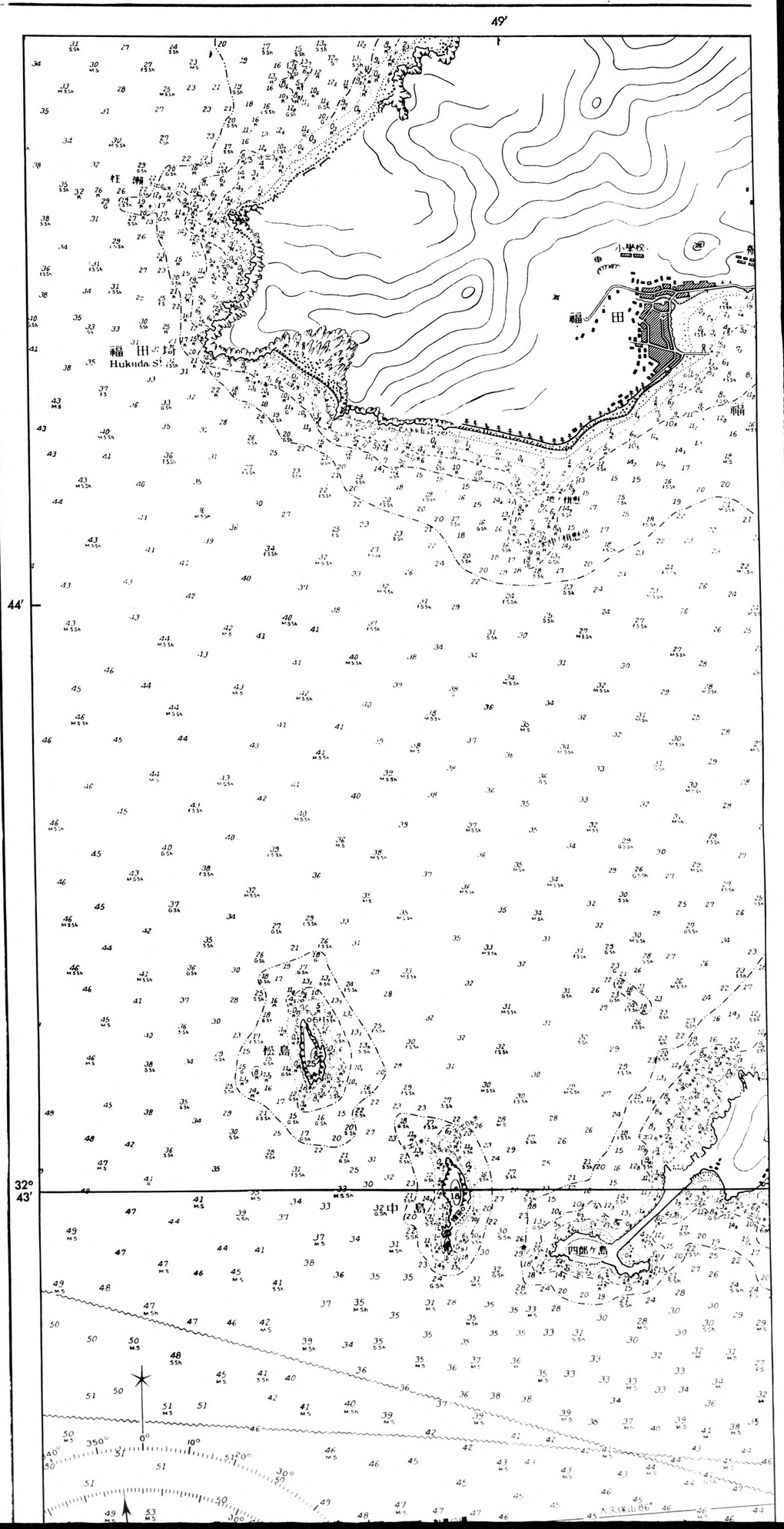
水深---米---基本水準面下（略最低低潮面）
高程---米---平均水面上

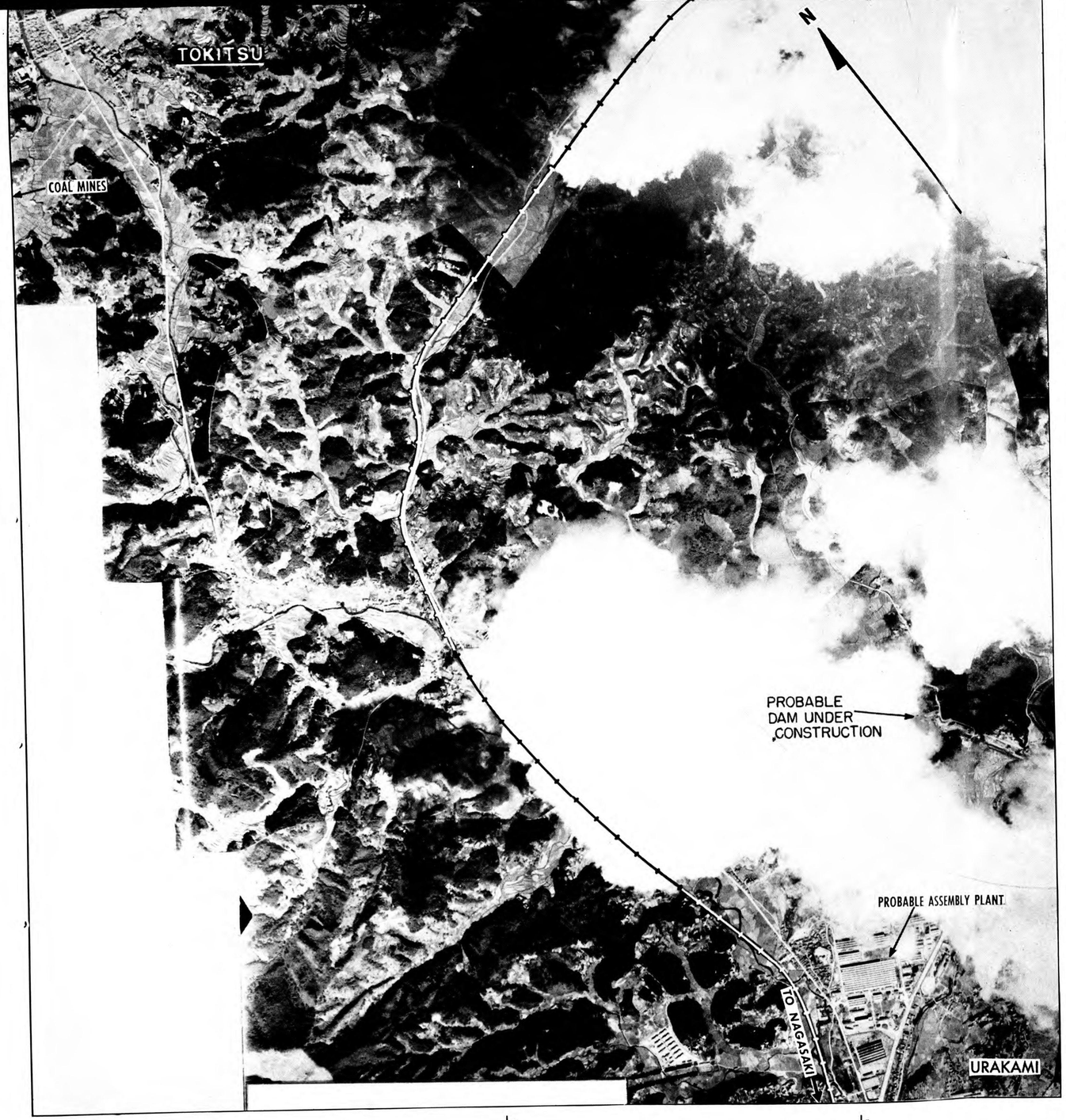
緯ノ経 北緯(Lat.N.)……32°43′00″

SEE MAP ON PAGE M-7.

3648—Sasebo-Tsushima—M-6—6-30-44—First Proof

MILITARY
BARRACKS
UNIDENTIFIED ACTIVITY
TOKITSU
COAL MINES
TO OMURA
N


49'
44'
32°
43'
Hukuda St
福田
松島
中島



MOSAIC B

NAGASAKI and VICINITY

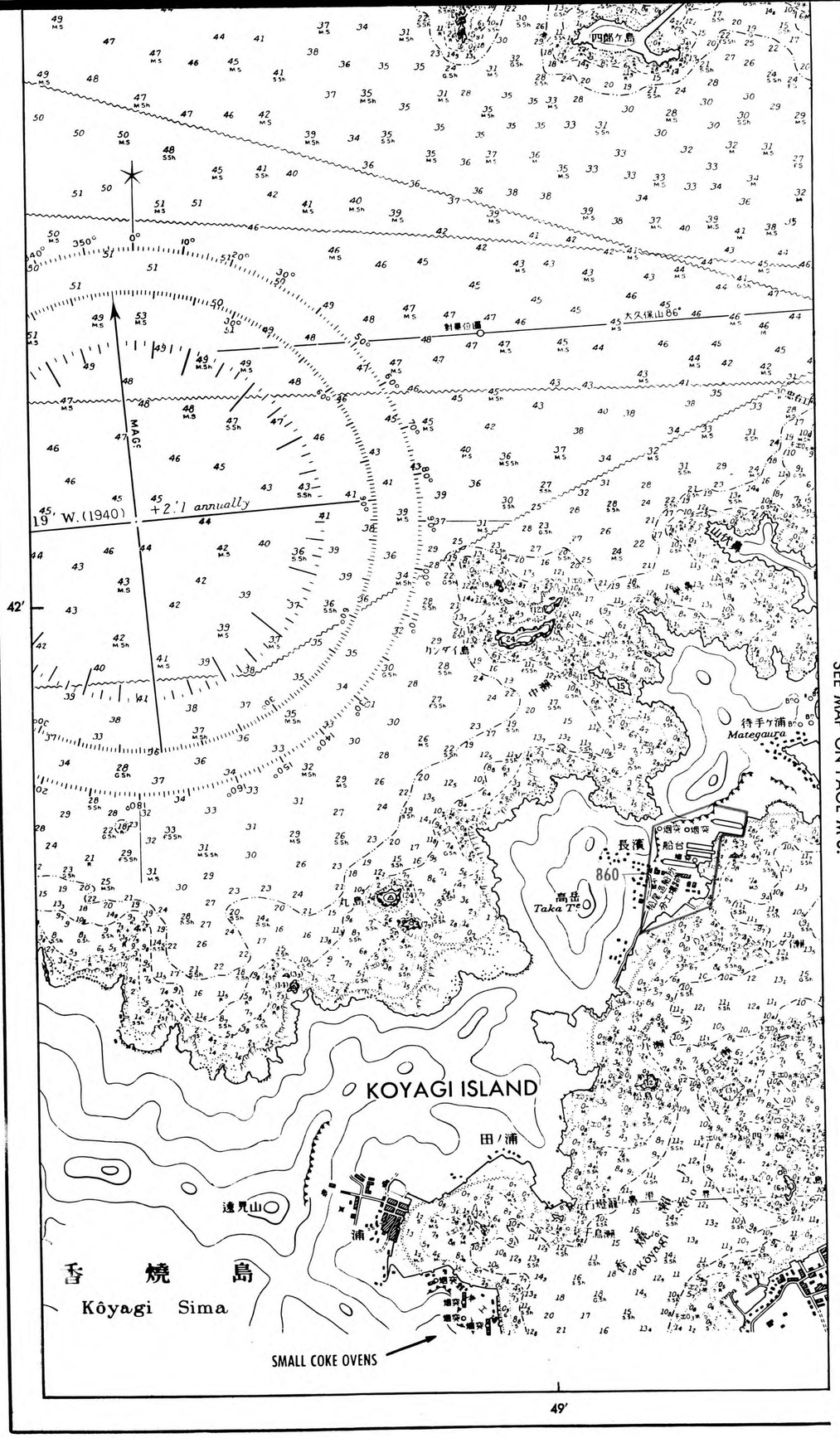
(TOKITSU - URAKAMI)

32°48′N 129°53′E

DATE OF PHOTOGRAPHY—OCTOBER 31, 1943

DATE OF ANALYSIS—JUNE, 1944

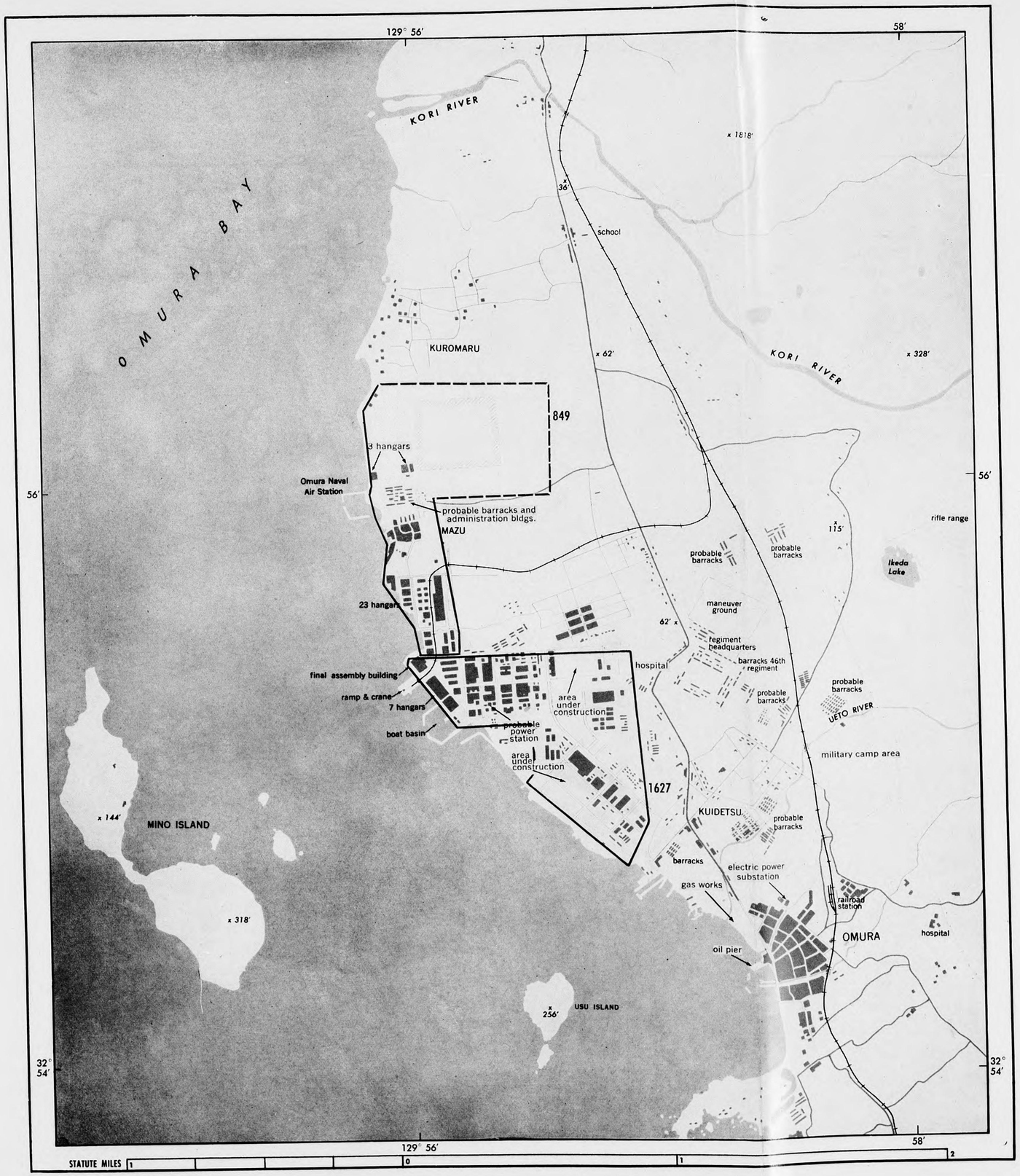
OFFICE OF AC/AS INTELLIGENCE



SEE MAP ON PAGE M-6.

CONFIDENTIAL equals British Confidential

3648—Sascho-Tsushima—M.7—6-30-44—First Proof



OMURA and VICINITY

ELEVATIONS IN FEET

SINGLE TRACK RAILROADS

ROADS

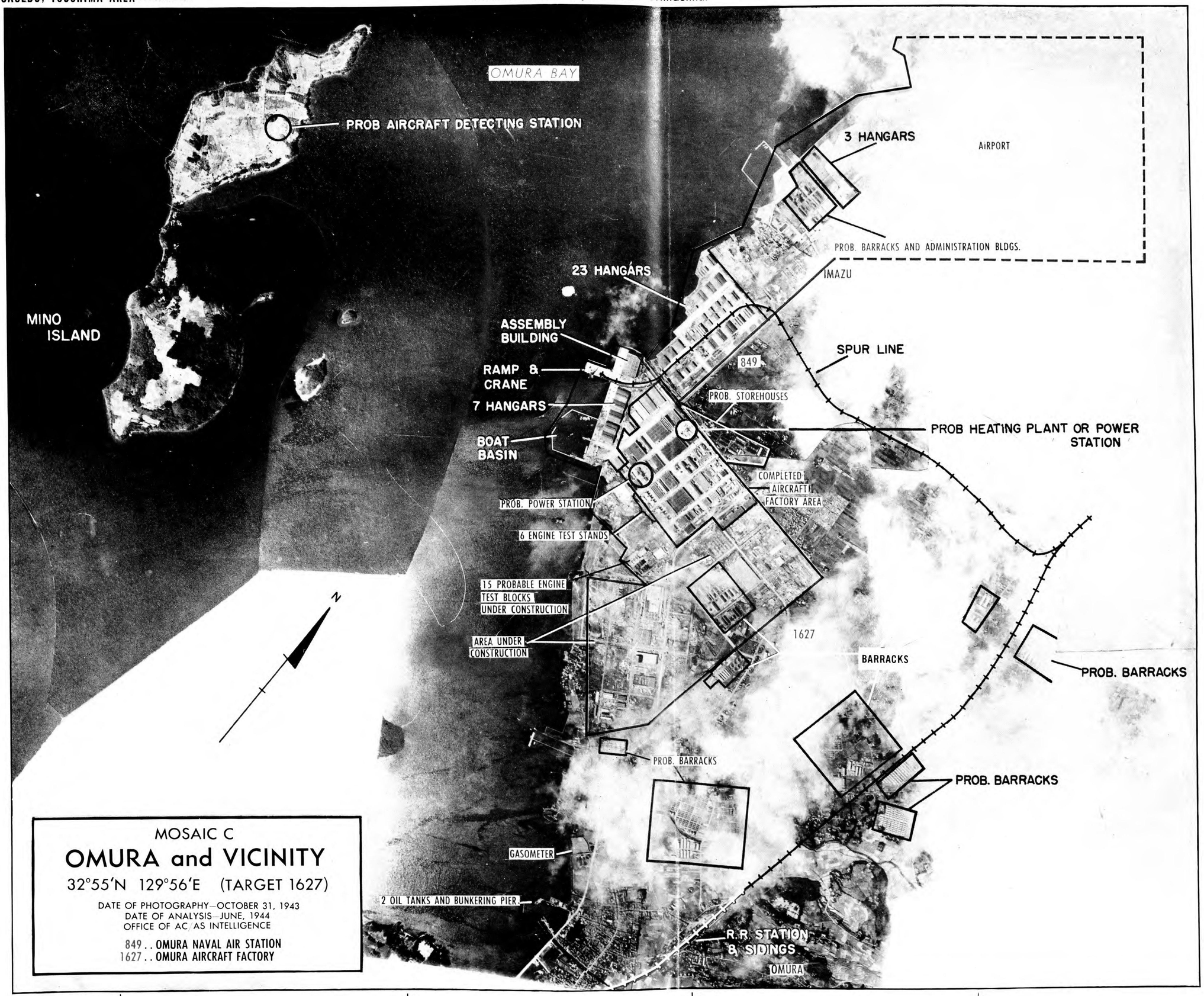
SOURCE: AAF TARGET CHART, JAPAN, NO. 90.36—849—FEBRUARY, 1944

DATE OF ANALYSIS—JUNE, 1944

849. . OMURA NAVAL AIR STATION
1627. . OMURA AIRCRAFT FACTORY

3648—Sasebo-Tsushima—M-8—6-30-44—First Proof.

CONFIDENTIAL equals British Confidential



MOSAIC C

OMURA and VICINITY

32°55'N 129°56'E (TARGET 1627)

DATE OF PHOTOGRAPHY—OCTOBER 31, 1943
DATE OF ANALYSIS—JUNE, 1944
OFFICE OF AC/AS INTELLIGENCE

849 . . OMURA NAVAL AIR STATION
1627 . . OMURA AIRCRAFT FACTORY

STATUTE MILES (APPROX.) 1 0 1 2

CONFIDENTIAL equals British Confidential

SASEBO and VICINITY

ELEVATIONS IN FEET

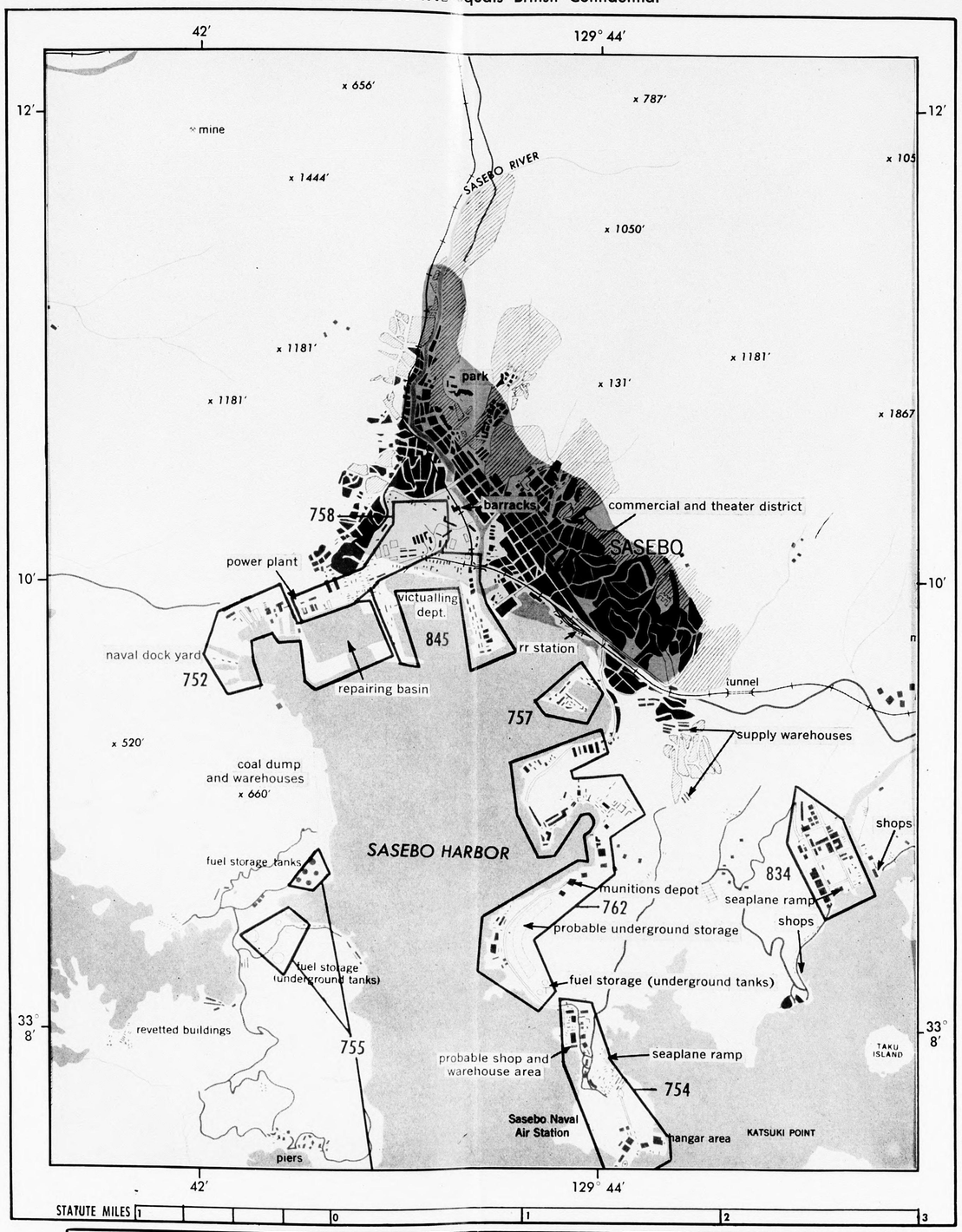
SINGLE TRACK RAILROADS

ROADS

SOURCE: AAF TARGET CHART, JAPAN, NO. 90.36—752—FEBRUARY, 1944

DATE OF ANALYSIS—JUNE, 1944

752 . . SASEBO NAVAL DOCKYARD
754 . . SASEBO NAVAL AIR STATION
755 . . SASEBO OIL STORAGES
757 . . SASEBO MINE AND TORPEDO STORAGE
758 . . NAVAL ARSENAL & ENGINEERING DEPARTMENT
762 . . SASEBO FUEL AND MUNITIONS DEPOT
834 . . SASEBO AIRCRAFT
845 . . SASEBO PROVISION WHARF
1603 . . AINOURA STEAM POWER STATION



INCENDIARY ZONE MAP OF SASEBO and VICINITY

ZONE 1

ZONE 2

ELEVATIONS IN FEET

RAILROADS

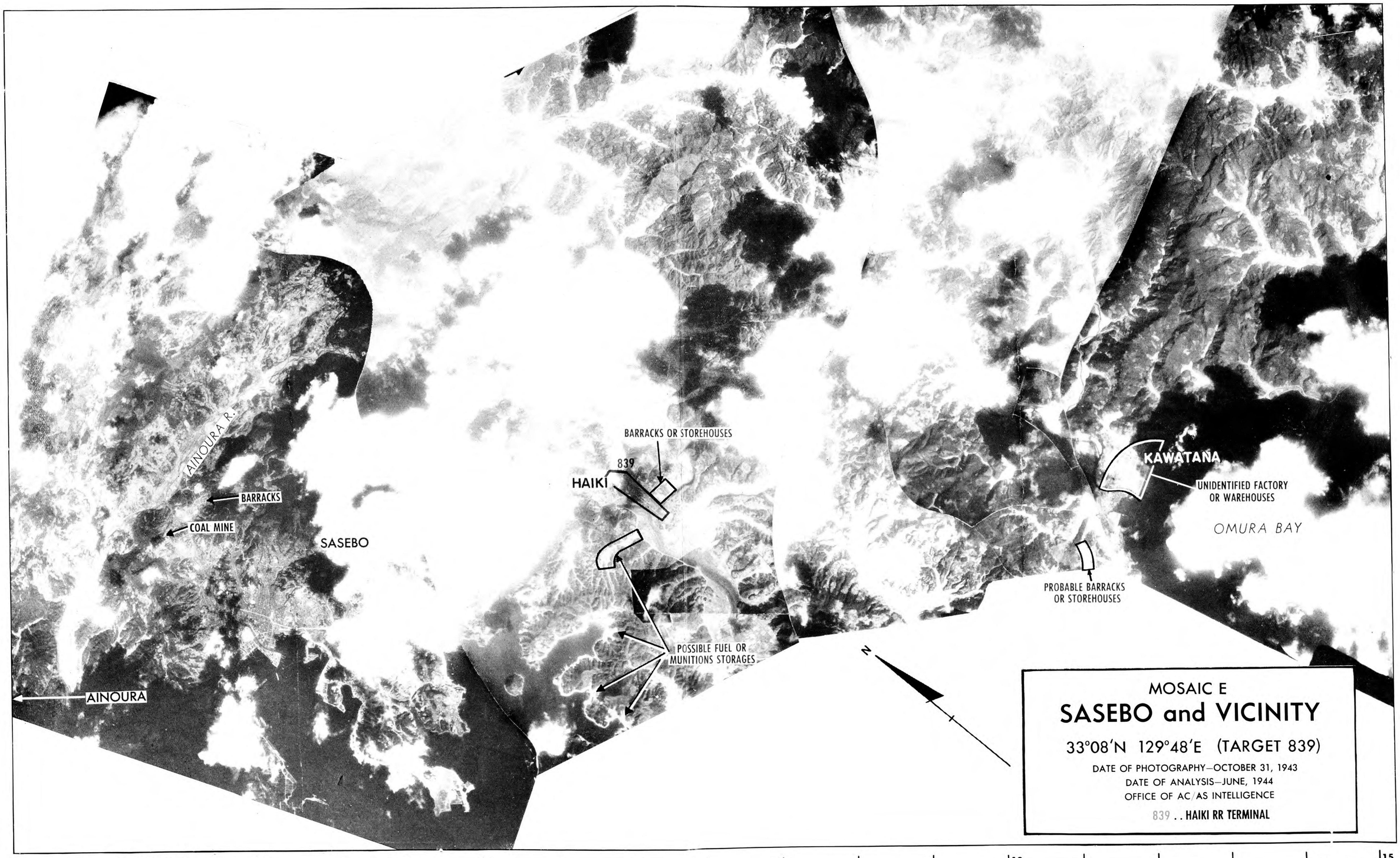
ROADS

SOURCE: AAF TARGET CHART, JAPAN, NO. 90.36—752—FEBRUARY, 1944

DATE OF ANALYSIS—JUNE, 1944

752 . . SASEBO NAVAL DOCKYARD
754 . . SASEBO NAVAL AIR STATION
755 . . SASEBO OIL STORAGES
757 . . SASEBO MINE AND TORPEDO STORAGE
758 . . NAVAL ARSENAL & ENGINEERING DEPARTMENT
762 . . SASEBO FUEL AND MUNITIONS DEPOT
834 . . SASEBO AIRCRAFT
845 . . SASEBO PROVISION WHARF

3648—Sasebo-Tsushima—M-11—6-30-44—First Proof



MOSAIC E

SASEBO and VICINITY

33°08'N 129°48'E (TARGET 839)

DATE OF PHOTOGRAPHY—OCTOBER 31, 1943
DATE OF ANALYSIS—JUNE, 1944
OFFICE OF AC/AS INTELLIGENCE

839 . . HAIKI RR TERMINAL

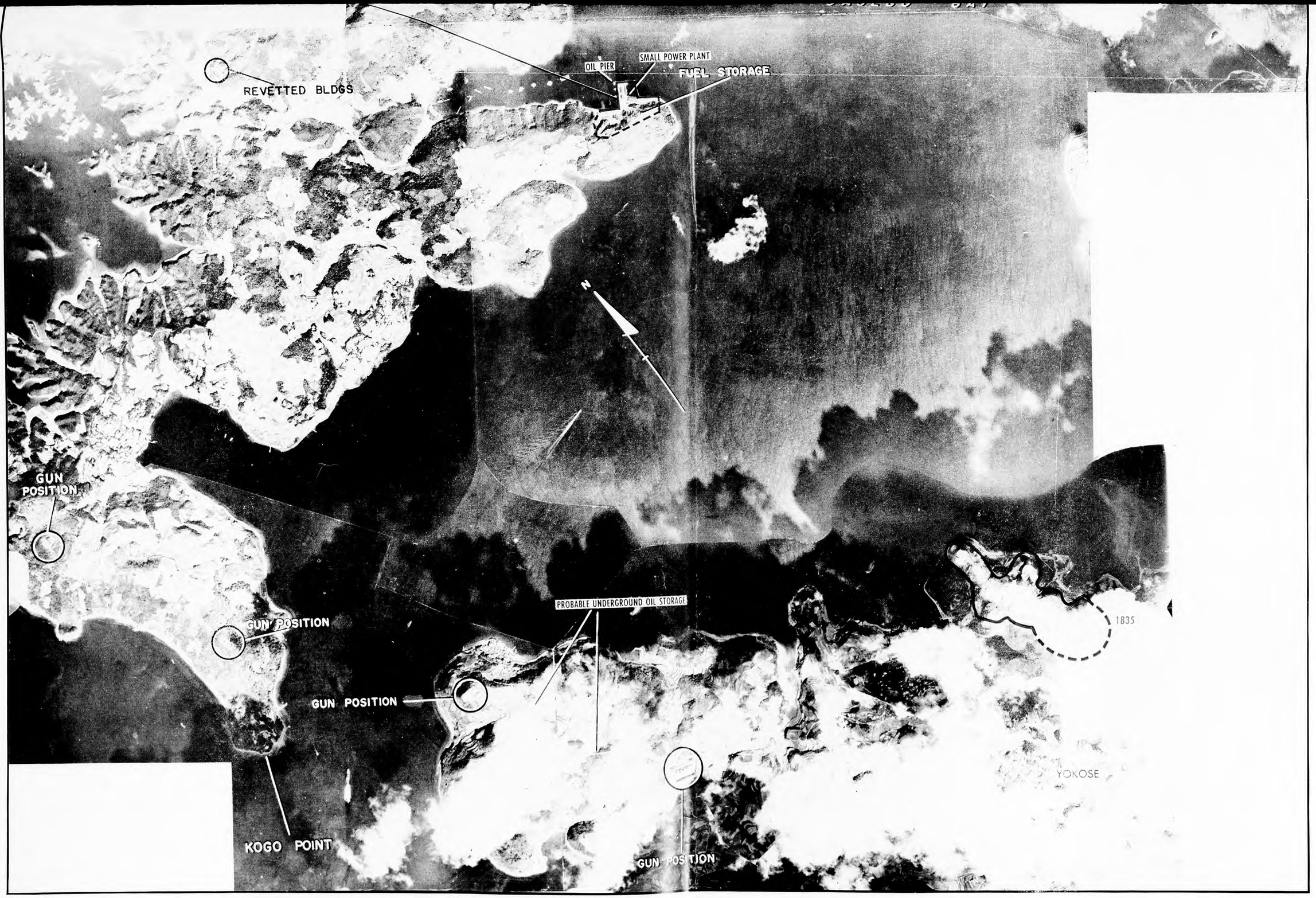
STATUTE MILES (APPROX.) 1 0 1 5 10 15

3648—Sasebo-Tsushima—M-12—6-30-44—First Proof

By HE-M NARA, Date 1/31/91

CONFIDENTIAL equals British Confidential

SASEBO BRIDGE
SASEBO RIVER
SASEBO
BRIDGE
R.R YARDS
R.R. STATION
TO HAIKI (5 MILES)
758
845
PROB. GAS WORKS
757
PROB. WAREHOUSES
POSSIBLE SAWMILL
834
PROBABLE SHOPS
MILITARY SUPPLY STORAGE
SEAPLANE RAMP
MILITARY SUPPLY STORAGE
PROBABLE SHOPS
REPORTED NAVAL BASE
752 IN THIS AREA
DESTROYER ANCHORAGE AREA
MUNITIONS DEPOT
762
INNER HARBOR
PROB. UNDERGROUND STORAGE
ADMIN. & QTRS. AREA
PROBABLE UNDERGROUND OIL STORAGE
MILITARY SUPPLY STORAGE
GUN POSITION
COAL DUMP AND WAREHOUSES
FUEL STORAGE (5)
754
HANGAR AREA
OIL PIERS
PROB. SHOP & WHSE AREA
SEAPLANE RAMPS
HARIO ISLAND
PROB. RADIO TOWER
PROB. CONTROL BLDG.
755
SASEBO BAY
OIL PIER
SMALL POWER PLANT
FUEL STORAGE
REVETTED BLDGS



STATUTE MILES (APPROX.) 1 0 1 2 3

MOSAIC D

SASEBO and VICINITY

33°08'N 129°43'E (TARGET 754)

DATE OF PHOTOGRAPHY—OCTOBER 31, 1943

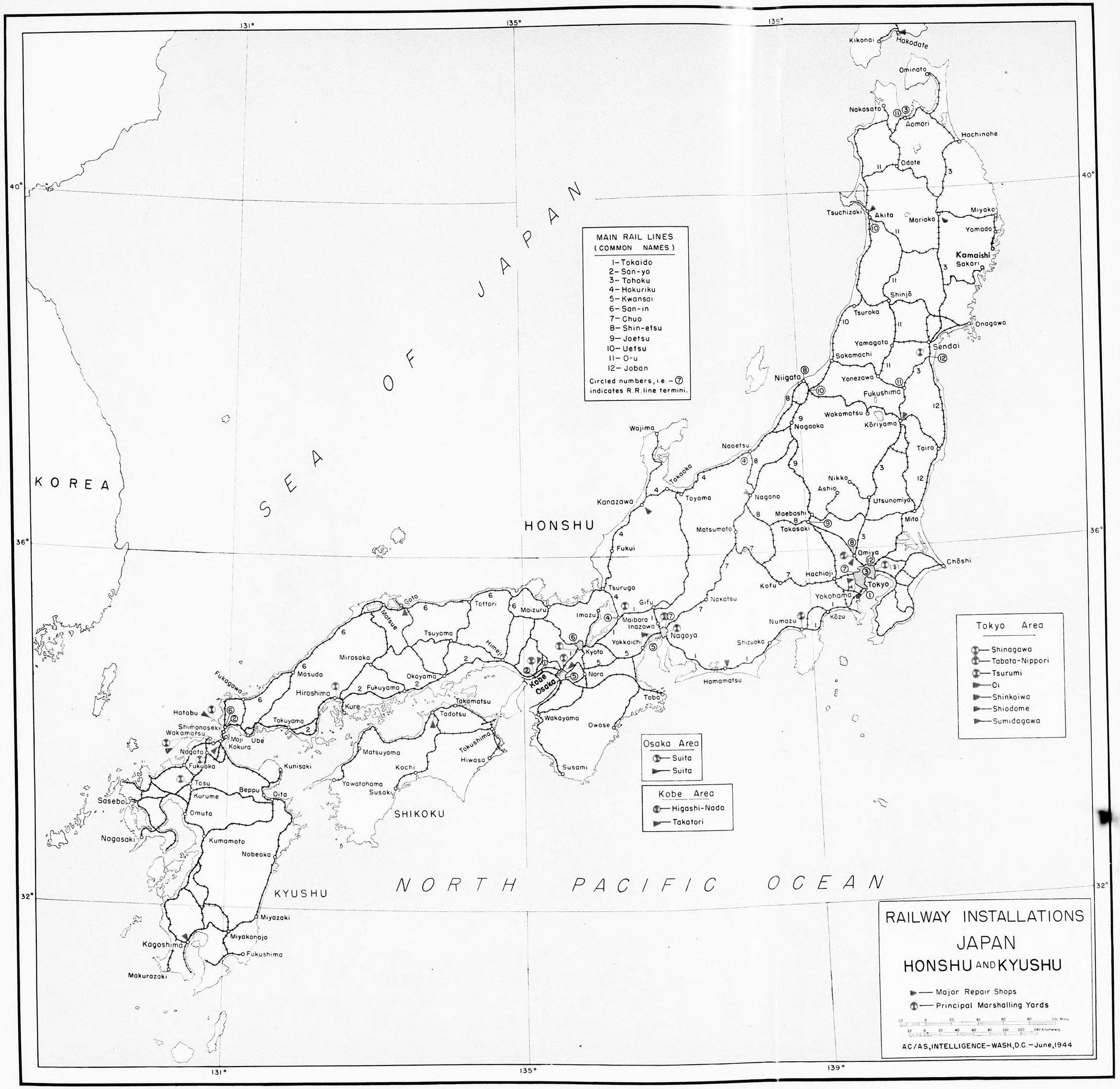
DATE OF ANALYSIS—JUNE, 1944

OFFICE OF AC/AS INTELLIGENCE

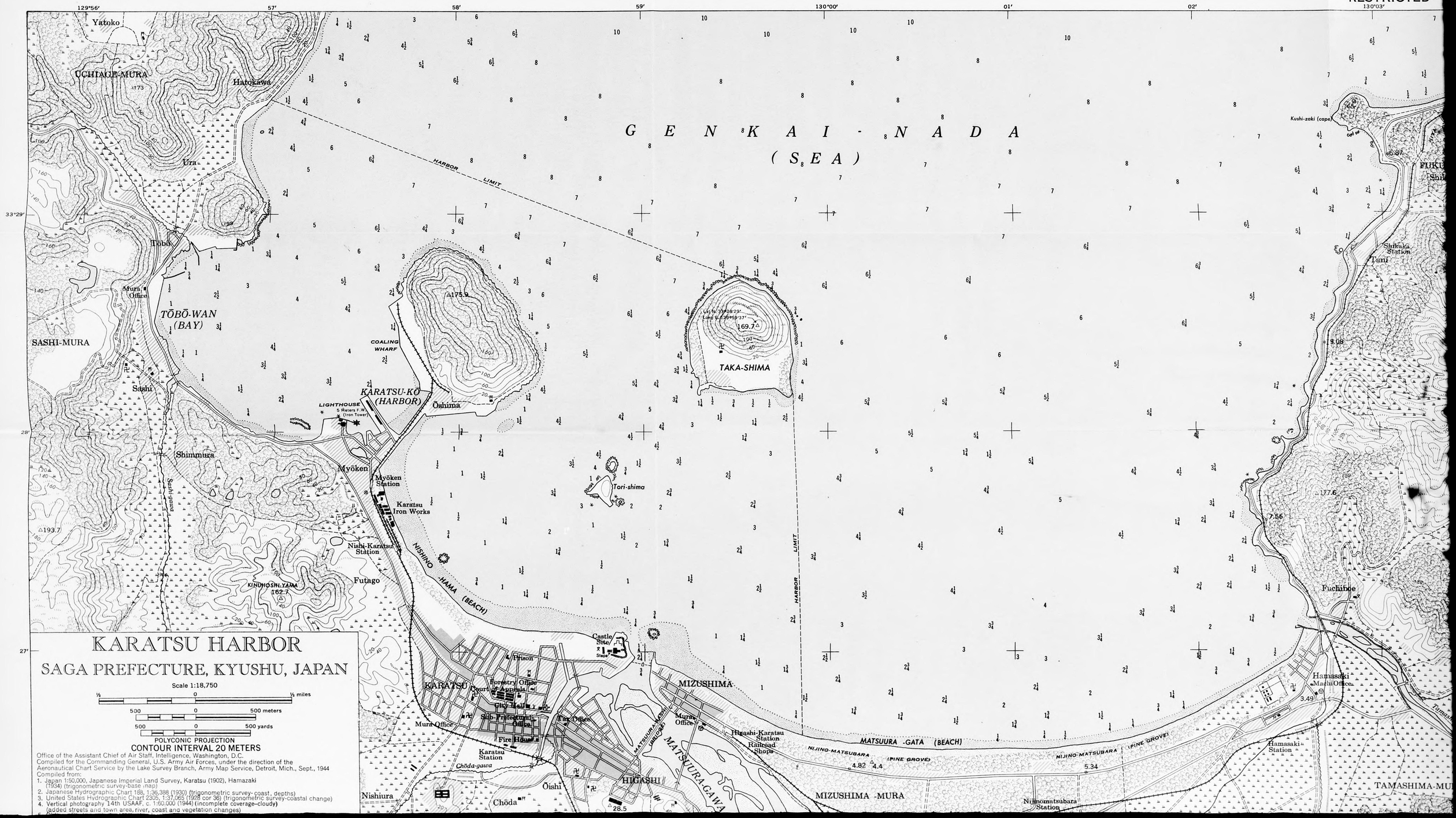
752 . . SASEBO NAVAL DOCKYARD
754 . . SASEBO NAVAL AIR STATION
755 . . SASEBO OIL STORAGE
757 . . SASEBO MINE AND TORPEDO STORAGE
758 . . NAVAL ARSENAL & ENGINEERING DEPARTMENT
762 . . SASEBO FUEL & MUNITIONS DEPOT
834 . . SASEBO AIRCRAFT FACTORY
845 . . SASEBO PROVISION WHARF
1835 . . YOKOSE OIL STORAGE

CONFIDENTIAL equals British Confidential

3648—Sasebo-Tsushima—M-13—6-30-44—First Proof

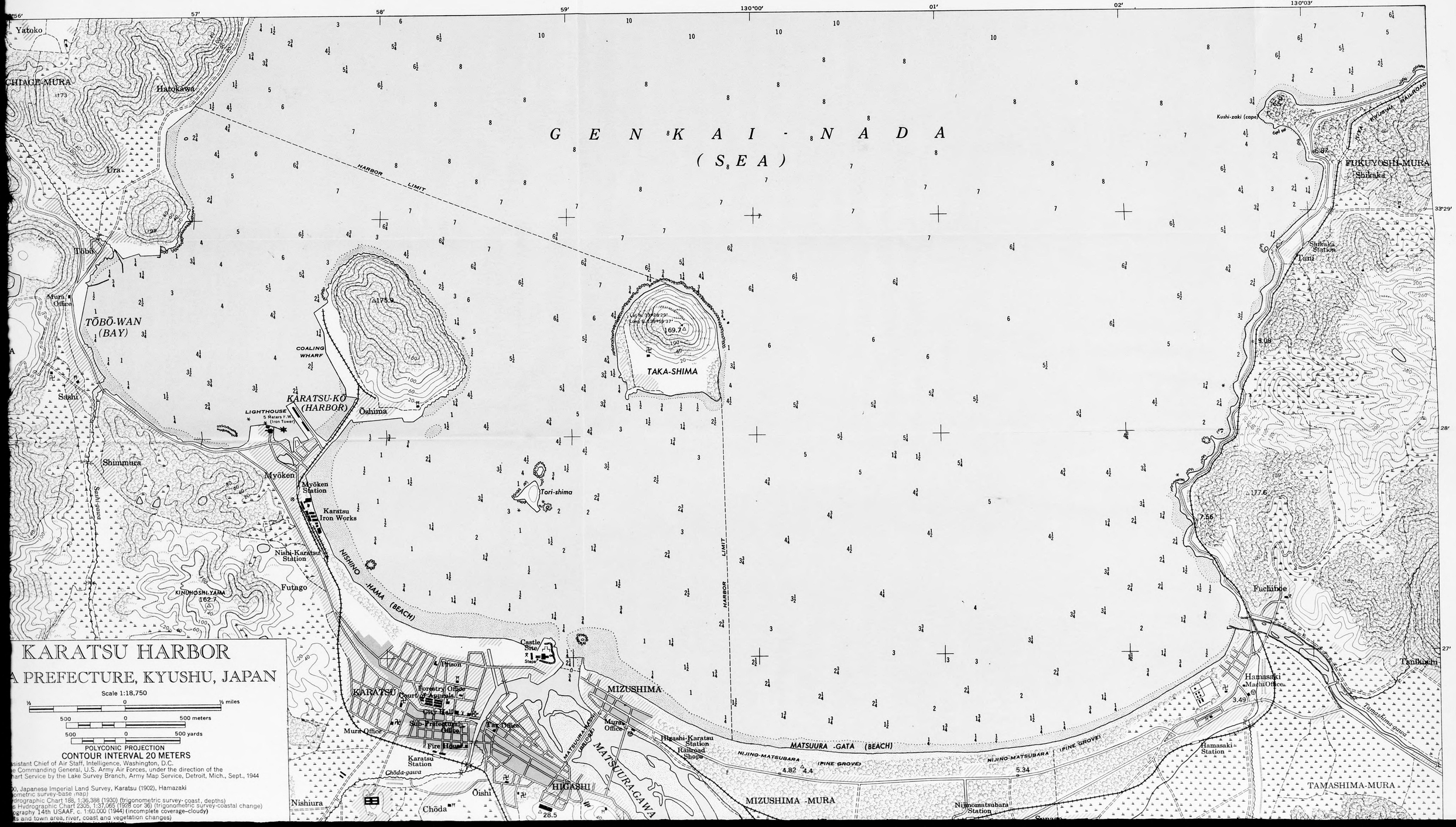

131°
135°
139°
40°
36°
32°
JAPAN
SEA OF
KOREA
HONSHU
SHIKOKU
KYUSHU
NORTH PACIFIC OCEAN
MAIN RAIL LINES
(COMMON NAMES)
1-Tokaido
2-San-yo
3-Tohoku
4-Hokuriku
5-Kwansai
6-San-in
7-Chuo
8-Shin-etsu
9-Joetsu
10-Uetsu
11-O-u
12-Joban
Circled numbers, i.e.-⑦ indicates R.R. line termini.
Kikonai
Hakodate
Ominato
Nakasato
Aomori
Hachinohe
Odate
Tsuchizaki
Akita
Morioka
Miyako
Yamada
Kamaishi
Sakari
Shinjō
Tsuroka
Onagawa
Yamagata
Sendai
Sakamachi
Niigata
Yonezawa
Fukushima
Wakamatsu
Nagaoka
Kōriyama
Wajima
Naoetsu
Tairo
Tokaoka
Kanazawa
Toyama
Nagano
Nikko
Ashio
Utsunomiya
Maebashi
Takasaki
Mito
Matsumoto
Fukui
Omiya
Chōshi
Kofu
Hachioji
Tokyo
Yokohama
Tsuruga
Gifu
Nakatsu
Tottori
Maizuru
Goto
Matsue
Imazu
Maibara
Inazawa
Numazu
Kōzu
Nagoya
Yokkaichi
Shizuoka
Tsuyama
Himeji
Kyoto
Nara
Hamamatsu
Mirasaka
Masuda
Okayama
Fukuyama
Hiroshima
Kure
Fukagawa
Takamatsu
Tadotsu
Toba
Kobe
Osaka
Wakayama
Owase
Hatabu
Shimonoseki
Wakamatsu
Moji
Ubé
Kokura
Tokuyama
Matsuyama
Tokushima
Hiwasa
Nagata
Fukuoka
Kochi
Susami
Kunisaki
Tosu
Kurume
Beppu
Oita
Yawatahama
Susaki
Sasebo
Omuta
Nagasaki
Kumamoto
Nobeoka
Miyazaki
Miyakonojo
Kagoshima
Fukushima
Makurazaki
Tokyo Area
Shinagawa
Tabata-Nippori
Tsurumi
Oi
Shinkoiwa
Shiodome
Sumidagawa
Osaka Area
Suita
Suita
Kobe Area
Higashi-Nada
Takatori
RAILWAY INSTALLATIONS
JAPAN
HONSHU AND KYUSHU
Major Repair Shops
Principal Marshalling Yards
100 Miles
140 Kilometers
AC/AS, INTELLIGENCE-WASH, D.C.-June, 1944

RESTRICTED



KARATSU HARBOR
SAGA PREFECTURE, KYUSHU, JAPAN
Scale 1:18,750
½ 0 ½ miles
500 0 500 meters
500 0 500 yards
POLYCONIC PROJECTION
CONTOUR INTERVAL 20 METERS
Office of the Assistant Chief of Air Staff, Intelligence, Washington, D.C.
Compiled for the Commanding General, U.S. Army Air Forces, under the direction of the Aeronautical Chart Service by the Lake Survey Branch, Army Map Service, Detroit, Mich., Sept., 1944
Compiled from:
1. Japan 1:50,000, Japanese Imperial Land Survey, Karatsu (1902), Hamazaki (1934) (trigonometric survey-base map)
2. Japanese Hydrographic Chart 188, 1:36,388 (1930) (trigonometric survey-coast, depths)
3. United States Hydrographic Chart 2305, 1:37,065 (1928 cor 36) (trigonometric survey-coastal change)
4. Vertical photography 14th USAAF, c. 1:60,000 (1944) (incomplete coverage-cloudy) (added streets and town area, river, coast and vegetation changes)
GENKAI-NADA
(SEA)
HARBOR LIMIT
TAKA-SHIMA
TŌBŌ-WAN (BAY)
KARATSU-KŌ (HARBOR)
COALING WHARF
LIGHTHOUSE
Tori-shima
NISHINO-HAMA (BEACH)
MATSUURA-GATA (BEACH)
MATSUURA-GAWA
NIJINO-MATSUBARA (PINE GROVE)
MIZUSHIMA
MIZUSHIMA-MURA
HIGASHI
KARATSU
Yatoko
UCHIAGE-MURA
Hatokawa
Ura
Tōbō
Mura Office
SASHI-MURA
Sashi
Shimmura
Myōken
Myōken Station
Karatsu Iron Works
Nishi-Karatsu Station
Futago
KINUHOSHI-YAMA
Castle Site
Prison
Forestry Office
Court of Appeals
City Hall
Sub-Prefectural Office
Tax Office
Fire House
Karatsu Station
Chōda-gawa
Nishiura
Chōda
Ōishi
Higashi-Karatsu Station
Railroad Shops
Nijinomatsubara Station
Hamasaki Station
Hamasaki Machi Office
Fuchinoe
Tani
Shikaka Station
Kushi-zaki (cape)
TAMASHIMA-MU
129°56′
57′
58′
59′
130°00′
01′
02′
130°03′
33°29′
28′
27′

RESTRICTED



KARATSU HARBOR
A PREFECTURE, KYUSHU, JAPAN
Scale 1:18,750
½ 0 ½ miles
500 0 500 meters
500 0 500 yards
POLYCONIC PROJECTION
CONTOUR INTERVAL 20 METERS
ssistant Chief of Air Staff, Intelligence, Washington, D.C.
e Commanding General, U.S. Army Air Forces, under the direction of the
hart Service by the Lake Survey Branch, Army Map Service, Detroit, Mich., Sept., 1944
00, Japanese Imperial Land Survey, Karatsu (1902), Hamazaki
ometric survey-base map)
ydrographic Chart 188, 1:36,388 (1930) (trigonometric survey- coast, depths)
s Hydrographic Chart 2305, 1:37,065 (1928 cor 36) (trigonometric survey-coastal change)
ography 14th USAAF, c. 1:60,000 (1944) (incomplete coverage–cloudy)
ts and town area, river, coast and vegetation changes)
G E N K A I - N A D A
(S E A)
HARBOR LIMIT
TAKA-SHIMA
Tori-shima
COALING WHARF
KARATSU-KŌ (HARBOR)
LIGHTHOUSE
5 Meters F.W. (Iron Tower)
TŌBŌ-WAN (BAY)
Yatoko
CHIAGE-MURA
Hatokawa
Ura
Tōbō
Mura Office
Sashi
Shimmura
Myōken
Myōken Station
Karatsu Iron Works
Nishi-Karatsu Station
Futago
KINUHOSHI-YAMA
162.7
Sashi-gawa
NISHINO-HAMA (BEACH)
Castle Site
Prison
KARATSU
Forestry Office
Court of Appeals
City Hall
Sub-Prefectural Office
Tax Office
Fire House
Mura Office
Karatsu Station
Chōda-gawa
Nishiura
Chōda
Ōishi
HIGASHI
MATSUURA-GAWA
MIZUSHIMA
Mura Office
Higashi-Karatsu Station
Railroad Shops
MATSUURA-GATA (BEACH)
NIJINO-MATSUBARA (PINE GROVE)
MIZUSHIMA-MURA
Nijinomatsubara Station
Hamasaki Station
Hamasaki Machi Office
TAMASHIMA-MURA
Tamashima-gawa
Tanikuchi
Fuchinoe
Shikaka Station
Tani
FUKUYOSHI-MURA
Shikaka
Kushi-zaki (cape)
KYUSHU RAILROAD

KARATSU HARBOR

SAGA PREFECTURE, KYUSHU, JAPAN

Scale 1:18,750

½ 0 ½ miles

500 0 500 meters

500 0 500 yards

POLYCONIC PROJECTION

CONTOUR INTERVAL 20 METERS

Office of the Assistant Chief of Air Staff, Intelligence, Washington, D.C.
Compiled for the Commanding General, U.S. Army Air Forces, under the direction of the Aeronautical Chart Service by the Lake Survey Branch, Army Map Service, Detroit, Mich., Sept., 1944
Compiled from:

1. Japan 1:50,000, Japanese Imperial Land Survey, Karatsu (1902), Hamazaki (1934) (trigonometric survey-base map)
2. Japanese Hydrographic Chart 188, 1:36,388 (1930) (trigonometric survey- coast, depths)
3. United States Hydrographic Chart 2305, 1:37,065 (1928 cor 36) (trigonometric survey-coastal change)
4. Vertical photography 14th USAAF, c. 1:60,000 (1944) (incomplete coverage-cloudy) (added streets and town area, river, coast and vegetation changes)
5. Oblique Photograph, (c. 1935) (Karatsu Iron Works)
6. Japanese Government Railway Timetable (1941) (railroad gauges)
7. U.S.H.O. List of Lights (1944) (lighthouse)

Names Transcribed according to Modified Hepburn (Romaji) System

LEGEND

- Hospital
- Shrine
- Temple
- Chimney
- Monument
- School
- Post Office
- Depth of Water
- Police Station
- Densely Populated
- Sparsely Populated
- Woodland
- Grassland
- Rice
- National or Prefectural Road generally metalled over 4 m. wide, or Streets in City Area
- Other roads 2.4 m. wide
- Road, Track or Trail less than 2 m. wide
- 3'6" Gauge, Single Track Railroad
- Railroad Station

GLOSSARY

-gawa	river
-machi	township
-mura	township
-shima	island
-yama	mountain, hill

HEIGHTS IN METERS, DEPTHS IN FATHOMS AT NEARLY LOWEST LOW WATER

RESTRICTED

FOR USE WITH AAF AIR OBJECTIVE FOLDER SASEBO 90.36

NOTE: Officers using this chart will mark here on correction and additions which come to their attention and mail direct to "AERONAUTICAL CHART SERVICE, HEADQUARTERS ARMY AIR FORCES, WASHINGTON, D.C."

ARMY MAP SERVICE, U.S. ARMY, WASHINGTON
11-44 SEPTEMBER, 1944

By EHS-NARA, Date 1/31/91

KARATSU HARBOR

A PREFECTURE, KYUSHU, JAPAN

Scale 1:18,750

½ 0 ½ miles

500 0 500 meters

500 0 500 yards

POLYCONIC PROJECTION

CONTOUR INTERVAL 20 METERS

Assistant Chief of Air Staff, Intelligence, Washington, D.C.
the Commanding General, U.S. Army Air Forces, under the direction of the
Chart Service by the Lake Survey Branch, Army Map Service, Detroit, Mich., Sept., 1944
m:
000, Japanese Imperial Land Survey, Karatsu (1902), Hamazaki
onometric survey-base map)
Hydrographic Chart 188, 1:36,388 (1930) (trigonometric survey- coast, depths)
tes Hydrographic Chart 2305, 1:37,065 (1928 cor 36) (trigonometric survey-coastal change)
otography 14th USAAF, c. 1:60,000 (1944) (incomplete coverage-cloudy)
gets and town area, river, coast and vegetation changes)
hotograph, (c. 1935) (Karatsu Iron Works)
Government Railway Timetable (1941) (railroad gauges)
List of Lights (1944) (lighthouse)
cribed according to Modified Hepburn (Romaji) System

LEGEND

- National or Prefectural Road
- generally metalled over 4 m. wide, or Streets in City Area
- Other roads 2.4 m. wide
- Road, Track or Trail less than 2 m. wide
- 3'6" Gauge, Single Track Railroad
- Railroad Station

GLOSSARY

-gawa	river
-machi	township
-mura	township
-shima	island
-yama	mountain, hill

TS IN METERS, DEPTHS IN FATHOMS AT NEARLY LOWEST LOW WATER

RESTRICTED

FOR USE WITH AAF AIR OBJECTIVE FOLDER SASEBO 90.36

NOTE: Officers using this chart will mark here on correction and additions which come to their attention and mail direct to "AERONAUTICAL CHART SERVICE, HEADQUARTERS ARMY AIR FORCES, WASHINGTON, D.C."

ARMY MAP SERVICE, U.S. ARMY, WASHINGTON, D.C. 340458
SEPTEMBER, 1944

Tōbō
Mura Office
TŌBŌ-WAN (BAY)
Sashi
Shimmura
Sushi-gawa
Myōken
Myōken Station
Karatsu Iron Works
Nishi-Karatsu Station
KINDHOSHI-YAMA 162.7
Futago
△175.9
COALING WHARF
KARATSU-KŌ (HARBOR)
LIGHTHOUSE 5 Meters F.W. (Iron Tower)
Ōshima
TAKA-SHIMA
Lat N 33°28'29"
Long E 129°59'37"
169.7
Tori-shima
HARBOR LIMIT
Castle Site
Prison
Forestry Office
KARATSU Court of Appeals
City Hall
Sub-Prefectural Office
Tax Office
Mura Office
Fire House
Karatsu Station
Chōda-gawa
MIZUSHIMA
Mura Office
MATSUURA-MACHI BRIDGE
MATSUURA-GAWA
HIGASHI
28.5
Higashi-Karatsu Station
Railroad Shops
MATSUURA -GATA (BEACH)
NIJINO-MATSUBARA (PINE GROVE)
4.82
△4.4
5.34
Nishiura
Kōta
Nakamura
Chōda
Ōishi
Watada
3.97
Kiln
MIZUSHIMA -MURA
Nijinomatsubara Station
Sunago
Shinyashiki
KAGAMI -MURA
HAMASAKI-MACHI
Hisusoru
Yokota-kami
Yokota-shimo
Kazahaya
KARATSU-MURA
Motomura
Yamaguchi
Nishiyama
Tanaka
Kagami Station
Kagami
KARATSU LINE
Enichi-ji (Temple)
Mura Office
KAGAMI-YAMA (Hamaura-yama)
283.7
Hamasaki Station
Hamasaki -Machi Office
3.49
Tomashima-gawa
TAMASHIMA-MURA
Shikaka Station
Tani
9.08
△177.6
7.56
Fuchinoe
Tanikuchi
28′
27′
33°26′
129°56′
57′
58′
59′
130°00′
01′
02′
130°03′

129° 130° 131° 132° 133° 134° 135°

36° 35° 34°

JAPAN SEA

KOREA (CHŌSEN)

PAIKYŪ

FUSAN

Genjitsu-wan

CHOSEN-KAIKYŌ

TSUSHIMA

TSUSHIMA-KAIKYŌ

OKI-RETTŌ

Kyōga-misaki

Jizō-zaki

Matatue

Hino-misaki

Himeji

OKAYAMA

KŌBE

Shodo-shima

HARIMA-NADA

Awaji

ŌSAKA-WAN

WAKAYAMA

Kawajiri-misaki

Hagi

Yuya-wan

HIROSHIMA

KURE

Yamaguchi

Tokuyama

Takamatsu

HIUCHI-NADA

TOKUSHIMA

Nihama

KII-SUIDŌ

SHIMONOSEKI

MOJI

Ube

Wakamatsu

KOKURA

YAWATA

Iki-shima

SUŌ-NADA

IYO-NADA

SHIKOKU

Matsuyama

KŌCHI

Nakatsu

FUKUOKA

Karatsu

Hirado

Kurume

Saga

Beppu-wan

Ōita

SASEBO

TOSA-WAN

Muroto-zaki

130°
131°
132°
133°
134°
135°
136°
36°
35°
34°
JAPAN SEA
OKI-RETTŌ
Echizen-misaki
Fukui
Kyōga-misaki
WAKASA-WAN
Tsuruga
Jizō-zaki
Hino-misaki
Matsue
Tottori
Maizuru
BIWA-KO
HONSHU
KYOTO
Himeji
AMAGASAKI
KŌBE
ŌSAKA
OKAYAMA
Shodo-shima
HARIMA-NADA
Awaji
ŌSAKA-WAN
WAKAYAMA
Takamatsu
TOKUSHIMA
KII-SUIDŌ
Shiono-misaki
HIUCHI-NADA
Niihama
SHIKOKU
KOCHI
TOSA-WAN
Muroto-zaki
IYO-NADA
Matsuyama
SUŌ-NADA
Nakatsu
Beppu-wan
Ōita
Kawajiri-misaki
Yuya-wan
Hagi
HIROSHIMA
KURE
Yamaguchi
Tokuyama
Ube
SHIMONOSEKI
MOJI
Wakamatsu
KOKURA
YAWATA
FUKUOKA
Karatsu
Kurume
Saga
SASEBO
Iki-shima
TSUSHIMA-KAIKYŌ
SHIMA

Authority
By LL2-m NARA, Date 1/31/91

RELIEF MAP OF SOUTHERN JA

Mercator projection

Scale 1:1,000,000 at Latitude 35°

20 10 0 20 Miles 40

Lat. 42°
Lat. 40°
Lat. 35°
Lat. 31°

Elevations in feet

GLOSSARY

Japanese	English
-gata	lagoon, inlet
-jima	island
-kaikyō	strait
-ko	lake
-misaki	point, cape
-nada	sea, open bay
-rettō	island chain
-saki	point, cape
-san	mountain
-shima	island
-suidō	channel, strait
-wan	bay
-zaki	point, cape

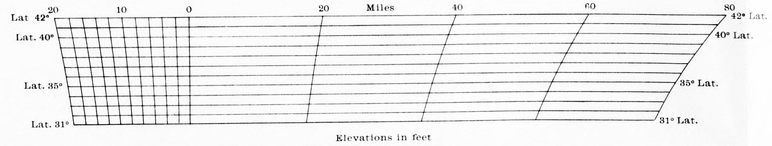
PREPARED AND REPRODUCED IN THE UNITED STATES DEPARTMENT OF THE INTERIOR, GEOLOGICAL SURVEY UNDER THE DIRECTION OF THE AERONAUTICAL CHART SERVICE, ARMY AIR FORCES, FOR THE ASSISTANT CHIEF OF AIR STAFF, INTELLIGENCE. FEBRUARY 1944

By [illegible] NARA, Date [illegible]

RELIEF MAP OF SOUTHERN JAPAN

Mercator projection

Scale 1:1,000,000 at Latitude 35°



Elevations in feet

GLOSSARY

Japanese	English
-gata	lagoon, inlet
-jima	island
-kaikyō	strait
-ko	lake
-misaki	point, cape
-nada	sea, open bay
-rettō	island chain
-saki	point, cape
-san	mountain
-shima	island
-suidō	channel, strait
-wan	bay
-zaki	point, cape