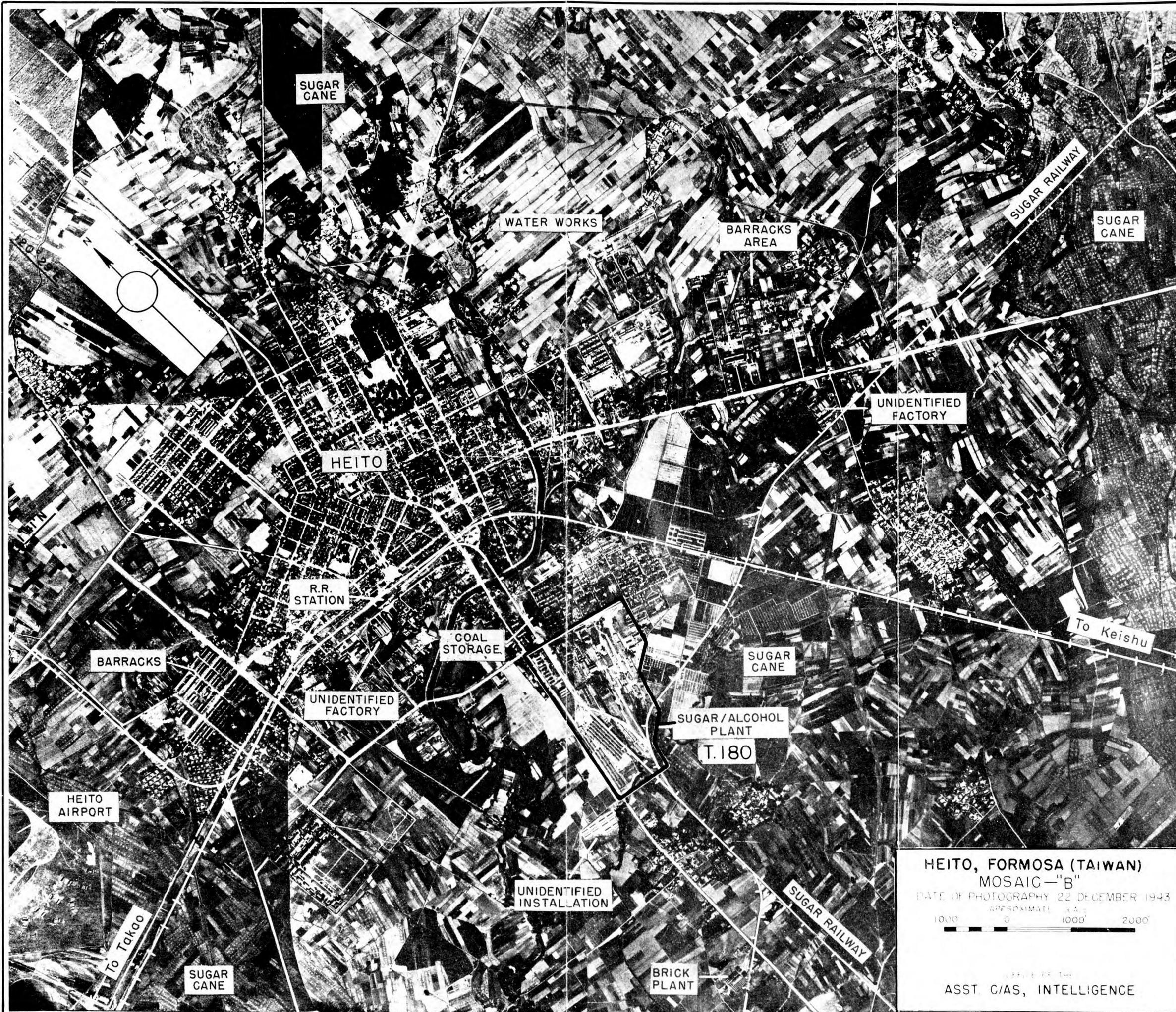


HEITO, FORMOSA (TAIWAN)
 MOSAIC-"A"
 DATE OF PHOTOGRAPHY 22 DECEMBER 1943
 APPROXIMATE SCALE
 1000' 0 1000' 2000'
 OFFICE OF THE
 ASST. C/AS, INTELLIGENCE
 W-990



TOKO-BORYO DISTRICT

(Reconnaissance Photo Coverage: 7 November 1943)

The sparsely inhabited Toko-Boryo district has been reported to be an embarkation area, serving as an auxiliary to Takao as a convoy assembly zone. Earlier reports indicated that fuel stores (fed by a pipeline from Takao) and other ship facilities had been developed at Toko, but available reconnaissance reveals no sizeable installations.

The only important objective in this district is the Toko Seaplane Base (Target 162), about 1 mile E of the town. This large base is equipped with all facilities, including a power station, personnel barracks, about 14 miscellaneous shop buildings, four hangars and two unusually large, saw-tooth roof "hangars" (each measuring 520 by 210 ft.). Several reports have referred to a "branch air depot" here (aircraft parts and/or assembly), but the lack of activity on available reconnaissance makes it impossible to check these reports. However, the presence of the two large "hangars" indicates the possibility that large flying boats may be overhauled and/or fitted out here.

Reconnaissance also reveals that the branch RR from Takao has been extended to Toko and Boryo. Military barracks are located near Toko and Kato; a munitions depot and several possible aircraft detector installations are located E of the seaplane base.

TARGET TABULATION

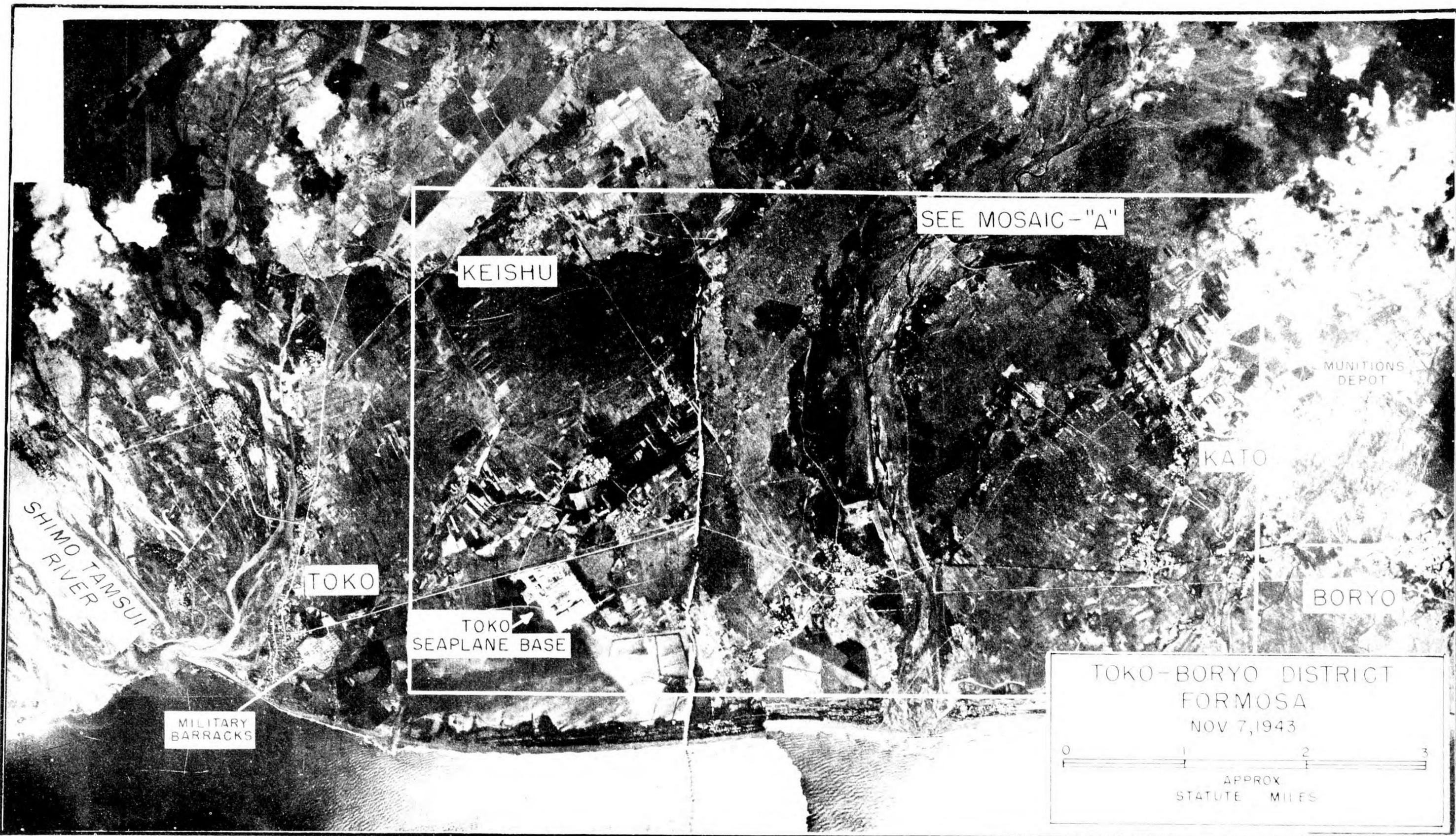
No.	Name	Approximate Coordinates	Description and Significance
162	Toko Seaplane Base	22° 27' N 120° 27' E	Branch air depot. See Airport Survey, Tab XV.

49

XI - TOKO-BORYO DISTRICT

CONFIDENTIAL - (British Confidential)

CONFIDENTIAL - (British Confidential)



SEE MOSAIC - "A"

KEISHU

MUNITIONS DEPOT

KATO

TOKO

BORYO

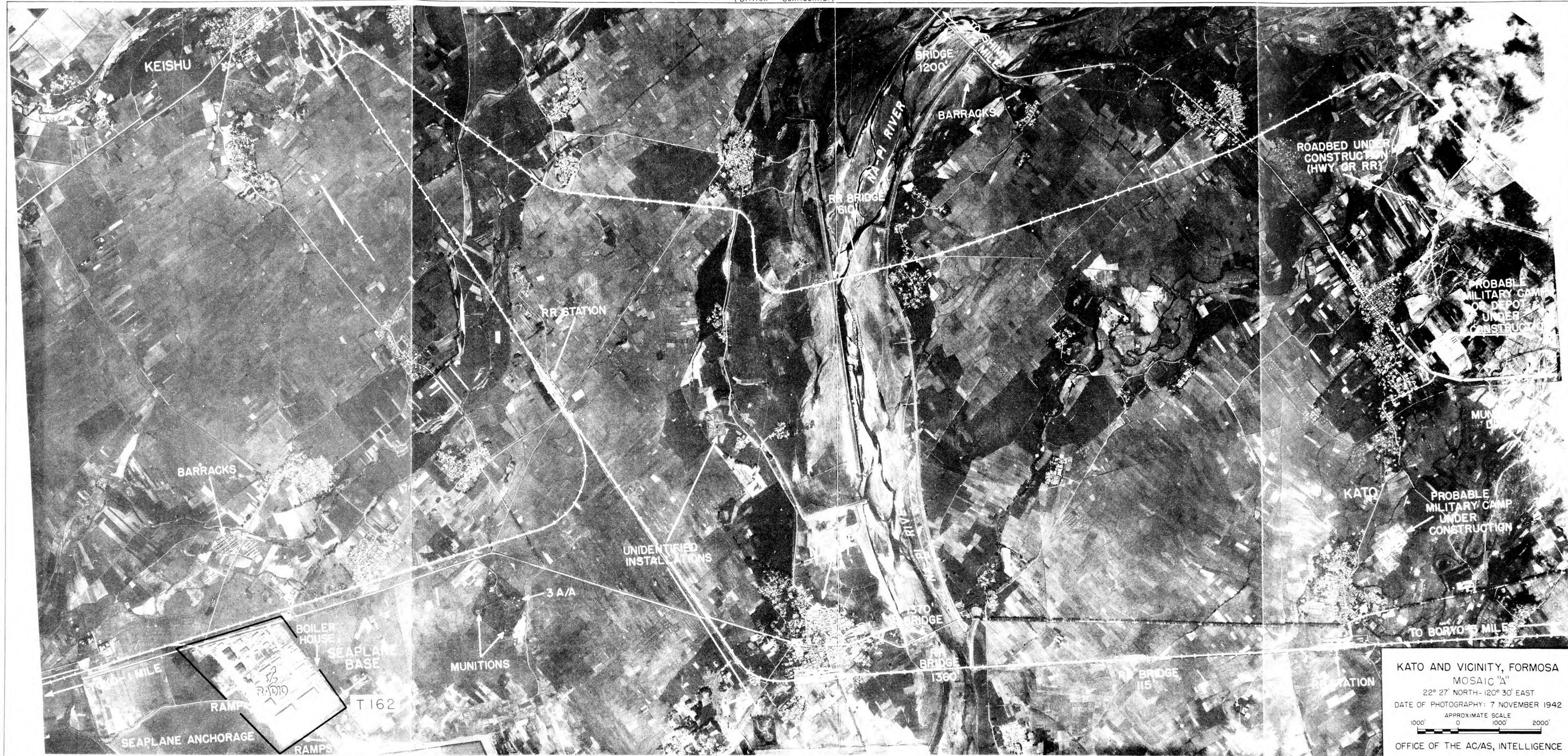
TOKO SEAPLANE BASE

SHIMO TAMSUI RIVER

MILITARY BARRACKS

TOKO-BORYO DISTRICT
 FORMOSA
 NOV 7, 1943

0 1 2 3
 APPROX
 STATUTE MILES



KATO AND VICINITY, FORMOSA
 MOSAIC "A"
 22° 27' NORTH-120° 30' EAST
 DATE OF PHOTOGRAPHY: 7 NOVEMBER 1942
 APPROXIMATE SCALE
 1000' 0 2000'
 OFFICE OF THE AC/AS, INTELLIGENCE

GIRAN - SUO DISTRICT

(Reconnaissance photo coverage not available)

The Giran Plain, in NE Formosa, has little strategic significance. Principal economic activities are agriculture (rice), lumber (wood pulp) and fishing (centering at Suo). It is reported that a manganese deposit near Suo is being worked, part of the ore being processed in a small smelter near Rato, but most is shipped by rail to Keelung for processing. A light railway runs west from Rato, past the Maruyama Power Plant (Target 70) to the extensive Taiheizan forests in the mountain foothills.

Suo, the only port in this area, has a boat basin (Target 65) which is used by the fishing fleets operating off this coast. Reports that the bay was used as a submarine station could not be verified by reconnaissance of 8 November 1943. A cement mill is reported along the RR, near the town.

Tactical considerations may dictate the cutting of the Suo-Keelung RR line. This could most effectively be done at Hatto (near Keelung), but a bridge (Target 68) near Giran is also indicated as a possible objective.

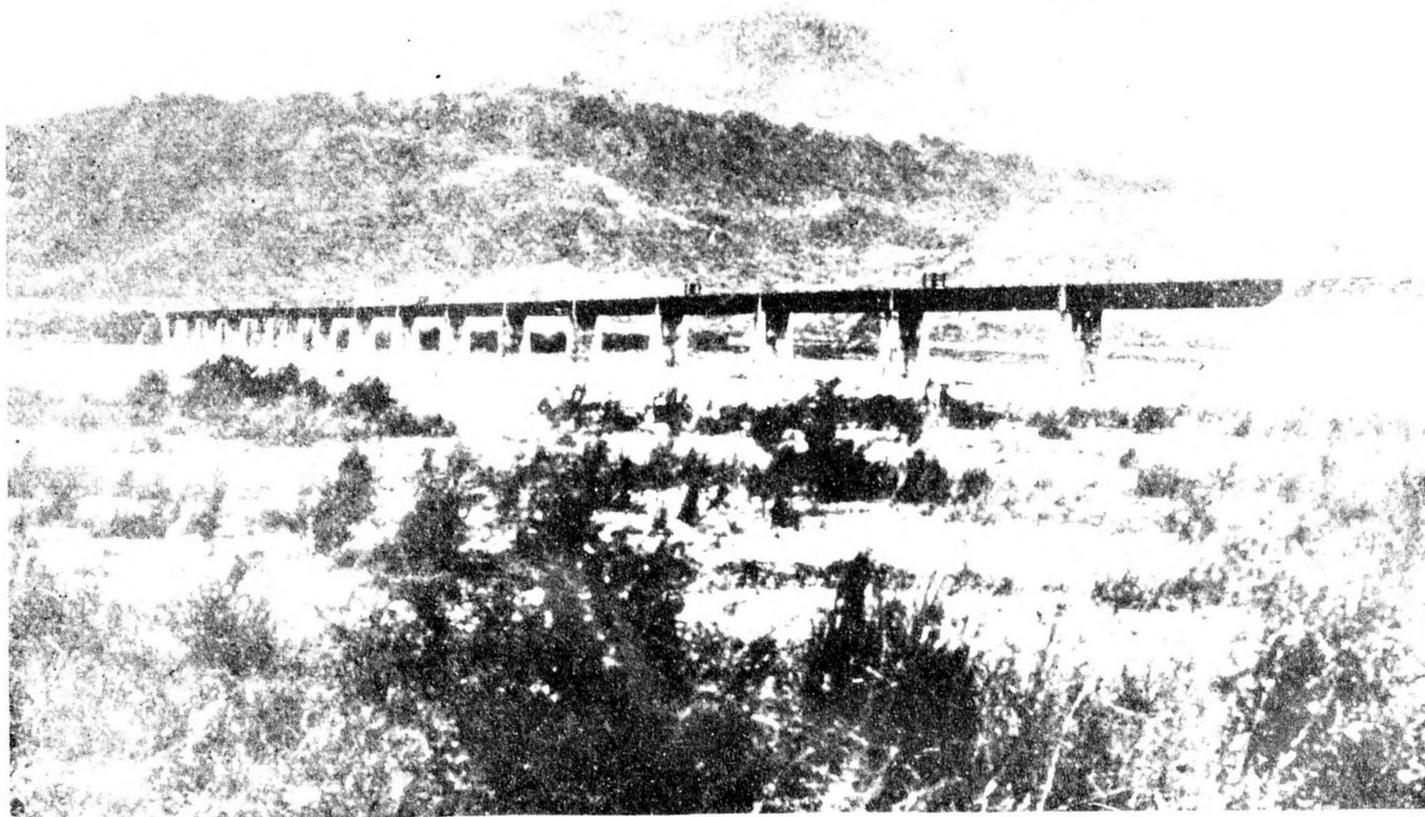
TARGET TABULATION

No.	Name	Approximate Coordinates	Description and Significance
65	Suo Basin	24° 35' N 121° 52' E	Basin for fishing boats, depths of 6-9 ft. Outer harbor affords good anchorage for large ships. Two small fuel tanks and two warehouses near mouth of basin. Fuel storage previously reported at tip of N bight of Suo Bay not verified by reconnaissance.
70	Maruyama Power Plant	24° 39' N 121° 40' E	18,000 KW hydro plant on Dakusui River. RR spur and power line lead to plant.
68	Dakusui River RR Bridge	24° 43' N 121° 46' E	Long, low bridge; steel on stone or concrete piers. About 3½ miles N of Rato.

50

XII - GIRAN-SUO DISTRICT

CONFIDENTIAL



DAKUSUI RIVER RR BRIDGE - TARGET 68

Bridge on Keelung - Suo spur line. View looks SW.



SUO BASIN - TARGET 65

Looking east over small boat basin at south side of Suo Bay. Oil tanks and warehouses are reported at right of basin. Bay affords good anchorage for large ships.

CONFIDENTIAL

KARENKO

(No reconnaissance coverage available)

Aluminum, nickel and chemical works, and the only developed port on the east coast, give considerable importance to Karenko. The Japan Aluminum plant (Target 61) is reported to be an aluminum reduction works, alumina being imported from Japan Proper (source said to be Kurosaki, near Yawata). This would imply an inefficient utilization of shipping -- bauxite hauled to Japan, alumina to Karenko and aluminum back to Japan -- but available intelligence indicates this to be the pattern. Less is known of the nickel smelter (Target 62), which is credited with a capacity of about 10% of total Japanese requirements. Nickel ore is imported from the Celebes. Among the other plants reported to be located here are urea gypsum, phosphate, carbide works and artificial rock crystal. Available information is too inadequate to warrant the assignment of target numbers to any of these plants, but it is believed that they are significant only as suppliers of fertilizers to eastern Formosa. With the exception of one of the chemical plants (said to be located along the railroad in the city), the plants noted are all reported to be situated just west of Karenko Harbor.

Karenko's industries are reported to obtain their electric power from a series of hydro-electric plants located along the Mokka River, about 10 miles SW of the city. Spot locations for these plants are not available and they are not listed as targets.

The port of Karenko is a small artificial harbor, large enough to accommodate about 10-12 vessels (3-6,000 tons) at one time. Because of rough seas which prevail off this coast, ships must anchor within the very limited area enclosed by the breakwaters. The harbor could be blocked for a considerable time if several ships were sunk alongside wharves or near the narrow entrance channel.

51

TARGET TABULATION

No.	Name	Approximate Coordinates	Description and Significance
61	Japan Aluminum Co. (Nippon Aruminiumu K.K.)	24° 00' N 121° 37' E	Reported located just W of port; no details available. Capacity estimated at 5.7% of total Jap aluminum production. (About 6,000 tons per year).
62	Nickel Smelter (Toyo Kinzoku Seiren)	24° 00' N 121° 37' E	Reported located just W of port; no details available. Said to refine nickel (about 10% of Jap capacity) and also some cobalt.
64	Karenko Wharves	24° 00' N 121° 38' E	Best developed port on E coast; equipped with about 10 warehouses, cranes, and RR siding.
66	Karenko RR Station & Yards	23° 59' N 121° 36' E	Northern terminal of E coast RR. Small RR shops and several storehouses.

United States RESTRICTED
Equals British RESTRICTED



United States RESTRICTED
Equals British RESTRICTED

EXPERIMENTAL RELIEF MODEL OF KARENKO

CONFIDENTIAL

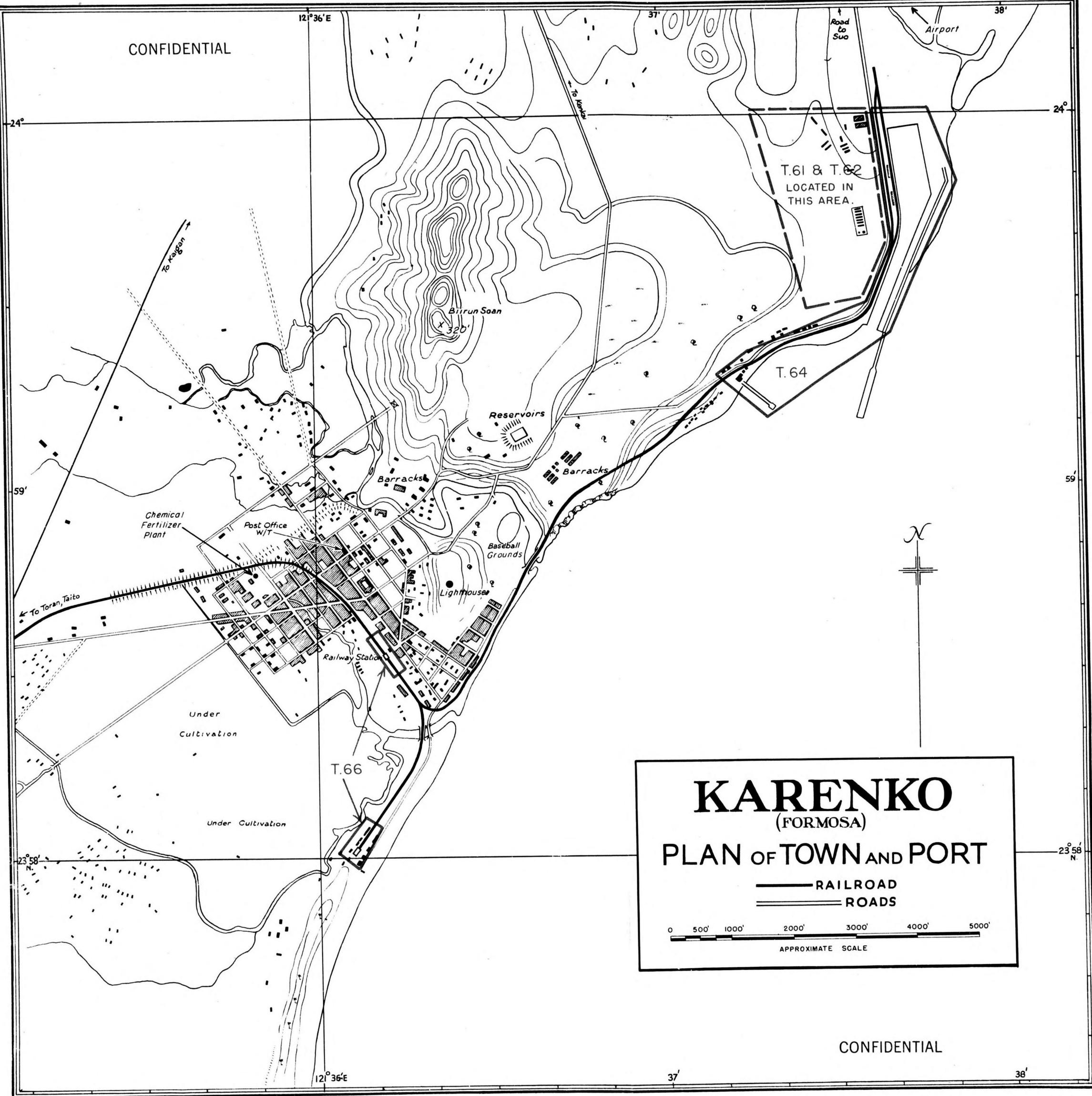


CONFIDENTIAL

NW PART OF KARENKO CITY

Old view of Karenko, looking NW. Part of the railroad station (Target 66) is visible at the left and a chemical fertilizer plant shows in the upper left corner.

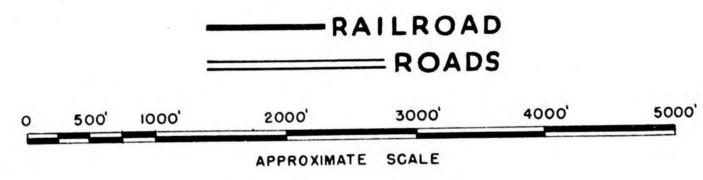
CONFIDENTIAL



KARENKO

(FORMOSA)

PLAN OF TOWN AND PORT



CONFIDENTIAL

PESCADORES ISLANDS

(Reconnaissance Photo Coverage: 7 November 1943)

Mako Island, the largest and most extensively developed of the Pescadores Islands, contains an important concentration of military installations, including fuel and munitions stores, ship repair facilities, at least one operating airfield and numerous gun positions. Bako Bay (also known as Mako Bay), one of the largest deep-water anchorages in the Taiwan Strait, is used intermittently for convoy fueling and assembly, and the Ansan Naval Base serves as a station for naval escort vessels. The development of new Japanese bases at Hong Kong, Hainan and Takao, and the relative nearness of China-based United States aircraft have reduced the usefulness of this naval base. Its primary functions are now: (1) convoy control, (2) aircraft detection and defense and (3) defense outpost for Formosa and the Strait area against seaborne attack.

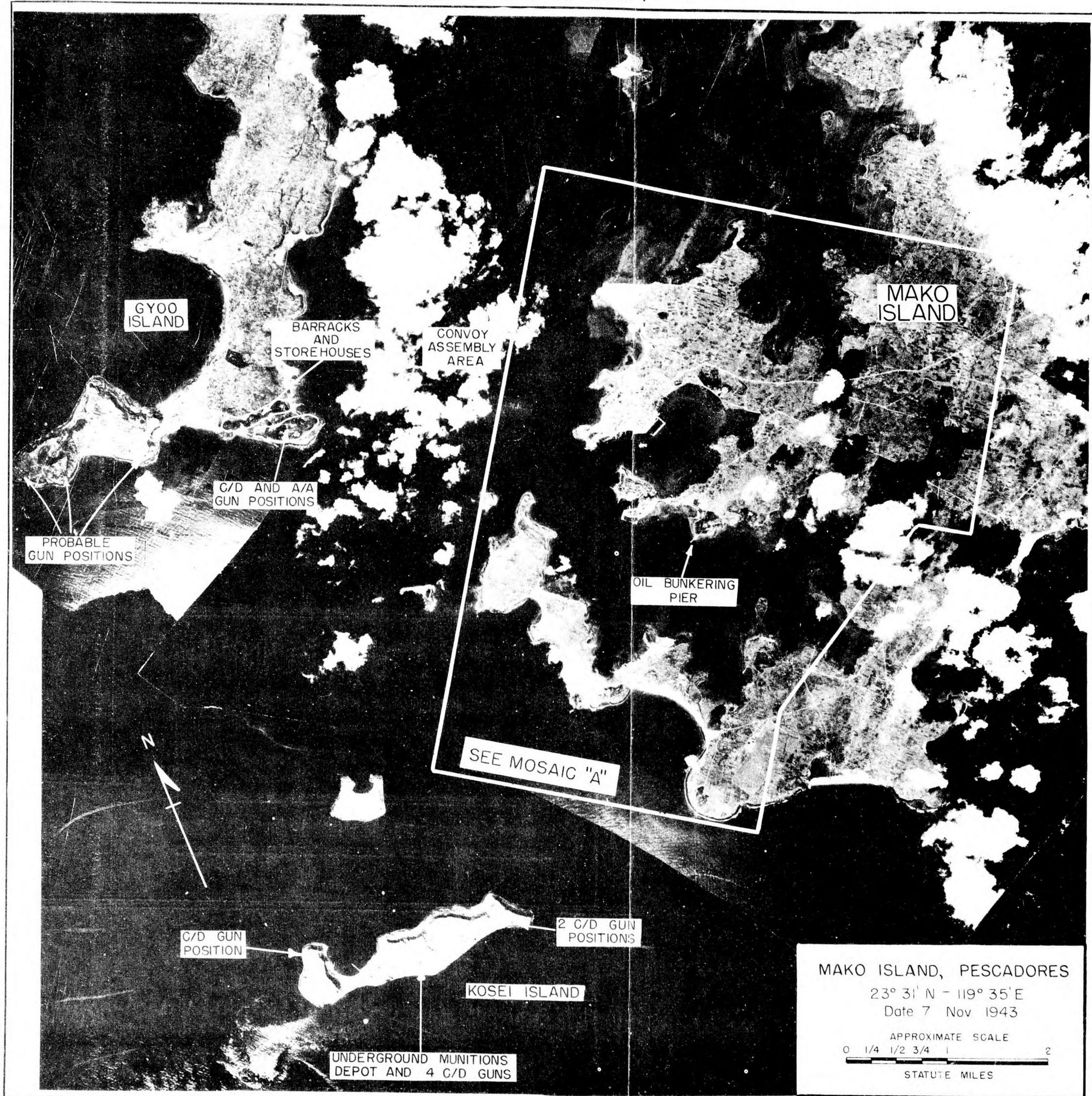
The whole of Bako Island is strongly fortified with A/A and C/D guns. Incomplete reconnaissance coverage indicates that many of the small islands which surround Bako are fortified (both A/A and C/D guns), but they have few other installations.

TARGET TABULATION

No.	Name	Approximate Coordinates	Description and Significance
	ANSAN NAVAL BASE	23° 33' N 119° 34' E	Located on small island, connected to Bako only by a causeway, base occupies area of about 2200 by 2200 ft. Facilities include administrative and barracks bldgs, 400 ft. graving dock & repair shops, small power plant, two small oil tanks & a large coaling wharf. Naval escort vessels dock in central anchorage.
145---	Drydock		
146---	Wharves		
152---	Stores		
	ANSAN FUEL AND MUNITIONS STORAGE	23° 33' N 119° 34' E	Rectangular area 3100 ft. NE/SW by 1000 ft. NW/SE. Three large earth-covered fuel tanks near bunkering pier at SW end of area & 3 very large (240 ft. diameter) buried fuel tanks at NE end. Revetted munitions stores (torpedo & mine depot) along S side.
150---	Oil Stores		
151---	Torpedo & Mine Depot		
165---	Underground Oil Tanks		
147	Bako Harbor	23° 34' N 119° 33' E	Three piers & large concrete basin, several storehouses along basin. Used by ships supplying Bako Island.
156	Bako Power Plant	23° 34' N 119° 34' E	Principal power source for island; Ansan Naval Base has own plant.
153	North Fort Magazine	23° 34' N 119° 35' E	Revetted concrete magazines; munitions for coast batteries, etc.

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XIV - PESCADORES ILS.



U. S. CONFIDENTIAL
BRITISH CONFIDENTIAL



DEFENSIVE BARRIER

TAMPI BAY

FIRING RANGE

POSSIBLE RADAR

BURIED STORAGE

TANG-UI

MUNITION STORAGE

PERSONNEL BLDGS & BARRACKS

STORAGE

A/A B C/D GUNS

MUNITION STORAGE

T.153

BARRACKS AREA

BLDGs IN BURROWS

WATER TANK

PROB BARRACKS

POWER PLANT

T.156

WAREHOUSE AREA

A/A POSITION

T.147

C/D GUNS

PROB WATERWORKS

PUMPING STATION

BARRACKS AREA

PIPELINE

RADIO STATION (3 TOWERS)

GRAVING DOCK 50 x 400

STORAGE BUILDINGS

T.165

CONVOY ASSEMBLY AREA

MILITARY BARRACKS

BARRACKS AREA

ANSON NAVAL BASE

T.146

T.145

PERSONNEL BUILDINGS

RADIO TOWERS

POWER PLANT

T.150

T.151

BURIED MUNITIONS

T.152

PUTTON SAN

PIPE LINE

REVERTED MUNITIONS STORES

COALING WHARF-900 & COAL STORAGE

OIL BUNKERING PIER

EARTH COVERED FUEL TANKS

TRENCHES

BAKO BAY

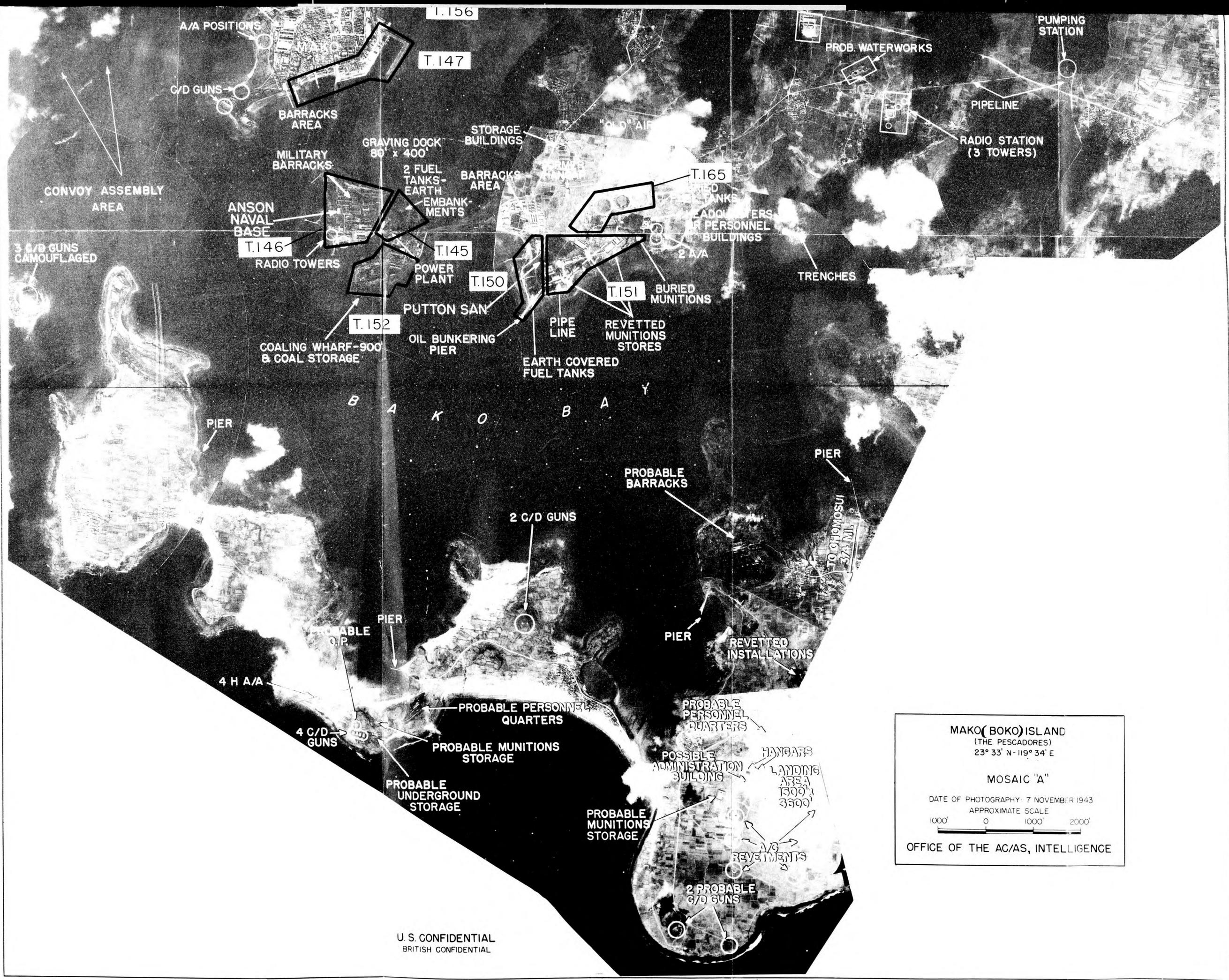
PIER

PIER

PROBABLE BARRACKS

2 C/D GUNS

CHONGSU



A/A POSITIONS
 C/D GUNS
 BARRACKS AREA
 MILITARY BARRACKS
 ANSON NAVAL BASE
 T.146
 RADIO TOWERS
 T.152
 COALING WHARF-900' & COAL STORAGE
 PIER
 T.156
 T.147
 GRAVING DOCK 80' x 400'
 STORAGE BUILDINGS
 BARRACKS AREA
 T.145
 T.150
 PUTTON SAN
 OIL BUNKERING PIER
 PIPE LINE
 EARTH COVERED FUEL TANKS
 T.151
 BURIED MUNITIONS
 REVETTED MUNITIONS STORES
 T.165
 PROB. WATERWORKS
 PIPELINE
 RADIO STATION (3 TOWERS)
 PUMPING STATION
 TRENCHES

CONVOY ASSEMBLY AREA
 3 C/D GUNS CAMOUFLAGED
 T.145
 POWER PLANT
 T.150
 T.151
 BURIED MUNITIONS
 TRENCHES
 BARRACKS AREA
 T.145
 T.150
 PUTTON SAN
 OIL BUNKERING PIER
 PIPE LINE
 EARTH COVERED FUEL TANKS
 T.151
 BURIED MUNITIONS
 REVETTED MUNITIONS STORES
 T.165
 BURIED FUEL TANKS
 HEADQUARTERS OR PERSONNEL BUILDINGS
 2 A/A
 TRENCHES

B A K O B A Y
 PROBABLE BARRACKS
 PIER
 TO GHOMOSU 3/4 MI.
 REVETTED INSTALLATIONS
 PIER
 2 C/D GUNS
 PROBABLE PERSONNEL QUARTERS
 PROBABLE PERSONNEL QUARTERS
 POSSIBLE ADMINISTRATION BUILDING
 HANGARS
 LANDING AREA
 1500'
 3500'

4 H A/A
 PROBABLE O.P.
 PIER
 4 C/D GUNS
 PROBABLE MUNITIONS STORAGE
 PROBABLE UNDERGROUND STORAGE
 PROBABLE MUNITIONS STORAGE
 2 PROBABLE C/D GUNS
 A/G REVENEMENTS

MAKO (BOKO) ISLAND
 (THE PESCADORES)
 23° 33' N-119° 34' E

MOSAIC "A"

DATE OF PHOTOGRAPHY: 7 NOVEMBER 1943
 APPROXIMATE SCALE

1000' 0 1000' 2000'

OFFICE OF THE AC/AS, INTELLIGENCE

U. S. CONFIDENTIAL
 BRITISH CONFIDENTIAL

AIRPORT SURVEY OF FORMOSA

<u>NAME</u>	<u>LOCATION*</u>	<u>FACILITIES</u>
1. Chosu Airport (Kagi)**	23° 30' N 120° 31' E	Reported bomber base, auxiliary to Kagi. (NOTE: This is probably incorrect; field may be same as Keishu, #9).
2. Einansho Airport (Tainan)	22° 57' N 120° 12' E	Large airport, with 5 hangars plus 2 under construction; extensive storage & personnel facilities but limited repair & maintenance. Most buildings on E side of field; numerous wall-type revetments, at NE & SW ends of field. (Reconnaissance photo: 7 Nov. 1943)
3. Garambi Airport (Garambi)	21° 55' N 120° 51' E	Reported naval emergency field, and adjoining seaplane anchorage
4. Giran Airport (Giran)	24° 45' N 121° 45' E	Reported small field, "T"-shaped runways. Limited facilities
5. Heito Airport (Heito)	22° 40' N 120° 27' E	Large airport with one paved runway (3860 ft.), 11 hangars, 2 large and several small "depot" buildings, and shops, barracks and stores -- all at NE end of field. Another barracks' area just SE of field. Dispersal revetments along N and S sides. <u>Target 57.</u> (Reconnaissance photo: 22 December 1943).
6. Itahashi Air- port (Itahashi)	25° 01' N 121° 27' E	Reported small landing field
7. Kagi Airport (Kagi)	23° 27' N 120° 23' E	Reported one of 3 principal air bases in Taiwan. Equipped with hangars & numerous bldgs at NE end of field. Underground fuel storage. Complete maintenance facilities.
8. Karenko Airport (Karenko)	24° 02' N 121° 37' E	Reported naval air base & seaplane station, hangars & barracks on E side. Recently equipped with major maintenance facilities. An "aircraft factory" is also reported here.
9. Keishu Airport (Keishu) (also known as Choshu)	22° 30' N 120° 31' E	Reported bomber base
10. Koko Airport (Koko)	24° 52' N 121° 03' E	Reported paratroop training base & bombing practice station
11. Koshun Airport (Koshun)	22° 02' N 120° 43' E	Small field, two "L"-shaped runways, limited facilities; several revetments along western side. (Reconnaissance photo: 7 Nov. 1943).
12. Kotosho Airport (Kotosho Is.)	22° 03' N 121° 32' E	Landing field reported

* Approximate coordinates only
 ** Name in parentheses indicates nearest important town.

<u>NAME</u>	<u>LOCATION</u>	<u>FACILITIES</u>
13. Matsuyama Airport (Taihoku)	25° 04' N 121° 33' E	Reported major military air base with all facilities. Hangars & barracks in SW corner of field. Major maintenance & repair facilities; aircraft assembly reported. <u>Target 52.</u>
14. Midako Seaplane Anchorage & Landing Field (Midako)	22° 46' N 120° 12' E	Reported small landing field & seaplane anchorage
15. Okayama Airport (Okayama)	22° 48' N 120° 16' E	Major air base with complete facilities. Four paved runways (longest: 3700 ft); 6 hangars; extensive shops & storage bldgs at SW end; possible aircraft assembly and/or parts plant, large; numerous revetments on all sides. (Reconnaissance photo: 7 Nov. 1943).
16. Reigaryo Airport (Takao)	22° 36' N 120° 18' E	Large field, no runways. Bomber training base. Limited facilities. Few small bldgs & revetments. (Reconnaissance photo: 7 Nov. 1943).
17. Reigaryo Seaplane Base (Takao)	22° 35' N 120° 18' E	Two ramps, one hangar & 4 miscellaneous bldgs. Limited facilities. (Reconnaissance photo: 7 Nov. 1943).
18. Riko Airport (Riko)	22° 46' N 120° 28' E	Reported airport of moderate size.
19. Rokko Airport (Rokko)	24° 03' N 120° 26' E	Reported airfield & parachute training school.
20. Shaajo Airport (Shaajo)	22° 05' N 120° 42' E	Emergency landing field reported.
21. Shinchiku Airport (Shinchiku)	24° 50' N 120° 58' E	Large bomber base & bomber training school. All facilities. 4 concrete runways; large hangars, many barracks, other bldgs on E side. Has been attacked. (Reconnaissance photo: 1 April 1943).
22. Shinko Airport (Shinko)	23° 35' N 120° 09' E	Secondary military airfield reported
23. Suiteiryō Airport (Boryo)	22° 23' N 120° 35' E	Reported military airport with hangars & underground fuel storage. Base for naval air unit.
24. Taichu Airport (Taichu)	24° 09' N 120° 39' E	Small field, limited facilities. About 5 hangars, several shops & barracks. Few revetments, no runways. Located about 2 mi. NW of town of Taichu. (Reconnaissance photo: 23 Nov. 1943).
25. Taito Airport (Pinan)	22° 47' N 121° 05' E	Reported military airport with limited facilities, improved recently.
26. Tamsui Seaplane Station (Tamsui)	25° 11' N 121° 25' E	Seaplane station with ramp. Oil tanks to N (Reconnaissance photo: 1 April 1943).

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<u>NAME</u>	<u>LOCATION</u>	<u>FACILITIES</u>
27. Toko Seaplane Base (Toko) (also known as Kato Seaplane Base)	22° 27' N 120° 27' E	Major seaplane station, with 6 large hangars, several shops & storage bldgs; small power plant. Target 162. (Reconnaissance photo: 7 Nov. 1943).
28. Toseki Airport (Toseki)	23° 29' N 120° 09' E	Reported landing field, auxiliary to Kagi.
29. Toyohara Airport (Toyohara)	24° 13' N 120° 38' E	Moderately large field, being enlarged. No runways, many dispersed revetments on all sides. Appears to be primarily a fighter base. 3 hangars & numerous barracks, shops, etc. Located about 5 mi W of Toyohara. (Reconnaissance photo: 23 Nov. 1943).

PESCADORES

30. Keimo-U Airport	23° 34' N 119° 34' E	Small landing field, no facilities. Appears to be abandoned. (Reconnaissance photo: 7 Nov. 1943).
31. Sekisan Airport (Chiyobusui)	23° 31' N 119° 35' E	1500 by 3600 ft. landing area, no runways. Two hangars, several barracks bldgs. Eight revetments. (Reconnaissance photo: 7 Nov. 1943).

55

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(British Confidential)



REIGARYO AIRPORT
FORMOSA

22° 36' N - 120° 18' E

Date - Nov. 7, 1943

APPROX. SCALE



AC / AS — INTELLIGENCE
CONFIDENTIAL
(British Confidential)



KOSHUN AIRPORT—FORMOSA
 22° 01' 30" N 120° 43' 30" E
 DATE OF PHOTOGRAPHY 7 NOVEMBER 1943
 APPROXIMATE SCALE
 1000' 0' 1000' 2000' 3000'
 OFFICE OF THE AC/AS, INTELLIGENCE

120°

121°

122°

Hōka-sho

CHINA

E A S T C H I N A S E A

Menkasho

Kahei-sho

25°

25°

S U P E R A I T

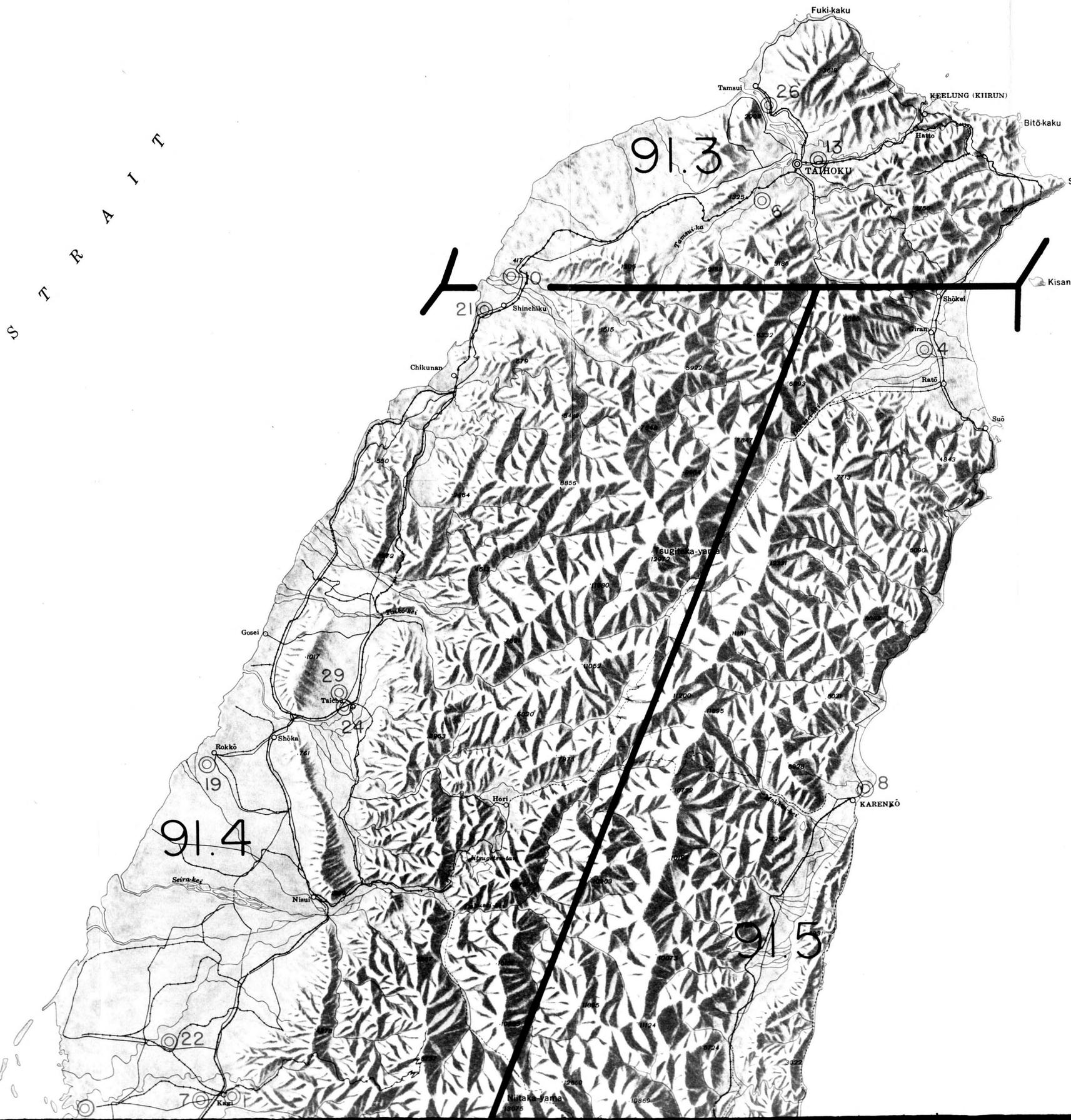
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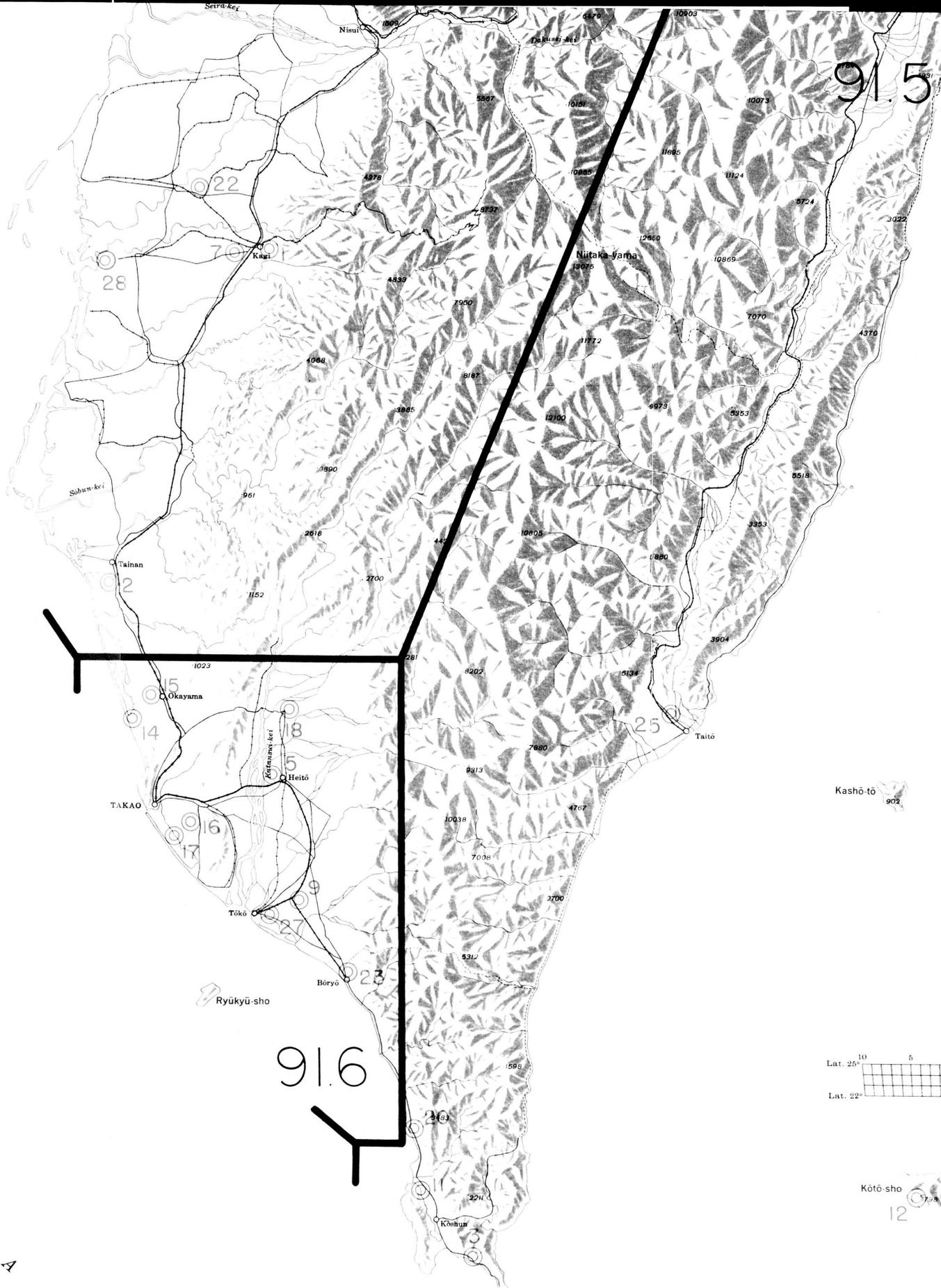


PESCADORES ISLANDS

PESCADORES ISLANDS
(HÖKO RETTÖ)

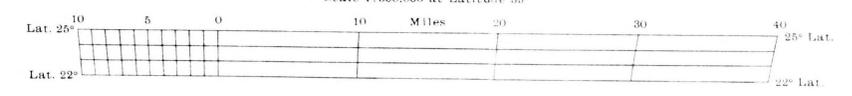
H Ö K O S U I D Ö

S H U O S
T U H
C H I N A



AIRPORT SURVEY FORMOSA (TAIWAN)

Mercator Projection
Scale 1:500,000 at Latitude 35°



Elevations in feet

PREPARED AND REPRODUCED IN THE
UNITED STATES DEPARTMENT OF THE INTERIOR, GEOLOGICAL SURVEY

FOR THE WAR DEPARTMENT
OFFICE OF THE ASSISTANT CHIEF OF AIR STAFF, INTELLIGENCE

FEBRUARY 1944

GLOSSARY

Japanese	English
-bi	point, cape
-ka	river
-kaku	point, cape
-kei	river
-rettö	island chain
-sho	island
-suidö	channel
-tan	lake
-tö	island
-yama	mountain

L U Z O N S T R A I T

GEOGRAPHY

Roughly oval in shape, Formosa measures 250 miles N/S by 93 miles E/W. A N/S mountain barrier divides the island into two distinct regions -- a low plain to the west and a mountain mass interspersed with small valleys to the east. The central mountain range averages about 10,000 ft., with the highest peak (Mt. Niitaka) rising to over 13,000 feet.

A narrow valley, lying parallel to the sea, separates the central range from a lesser range along the east coast. Rising abruptly from the sea, this range is marked by sheer cliffs and rocky promontories. Small sloping plains, formed by the estuaries of streams draining the central and lesser ranges, are located at each end of the eastern range. These valleys (at Karenko and Taito) together with a larger one at Giran to the north, contain the only centers of population and cultivated land along the east coast. The only natural harbor is at Suo, but an artificial port has been developed at Karenko, and vessels lighter off the Taito roadstead in calm weather.

The Tamsui and Keelung river valleys divide the northern part of the island into two mountain masses. Peaks rise to over 3000 ft. on either side of the 10 mile wide Taihoku plain. The northern port of Keelung lies in a restricted pocket at the foot of the central mountain range, approachable only through a narrow beach shelf from the sea or through a steep valley south by west of the city.

SW of Taihoku, and separated from it by a low spur of foothills, is the rolling Shinchiku plain, much of it consisting of rice paddy fields. This plain in turn is cut off from the principal coastal plain to the south by irregular foothills which extend northwestward from the central range to the sea.

5C This west coast plain, about 100 miles N/S by 20 miles E/W, is the principal agricultural region of Formosa, devoted to sugar cane, rice, sweet potatoes and tropical fruits. Sandy beaches, 50 to 100 yards at low water, extend along much of this coast. The coastal waters are very shallow, and at low tide extensive mud flats are exposed -- especially off Tainan.

The southern part of the island consists of a hilly plain along the east side of the multi-channeled Shimo-Tamsui River with a low spur of hills to the west and the lower part of the central range to the east. This valley is largely devoted to sugar cane and pineapple. Takao is the only developed harbor, but the roadsteads off Boryo and Toko are used for lightering.

The rivers of Formosa are short and swift, especially along the east coast. Mere creeks during the dryer season, these streams are susceptible to severe flash floods during the wet season (July and August). The lower reaches of most of these rivers are multi-channeled and gravelly, often filled with large boulders.

There is only one sizeable lake, Jitsugetsutan Lake (elevation 2400 feet) near the island's center. There are hundreds of small ponds, especially around Shinchiku.

The foothills and lower mountain slopes are covered with thick tropical forests. Large camphor trees grow in the upper slopes, while spruce, hemlock and pine cover the slopes from 5000 up to 12,000 feet. Bamboo and mangrove dot the lowlands.

OFF-SHORE ISLANDS

About 14 small islands and many islets lie close to Formosa, but few of them are inhabited. The Pescadores (Hoko Retto) lie about 26.5 miles from Formosa's west coast. In addition to the principal island of Mako (Bokoto), there are 7 minor islands and many tiny islets. All are extremely irregular, low-lying (maximum elevation being 300 ft.) and barren.

Several islets lie on the southwestern approach to Keelung Harbor; Keelung To being the most conspicuous by virtue of its sharp cone, 600 feet high.

Two small islands, Kashoto and Kotosho, lie about 20 and 34 miles respectively off the SE coast. These are inhabited by aboriginal tribes.

The Batan (Baski) islands lie across a narrow channel from the southernmost tip of Formosa, forming part of a chain which extends toward Luzon in the Philippines.



KEELUNG RIVER

View along Keelung River, just SW of Keelung, showing cableway leading from one of many small coal mines in area. This may be one of the cableways that leads directly to the coaling wharf in the port of Keelung.



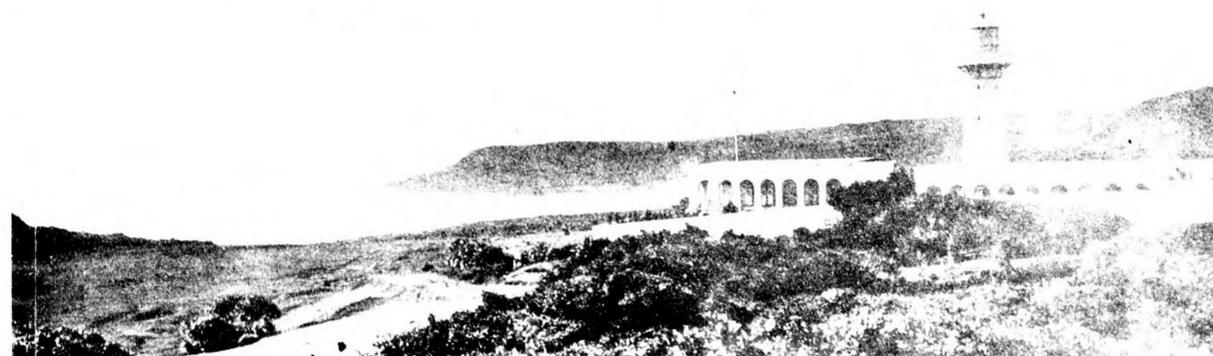
UPPER DAKUSUI RIVER

View along upper Dakusui River in central Formosa, showing typical aboriginal village and mountain trail. Buildings on upper terrace at right are native school and local police station. Note telegraph line leading from upper right corner of village.



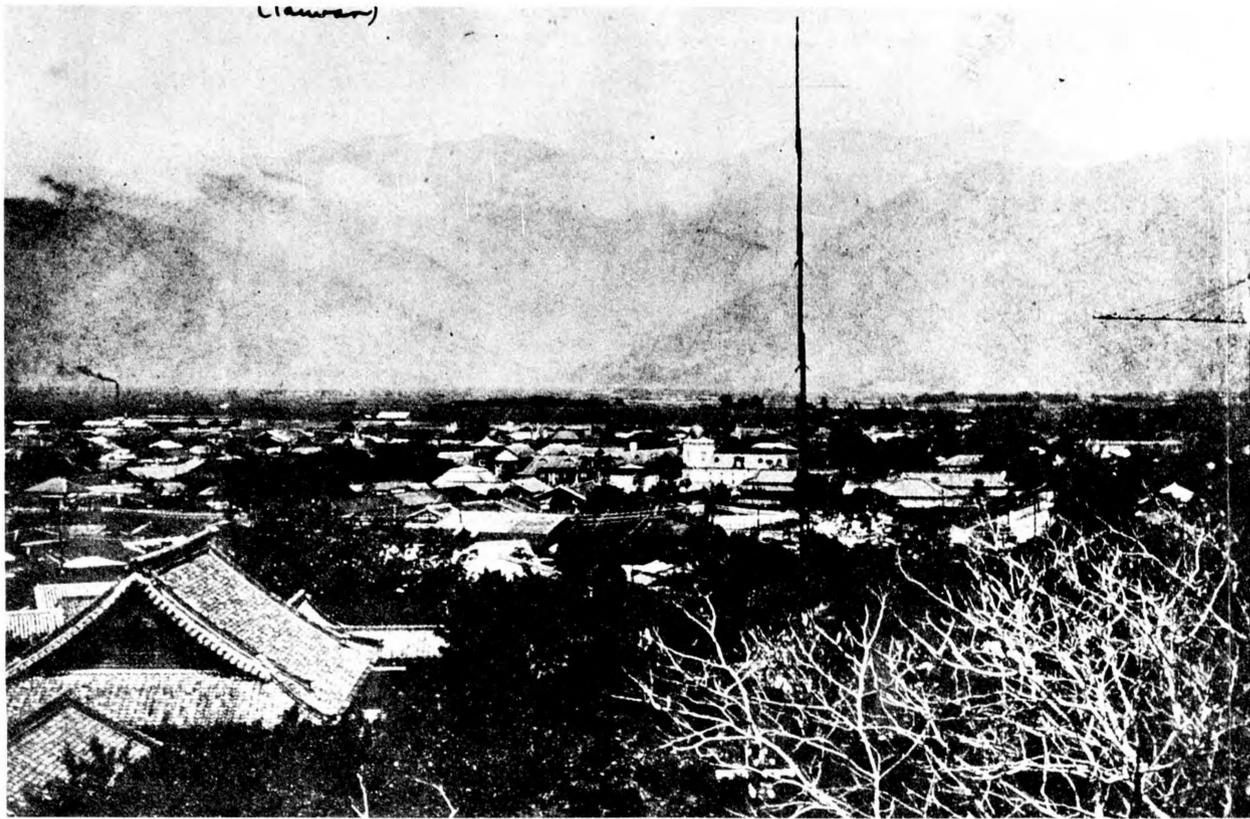
HORI PLATEAU AND LAKE JITSUGETSUTAN

Looking NE across the Hori plateau, elevation about 2400 ft., showing Lake Jitsugetsutan in left center.



GARAMBI LIGHTHOUSE

Looking SW along southern tip of Formosa



KARENKO, FORMOSA

Looking SW toward mountain range in background.



CLIFF ROAD

Suo - Karenko cliff road.



TAITO, FORMOSA

Looking east over agricultural town of Taito. View indicates anchorage (at upper left) where ships lighter cargo.



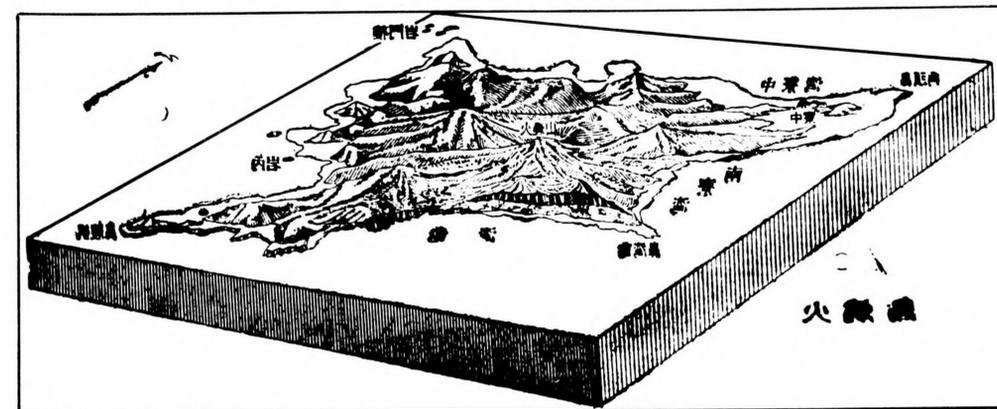
CLIFF ROAD NEAR SUO

View of east coast cliff road descending toward Suo at upper right.



KOTOSHO ISLAND

Located about 40 miles east of the southern tip of Formosa, Kotosho is a mountainous island with a small aboriginal population. The island has two deep-water anchorages and a possible airfield.



KASHOTO ISLAND

Kashoto is located about 20 miles E by S of Taito. Sketch looks northwest. Note cliffs along coast in foreground.



EASTERN SHORE OF KOTOSHO ISLAND

Looking north along the east coast anchorage. The small village of Iwarinu is visible in right foreground. A second deep-water anchorage is located on the SW coast.

Figure No. 16
Survey of Formosa

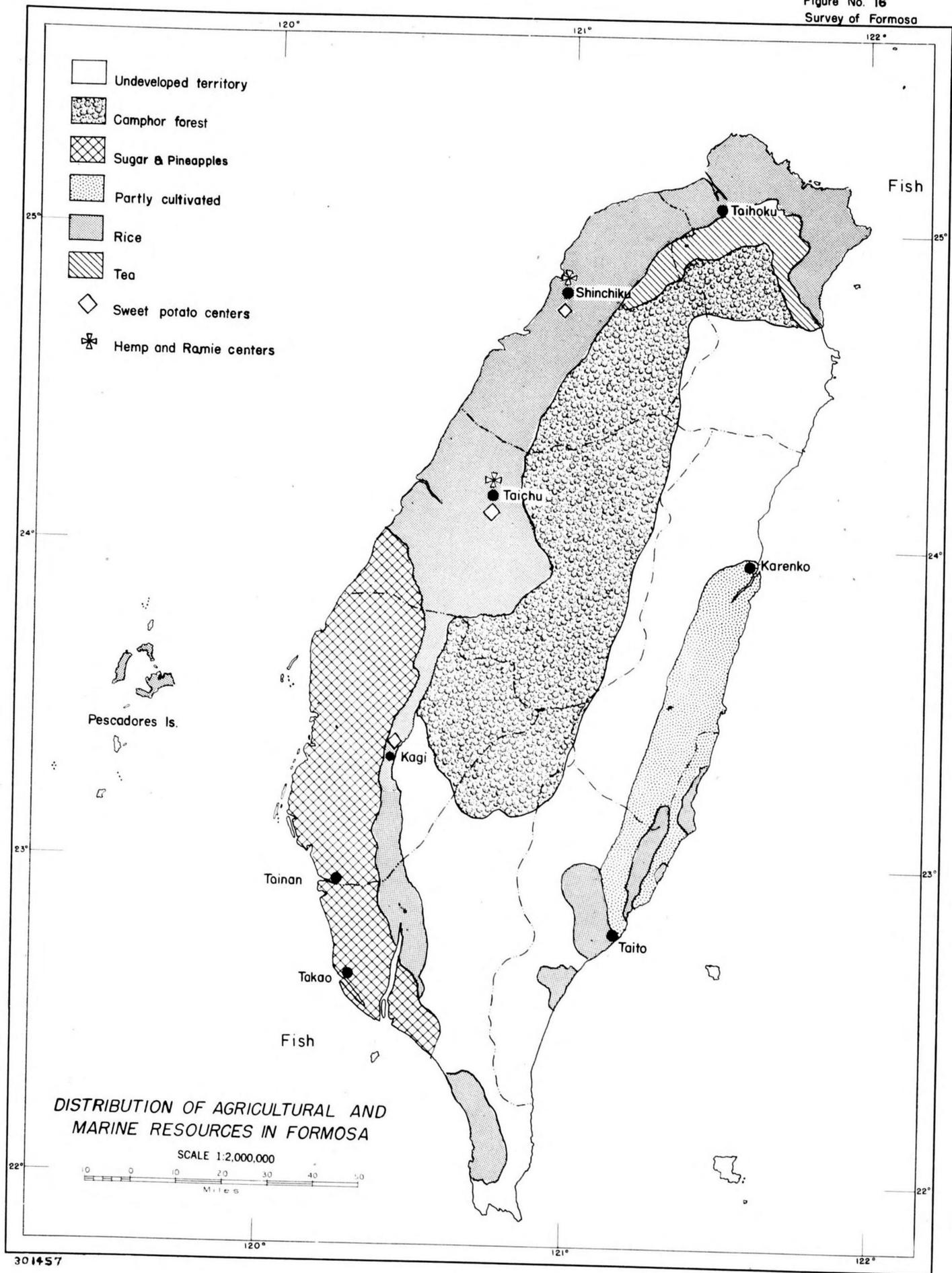
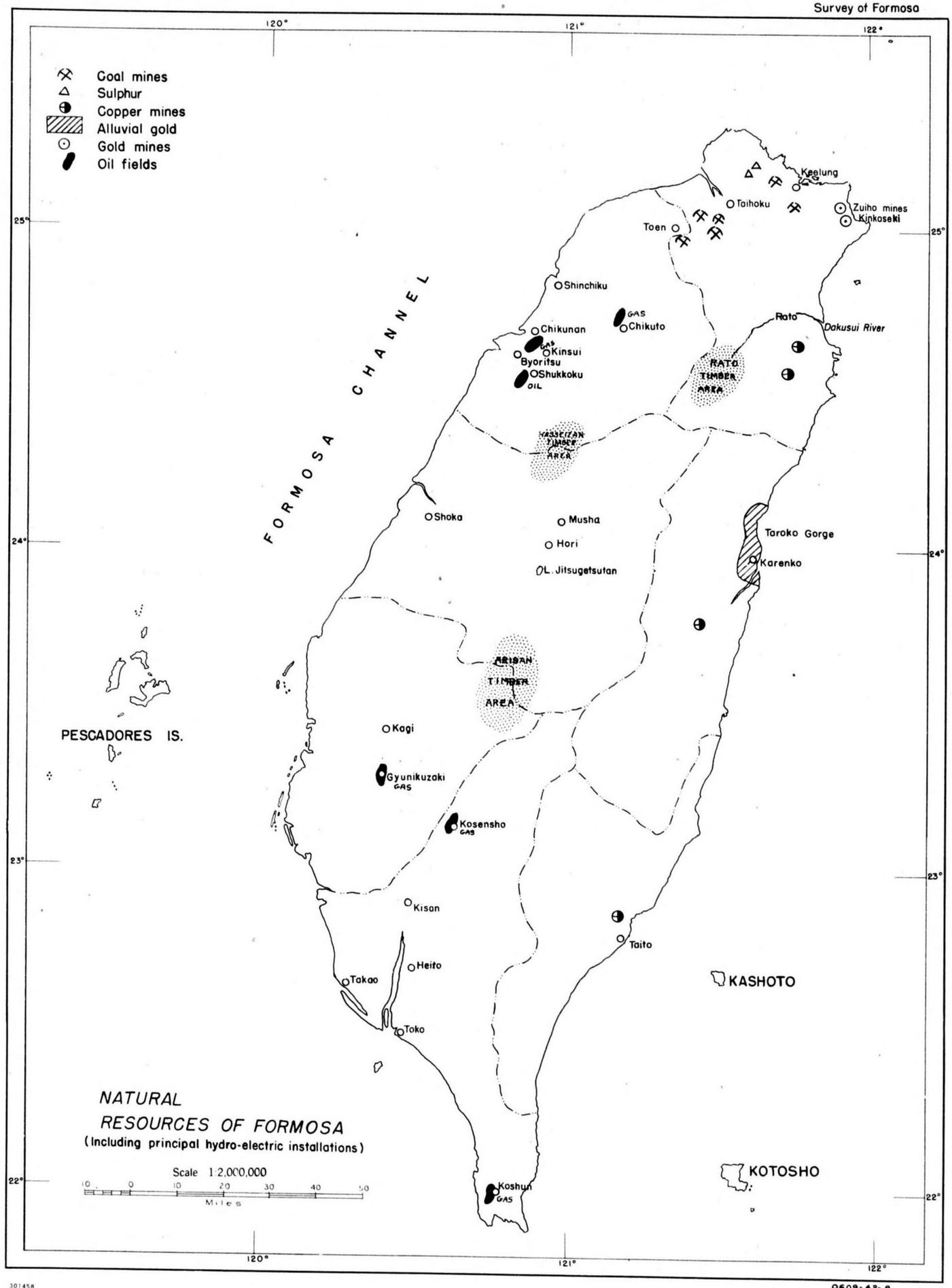


Figure No 17
Survey of Formosa



NATURAL RESOURCES OF FORMOSA
(Including principal hydro-electric installations)

CHINA

120°

121°

122°

Hōka-sho

E A S T C H I N A S E A

Menkasho
Kahei-sho

25°

25°

S T R A I T

F O R M O S A

Kisan-tō

N
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24°

24°

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PESCADORES ISLANDS



Fuki-kaku

Tamsui

KEELUNG (KIIRUN)

Bitō-kaku

TAIHOKU

Sanchō-kaku

Shinchiku

Chikunan

Shōkei

Irasu

Ratō

Suō

Gosel

Taichū

Rokkō

Shōka

Hori

KARENKŌ

Nisui

Seiro-ko

Kagi

Kai-ko

Kōso

Hōko-tō
PESCADORES ISLANDS
(HŌKO RETTŌ)

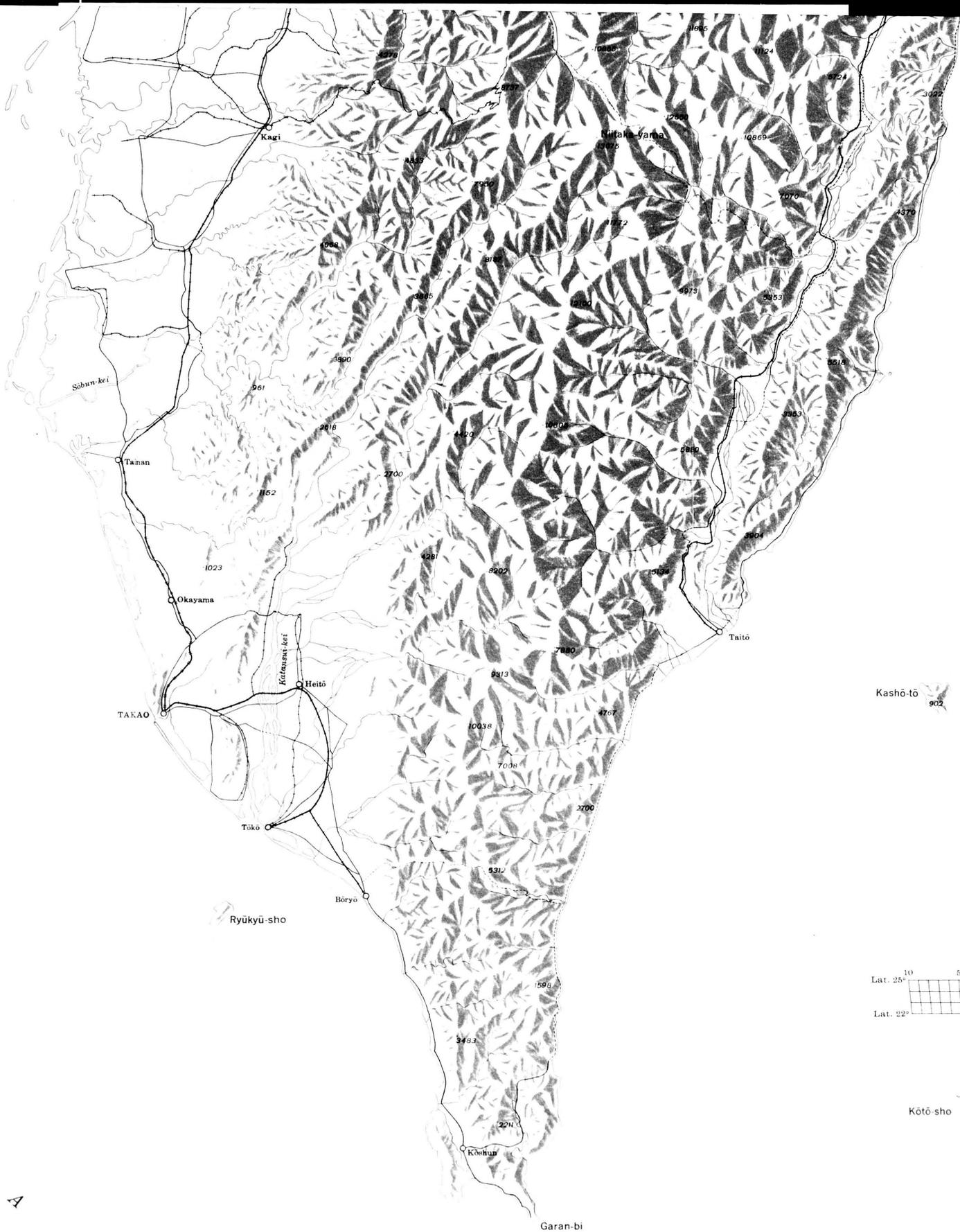
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**FORMOSA
(TAIWAN)**

Mercator Projection
Scale 1:500,000 at Latitude 35°



Elevations in feet

PREPARED AND REPRODUCED IN THE
UNITED STATES DEPARTMENT OF THE INTERIOR, GEOLOGICAL SURVEY
FOR THE WAR DEPARTMENT
OFFICE OF THE ASSISTANT CHIEF OF AIR STAFF, INTELLIGENCE

FEBRUARY 1944

GLOSSARY

Japanese	English
bi	point, cape
ka	river
kaku	point, cape
kei	river
rettō	island chain
sho	island
suidō	channel
tan	lake
tō	island
yama	mountain

23°

23

22°

22

120°

121°

122

THE WEATHER AND CLIMATE OF FORMOSA

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THE WEATHER AND CLIMATE OF FORMOSA

INTRODUCTION

The climate of Formosa may be characterized as subtropical. In summer, when the southwest *monsoon* blows, the weather is hot and frequent and heavy showers occur; in winter, when the northeast *monsoon* blows, the weather is cool and dry on the west side, while low clouds and rain prevail on the exposed north and east sides.

The weather is generally suitable for aerial operations at all seasons everywhere on the island except the northeast side. Low ceilings and poor visibility occur chiefly during the intense summer showers, and in the northeast *monsoon* air as it moves up the steep mountain slopes on the eastern side of the island.

MAJOR CONTROLS OF WEATHER

The weather of Formosa is controlled by the monsoonal circulation of air between the Asiatic continent and the North Pacific Ocean. From October through March, winds blow in a clockwise direction out of the region of high pressure in Siberia, and the resulting air flow over Formosa is from the northeast. Since this air comes from Siberia by way of the East China Sea, it is cool and moist by the time it reaches Formosa.

Sometime during April or May, there is a pronounced reversal of direction of air flow. The winds shift from northeast to southwest, and for the following four or five months the air flow over Formosa is a part of the clockwise circulation around the center of high pressure in the North Pacific Ocean. The air that arrives over Formosa in the months of June through August has had a long history over tropical seas and is, therefore, very warm and humid. When this tropical maritime air becomes heated over land during the daytime, convectional showers and thunderstorms result.

The weather of the months of April, May, and September is a combination of the prevailing weather of the northeast and of the southwest *monsoon* seasons. During these transitional months, the direction of air flow usually alternates several times between northeast and southwest.

On figures 6, 7, and 8, are shown, by means of direction-frequency roses, frequencies of air flow from eight directions for the east and west sides of Formosa during the winter *monsoon* season, the summer *monsoon* season, and the transitional months.

LOCAL CONTROLS OF WEATHER

Topography

The topography of Formosa (see fig. 1) has a pronounced effect on local weather. Sharp variations in direction of air flow are caused by the ridge of mountains trending north-northeast to south-southwest the entire length of the island. The mountains rise abruptly from the sea along the east side of the island, and reach elevations of 11,000 feet

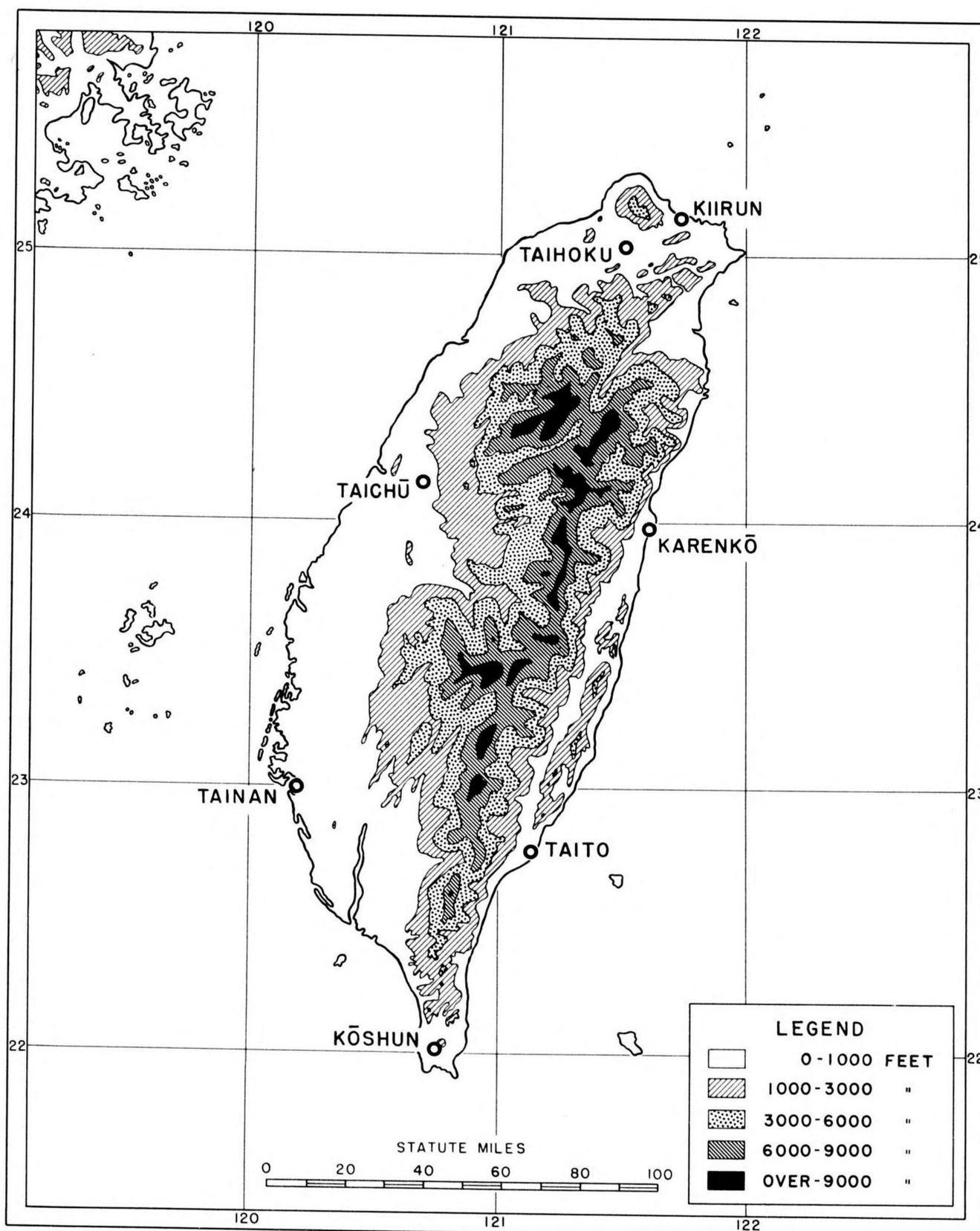


Figure 1.--Map of Formosa showing Topography and Location of Stations

or more within 25 miles of the coast. The western half of the island is an extensive plain, sloping seaward from foothills about 1000 feet in elevation.

As the prevailing northeast or southwest current of air moves up the windward slope of the mountains, the moisture in the air is condensed to form clouds and rainfall. The air moving downslope on the leeward sides is dry and warm. Thus, the north and east sides of the mountains of Formosa are cloudy and rainy in winter, while the west side of the island has relatively little cloud and is warmer than the east. Conversely, during the southwest *monsoon*, the west side has the greatest amount of cloudiness and rainfall, while the east side frequently experiences hot, dry *foehn* winds and clear skies.

AVERAGE WEATHER CONDITIONS

The direction of air flow over Formosa determines the weather on the island. Since there are only two pronounced directions of flow (see the frequency roses on figures 6, 7, and 8), there are actually only two seasons. One is from October through March, when the direction of free-air flow is from the northeast at least 50 percent of the time, and the other is from June through August, when the flow is from the southwest about 40 percent of the time on the west side of the island and about 20 percent of the time on the east side.

Averages of weather phenomena reflect the conditions associated with the two predominant directions of flow. Figures 2 and 3 illustrate the average conditions of precipitations, cloudiness, and surface wind for January, a typical northeast *monsoon* month, and for July, a typical southwest *monsoon* month.

Detailed tables giving average temperature and precipitation, number of clear and cloudy days, number of days with thunderstorms, gales, and precipitation, and prevailing direction and velocity of surface winds, together with a list of seven stations and their location and elevation, are found at the end of this discussion.

Season of the Northeast *Monsoon*
(October through March)

During the northeast *monsoon* season, the northern part of the island has a great many cloudy and rainy days. In the months of December through March, there are about 20 days each month with an average cloud of eight-tenths or more at Karenkō, Kiirun and Taihoku. During the same months, more than one day with clear sky per month seldom occurs. Stratus type clouds predominate. On the northeast part of the island, their bases may be as low as 200 feet, and they may persist at this level for several days. Ceilings between 2,000 and 3,000 feet are, however, more usual.

In contrast to the northern and eastern sides of Formosa, the southern, and particularly the southwestern, side has many clear days and very little rainfall during the northeast *monsoon* (see figure 2). From October through February, Taichū, Tainan, and Koshun have from four to nine days with less than two-tenths cloudiness each month.

One of the outstanding characteristics of the winter season on Formosa is the high frequency of gales, winds with velocity over 22 m.p.h. (see figure 4). These high winds are particularly frequent at coastal stations such as Kōshun, where there are, on the average, 22 days during December with winds over 22 m.p.h. On 13 of these days, velocities exceed 34 m.p.h.

Minimum temperatures are never below freezing during the winter months except at elevations above about 3,500 feet. The usual daily minimum temperatures of January and February are between 50° F. and 60° F. Snow lies on the mountains above 10,000 feet from December through February, and occurs occasionally down to elevations of 3,500 feet.

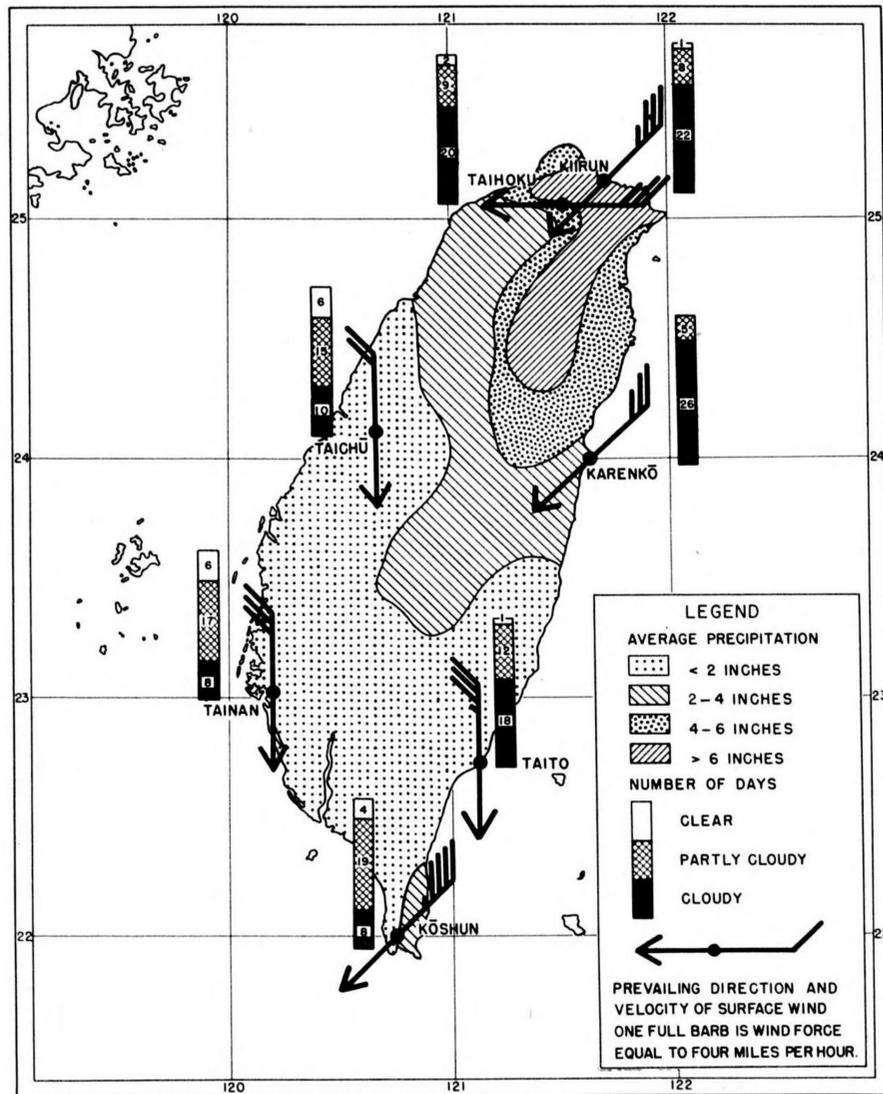


Figure 2.--Average Precipitation, Cloudiness, and Surface Winds for January

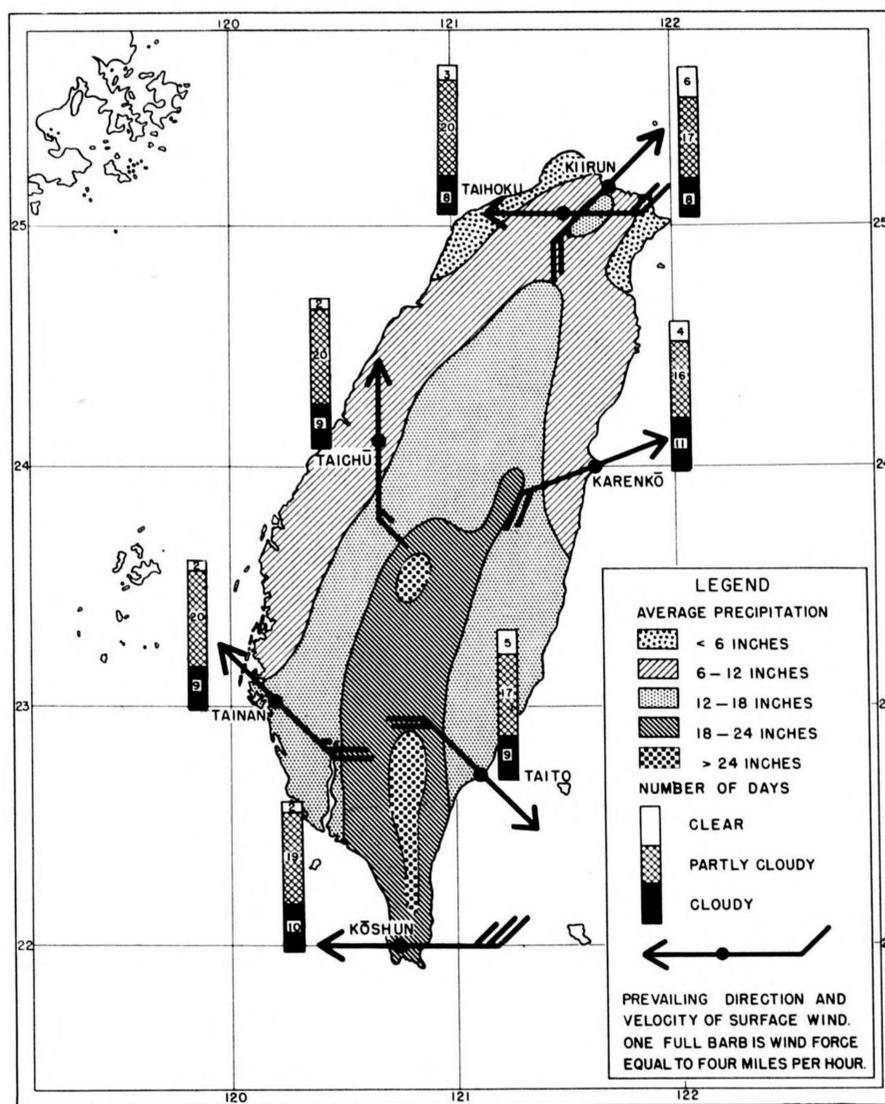


Figure 3.--Average Precipitation, Cloudiness, and Surface Winds for July

During the early part of the northeast monsoon season, the upper winds are northeasterly up to a level lying between 6,000 and 12,000 feet, but this level falls steadily as the season progresses, until in April the northeast current is not much more than 2,000 feet thick. Above the northeasterly current, the winds become westerly. Average wind velocities increase gradually up to 1,800 feet, where they are 22 m.p.h. From this level, they decrease up to the level at which the westerly winds set in. At 10,000 feet, velocities in the westerly current are approximately 30 m.p.h.

Upper-air temperatures decrease up to the upper limit of the northeast current, at which level they either increase with elevation or decrease at a slower rate. This inversion level at the top of the northeast current usually marks the upper boundary of the cloud layer. Icing conditions are not likely to be encountered except when the top of the cloud layer is around 10,000 feet. Although this is most likely to occur in November or early December, the depth of the northeast monsoon varies considerably during the winter season, so that the possibility of icing on aircraft is present throughout this season. Icing can always be avoided, however, by flying at a low level.

During the early part of the northeast monsoon season, that is, from October to December, visibility from the air is frequently reduced by haze which often extends to considerable heights, sometimes to 10,000 feet. It is probable that the upper limit of the haze is associated with the temperature inversion that marks the upper limit of the northeast monsoon.

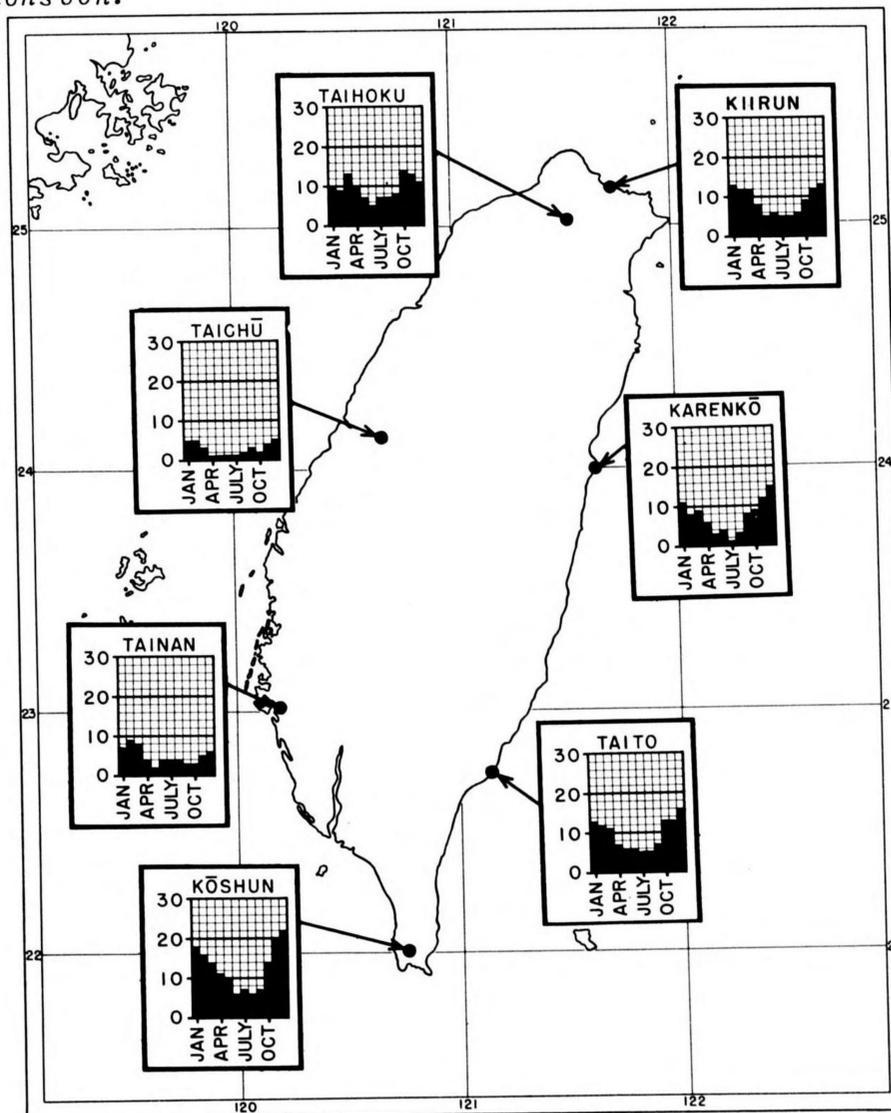


Figure 4.—Average Number of Days with Gales (Wind Velocity of 22 m.p.h. or Greater

Season of the Southwest Monsoon
(June through August)

When the southwest *monsoon* sets in--usually during May--the amount of cloud on the Pacific side of Formosa decreases. July is the least cloudy month at Karenkō, Taihoku, and Taito (see figure 3). Kiirun has, on the average, 6 clear days in July, and Taito, 5. Stations on the south and west sides, however, have their greatest amount of cloud at this season, and rarely have more than 2 clear days a month. At Tainan it rains on about half the days of July. As many as 15 inches of rain have fallen in a 24-hour period.

Most of the cloudiness is the result of convective activity in the unstable, tropical marine air, and is least, therefore, during the early morning hours. The rains come in the form of heavy intermittent showers. Over 12 inches of rain fall on the southern half of the island in July.

A prominent feature of the southwest *monsoon* season is the high incidence of thunderstorms. The number of these occurring each month is shown by the bar graphs in figure 5. Taichū has approximately 13 thunderstorms each July, and Tainan, 11.

The southwest *monsoon* is usually fully established by the beginning of June. It is, however, never as strong or as constant as the northeast *monsoon*, and, in the surface levels, is often subordinate to mountain and valley breezes and land and sea breezes. Although the height to which the southwest current extends varies considerably from

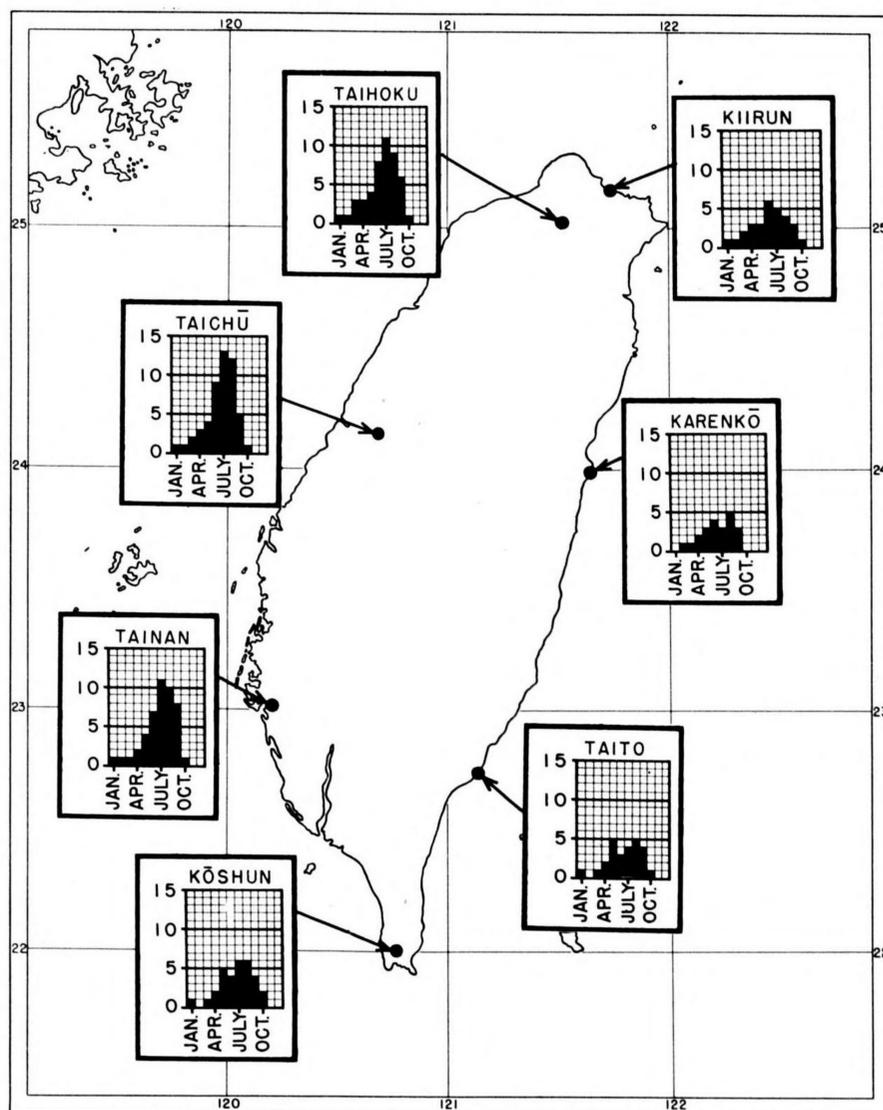


Figure 5.--Average Number of Days with Thunderstorms

day to day, the average depth is 5,000 feet. Above this level, the wind backs or veers gradually to easterly or southeasterly at about 10,000 feet. In July, the wind velocity at all levels in the southwesterly current is approximately the same as it is at the surface.

BOMBING WEATHER

In general, the weather over Formosa is favorable for bombing operations. Because of the rugged topography and the extreme seasonal changes in direction of air flow, the average frequency with which favorable conditions occur varies with respect to location and time of year.

Figures 6, 7, and 8 present data compiled from a study of three years of weather conditions on Formosa. They show the percentage frequency of weather favorable for high- and low-level bombing and for low-level bombing only, and the percentage unfavorable for either type of operation. The frequencies are given for the seasons of the north-east monsoon, the southwest monsoon, and the transitional months.

The criteria used are as follows:

A day favorable for both high- and low-level bombing is defined as one with less than four-tenths cloud cover.

A day favorable for low-level bombing only is defined as one with broken to overcast high or middle clouds.

A day unfavorable for bombing operations is defined as one with broken to overcast sky and nimbus or cumulonimbus clouds, a stratus overcast, fog, or rain.

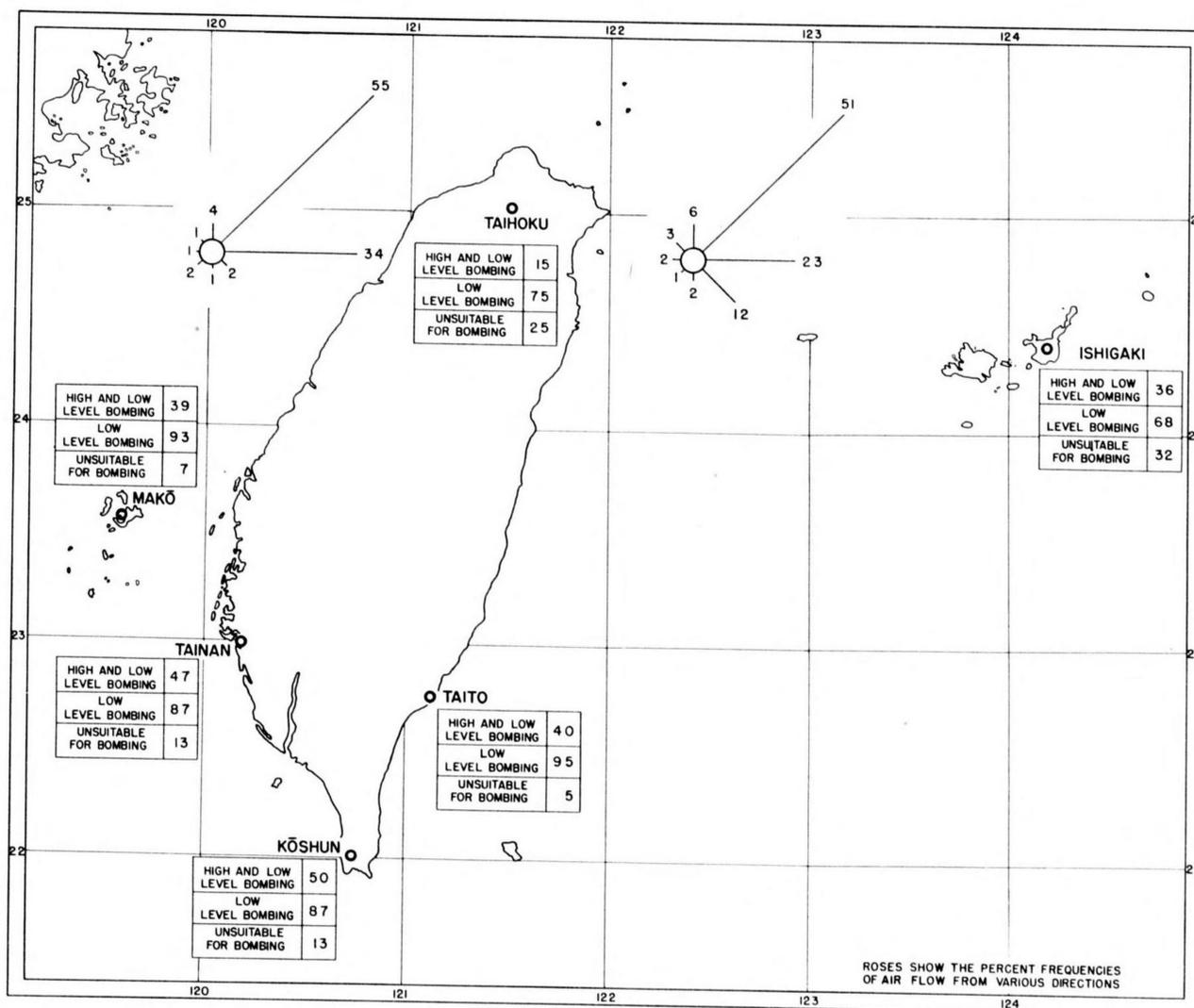


Figure 6.--Frequencies of Air-flow by Directions, and Percentage of Days Suitable for Bombing, October through March

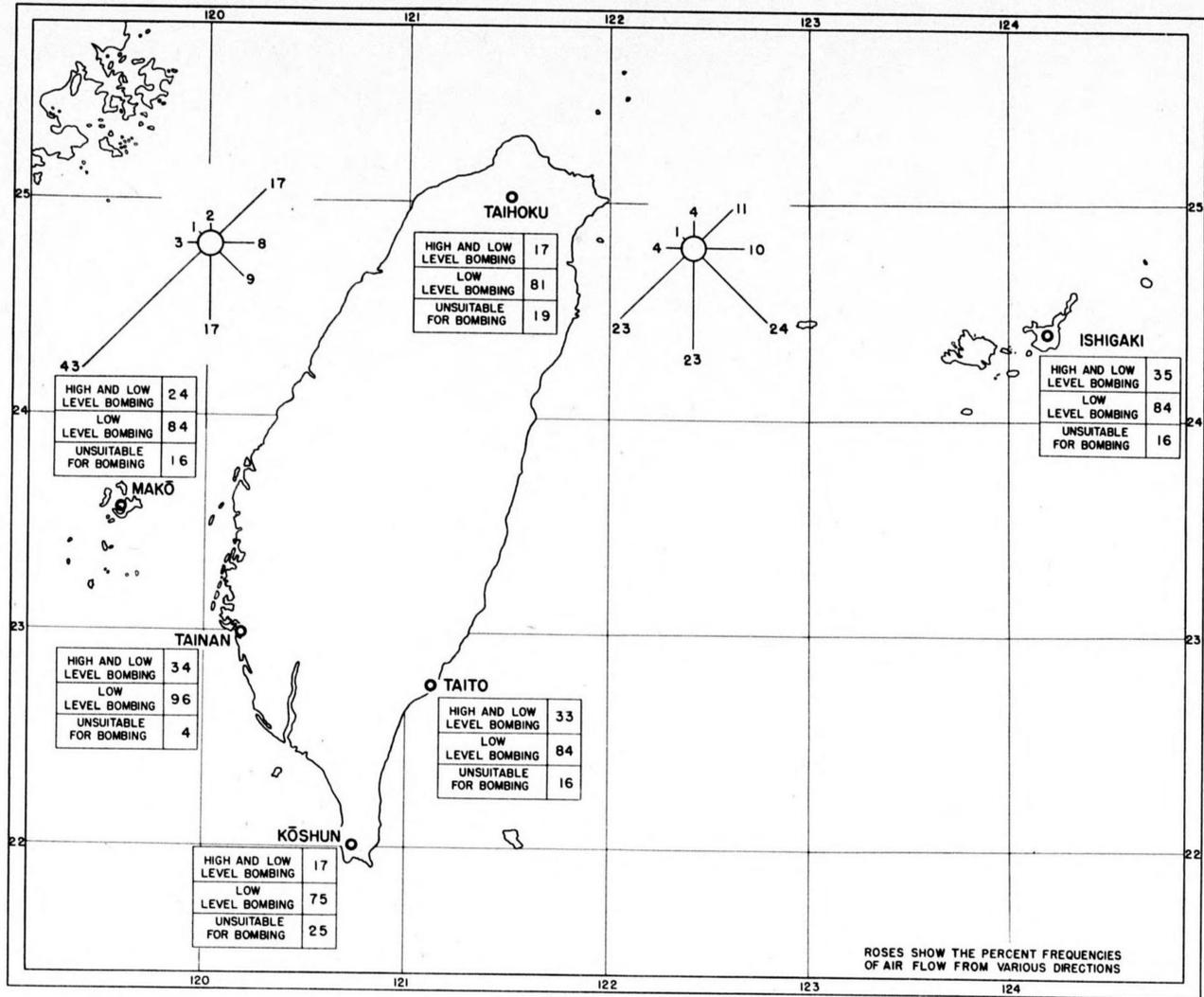


Figure 7.--Frequencies of Air-flow by Directions, and Percentage of Days Suitable for Bombing, June through August

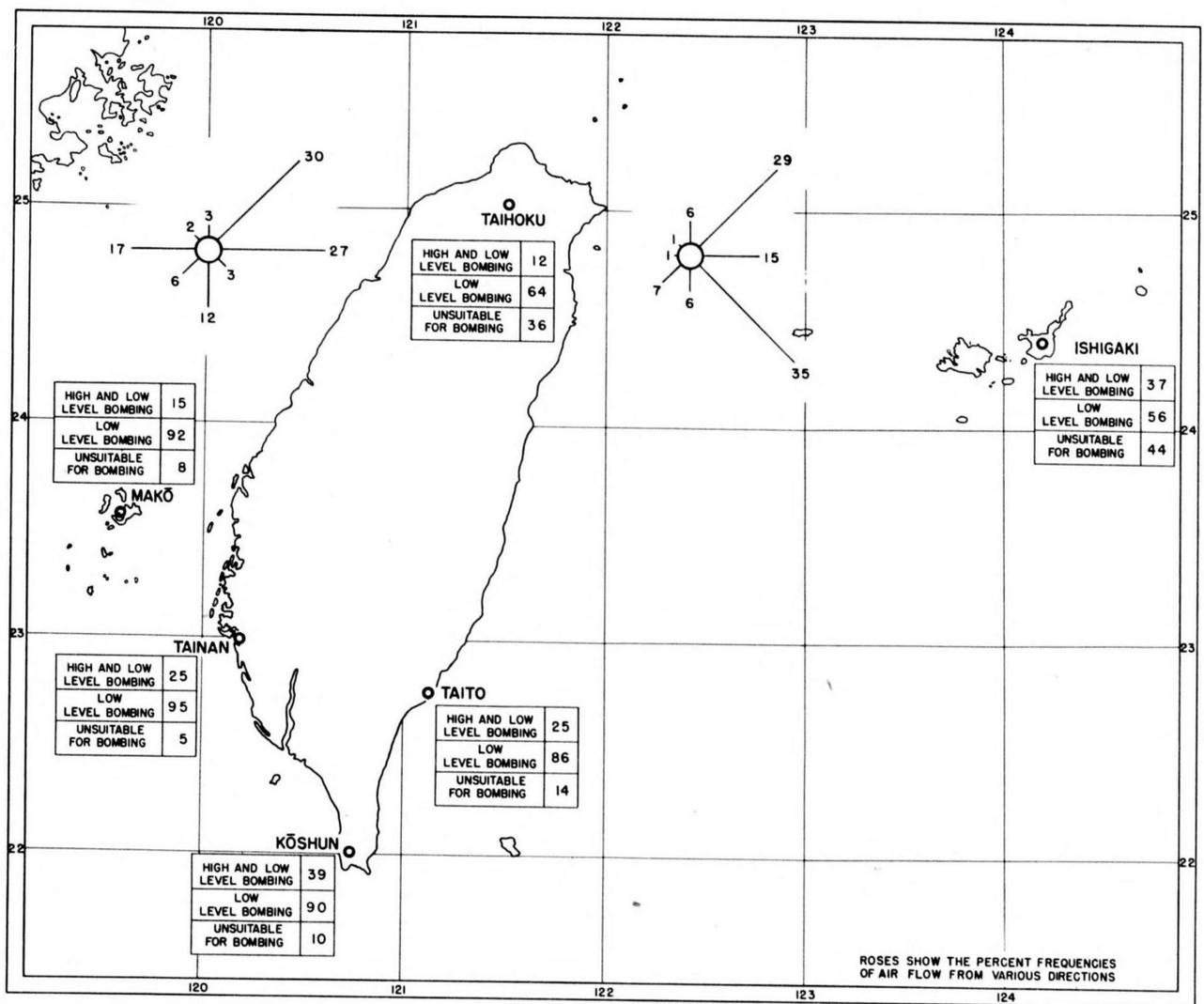


Figure 8.--Frequencies of Air-flow by Directions, and Percentage of Days Suitable for Bombing, April, May, and September

It can be seen from figures 6, 7, and 8 that the northern portions of Formosa have more unfavorable weather in winter and during the transitional months and that the southern tip is least favorable for bombing in summer. As these determinations were made from morning observations, some adjustment in the values must be made if an afternoon attack is being planned. Conditions would tend to be more favorable on winter afternoons and less favorable on summer afternoons than those shown in the figures. Also, it should be noted that the frequencies of bombing weather refer only to conditions on Formosa and give no indication of the number of days suitable for operations to the island from outside bases.

When the data for the frequency roses of figures 6, 7, and 8 were compiled, consideration was given to the correlation between direction of air flow and the resultant weather at stations on Formosa. Because Formosa is on the borderline between temperate and tropical latitudes, differences in direction of air flow do not result in marked differences in weather. However, a few general rules expressing the relationship of weather at various stations to air flow at various seasons have been deduced.

Winter

At Kōshun, high-level bombing is possible about 50 percent of the time with air flow from northeast to east, and about 12 percent of the time with air flow from the north.

At Taihoku, free-air flow from the east permits high-level bombing 33 percent of the time.

Summer

At Ishigaki, a northerly flow breaking into the summer (southwest) *monsoon* increases the chances of high-level bombing weather.

At Taito, with a northerly flow some type of bombing is almost always possible.

Spring and Autumn

At Taihoku, over 50 percent of the days with northeast air flow are suitable for bombing.

At Tainan, the greatest number of days suitable for high-level bombing occurs with southerly air flow. Bad weather occurs usually with northerly flow.

At Taito, weather unsuitable for bombing rarely occurs with southerly air flow.

At Hokō, weather suitable for high-level bombing occurs most frequently with a southwesterly air flow.

From a study by Kuzuo Ogasahara ("On the Mechanism of Formation of Summer Squalls in the Southwest Plain Region of Formosa for the Synoptic Meteorologist," *Jour. Tropical Agri.*, April 1939 (vol. XI, no. 1), pp. 15-56), it has been possible to extract a few outstanding correlations for the southwest *monsoon* season between surface winds at 0600 L.C.T. at Pratas and at Shanghai and the weather on Formosa during the 24 hours from 1100 L.C.T. to 1100 L.C.T. the following day. These correlations are given in table 1.

Table 1.--Type of Bombing Weather at Formosa with Various Directions of Surface Wind at Pratas and at Shanghai

(Source of data: "On the Mechanism of Formation of Summer Squalls in the Southwest Plain Region of Formosa for the Synoptic Meteorologist." *Jour. Tropical Agri.*, vol. XI, no. 1, pp. 15-56, April 1939)

Month	Surface Wind Direction 0600 L.C.T.	Bombing Weather on Formosa 1100 L.C.T. - 1100 L.C.T. following day
AT PRATAS		
May	N., SSE., WSW., NW.	Poor*
June	ESE., ENE.	Good**
July	N., NE., WSW., WNW., SW.	Poor*
Aug.	SSW., NW., NNW.	Poor*
Sept.	N., NE., SSW.	Poor*
Oct.		
AT SHANGHAI		
May	WSW.	Poor*
June	WSW.	Poor*
July	ESE.	Poor*
Aug.	WNW., WSW., and E. thru NNE.	Poor*
Sept.	ENE., WSW.	Poor*

* Poor: precipitation from 75 to 100 percent of the time.

**Good: no precipitation from 75 to 100 percent of the time on the western half of the island only.

A series of typical weather charts for the Formosan region are presented below (figs. 9-13). These maps are not intended to represent normal situations over Formosa, but to depict situations whose resultant weather was more uniform than usual. Captions under each chart indicate the bombing weather associated with each type illustrated.

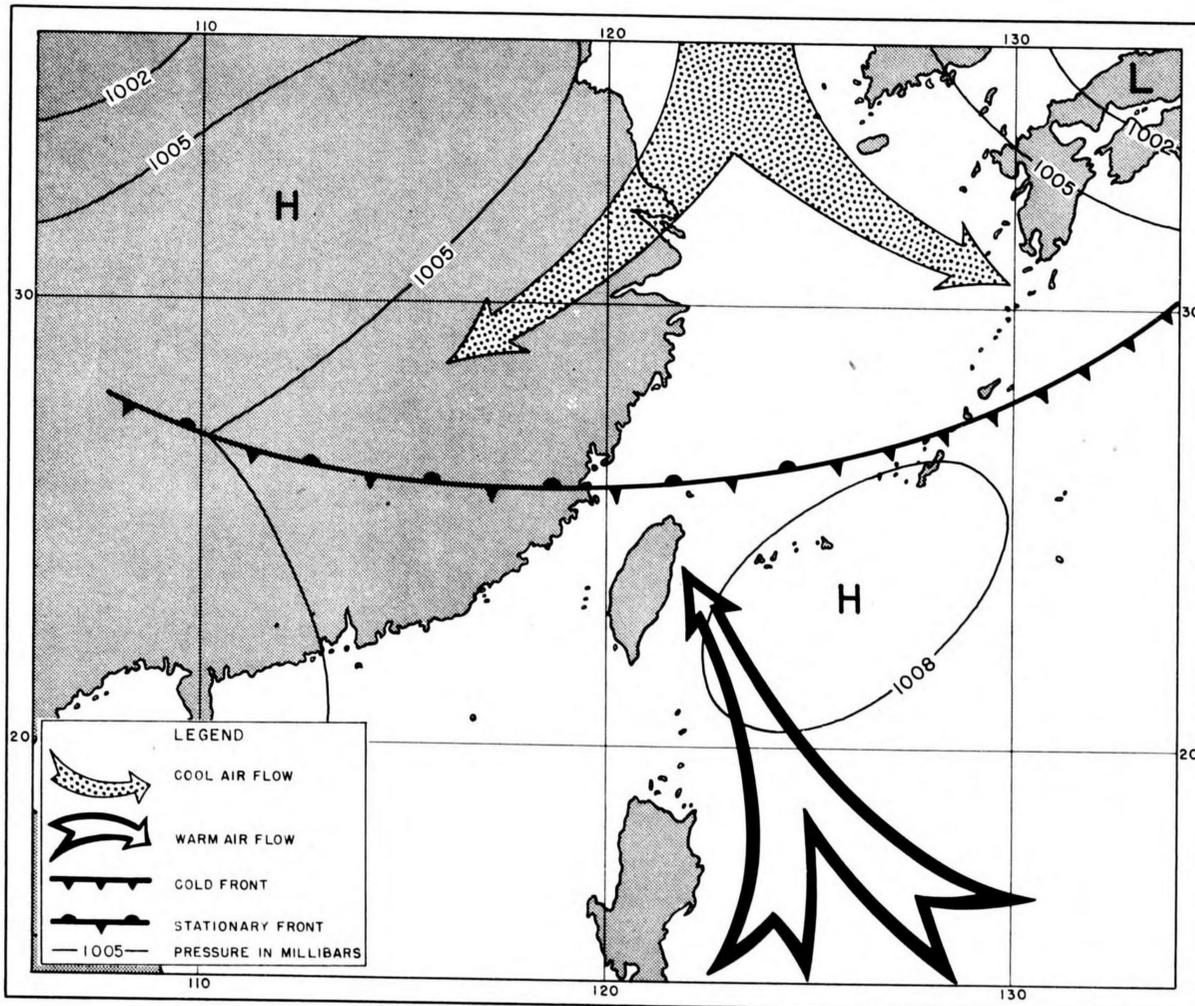


FIGURE 9, SUMMER TYPE - GOOD WEATHER--This situation usually results in several days suitable for high- and low-level bombing. If the front penetrates any farther southward, conditions rapidly deteriorate.

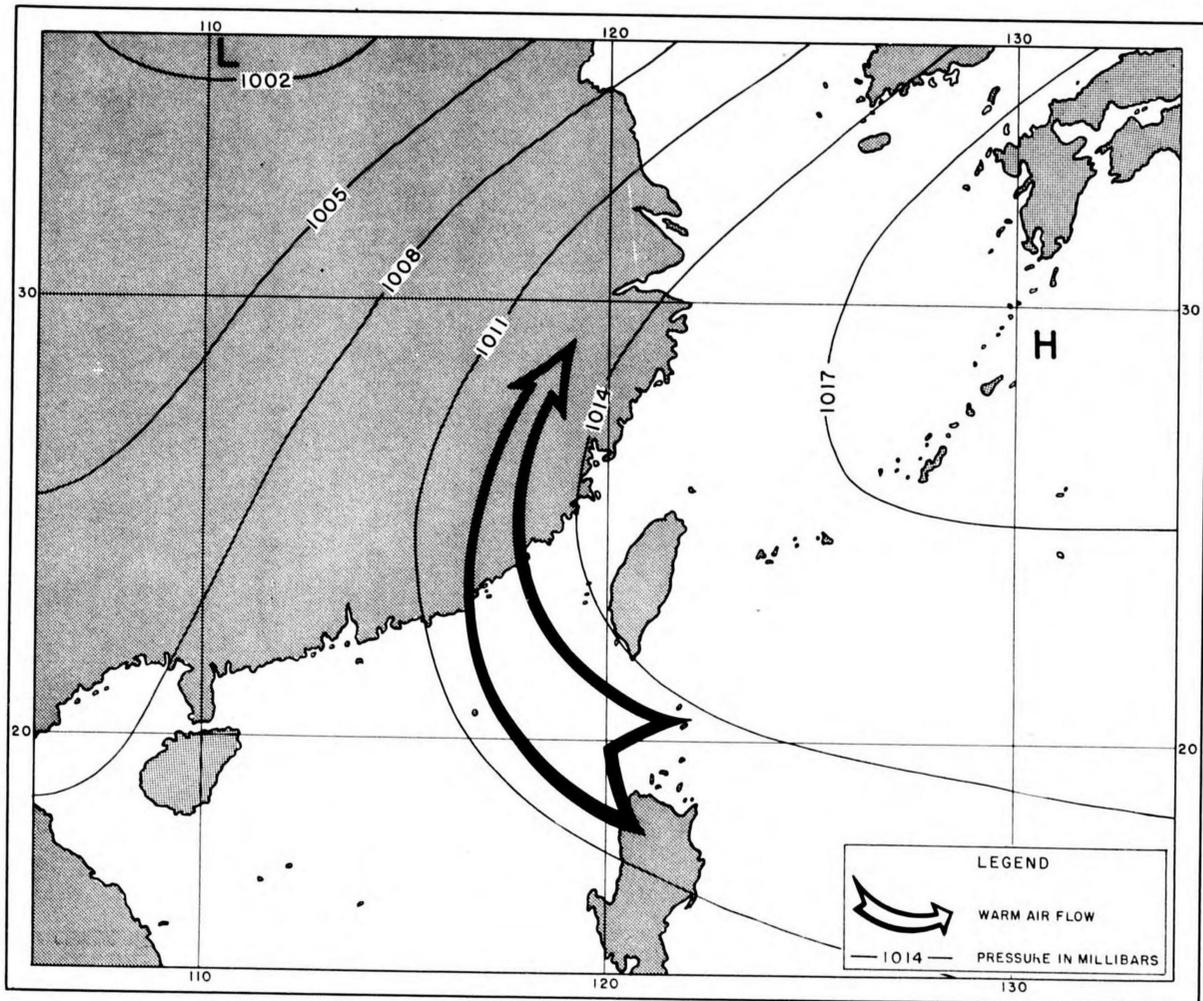


FIGURE 10, SUMMER TYPE - GOOD WEATHER--This situation brings good weather when a *low* passes to the north of Formosa along the normal path of the extratropical cyclones. The predominantly clear conditions last from two to four days.

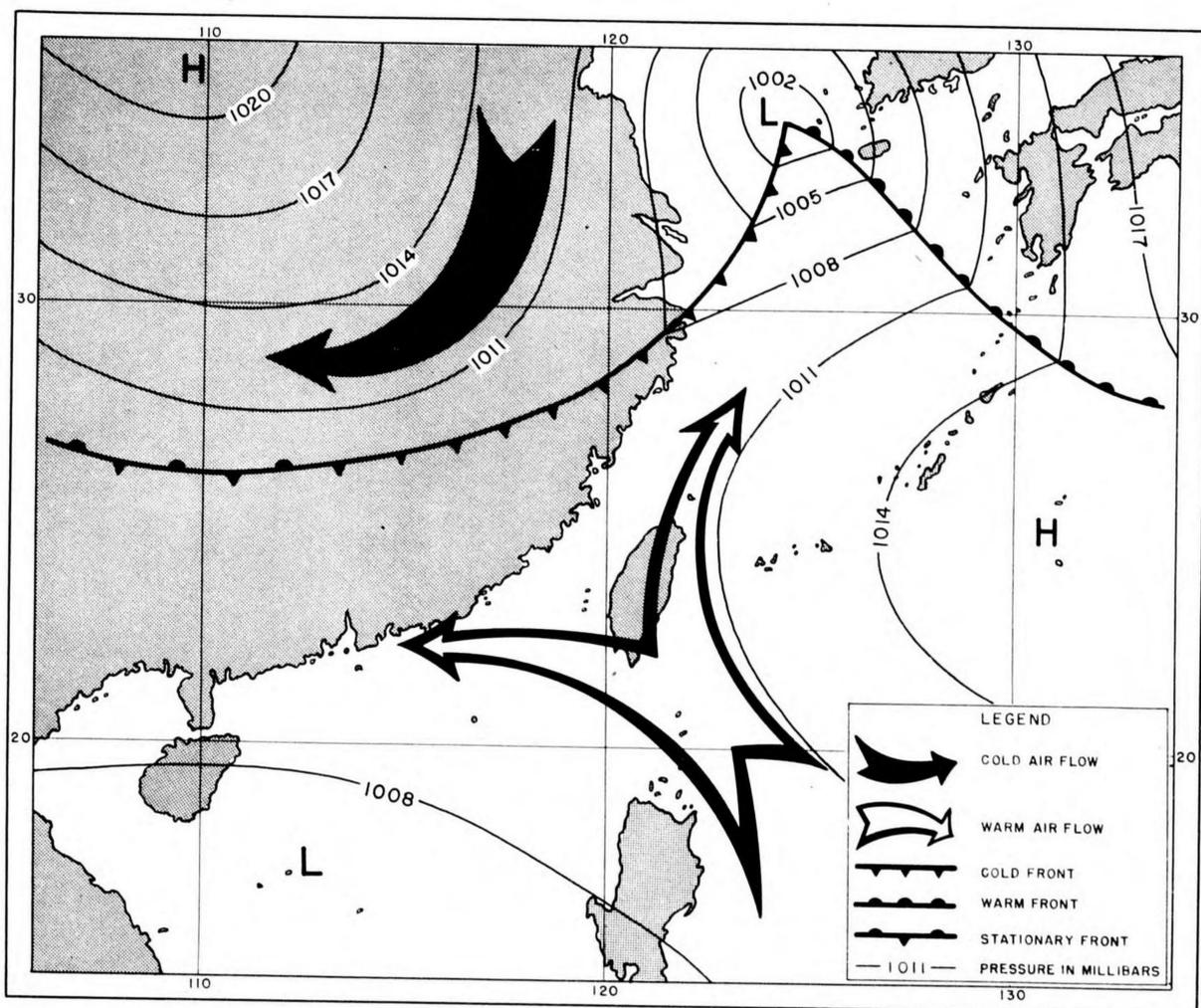


FIGURE 11, WINTER TYPE - GOOD WEATHER--This situation occurs about four times during the winter season, causing an intrusion of trade-wind air over Formosa. The good weather usually lasts from one to two days. This situation normally develops rapidly into a type of bad winter weather.

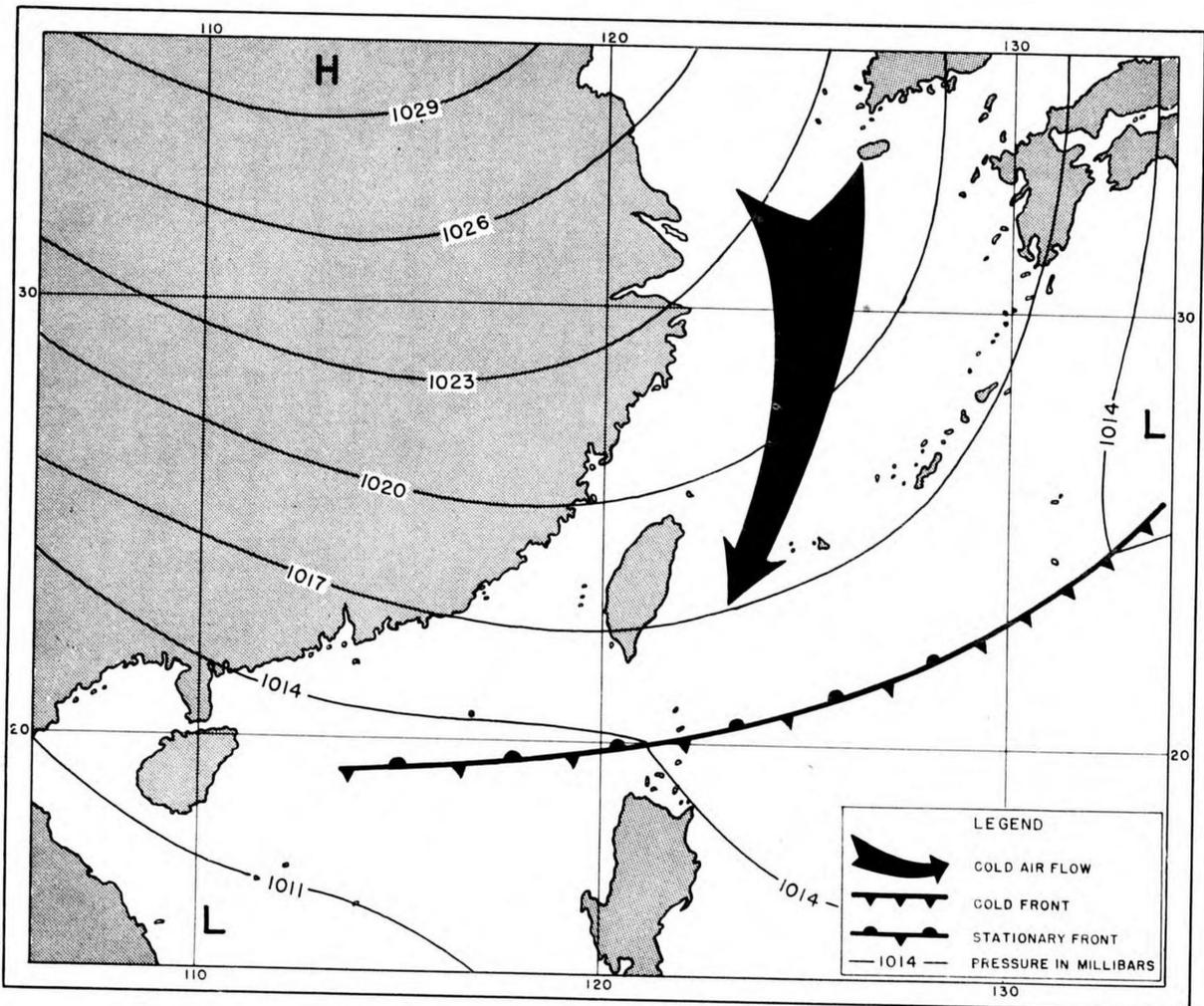


FIGURE 12, WINTER TYPE - BAD WEATHER--This situation is common during the winter months. It is characterized by an unbroken flow of cold air from Siberia. In this situation, conditions suitable for high-level bombing are very rare.

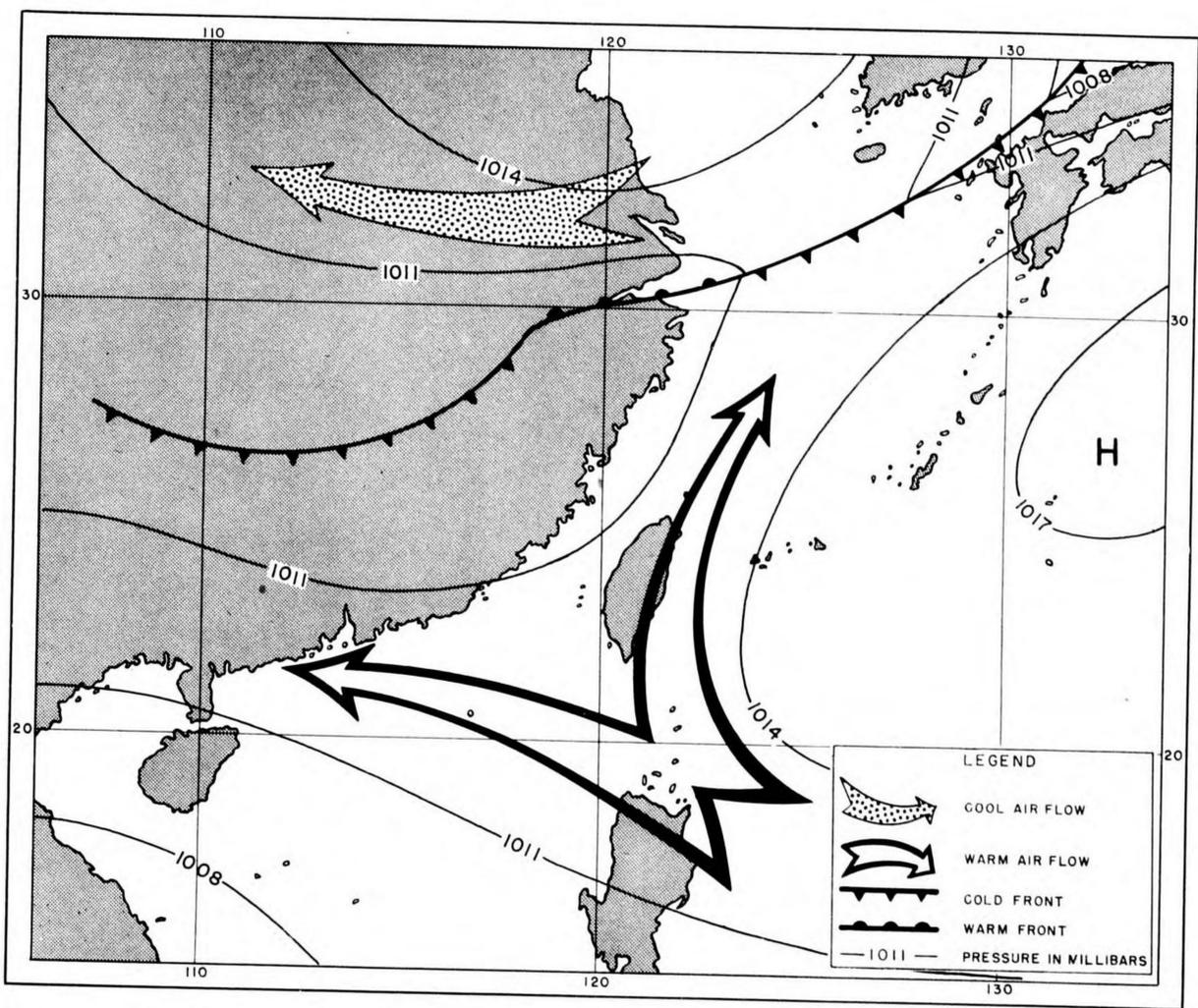


FIGURE 13, SPRING AND AUTUMN TYPE - GOOD WEATHER--Situations which are generally favorable for all types of bombing over most of the island during the transition months are associated with a frontal configuration of this type. The periods of good weather usually last several days.

Table 2.--List of Stations*

Station	Latitude	Longitude	Elevation (Ft.)
Karenkō	23° 58' N.	121° 36' E.	63
Kiirun (Keelung)	25 08	121 44	11
Kōshun	22 02	120 45	78
Taichū	24 08	120 42	256
Taihoku	25 02	121 31	30
Tainan	23 00	120 11	47
Taito	22 46	121 08	33

* Spelling and location of stations approved by U. S. Board on Geographical Names.

Table 3.--Mean Maximum and Mean Minimum Temperatures (°F.)

Station	Yrs. Rec.	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Maximum Temperature													
Karenkō	8	71	70	73	77	83	86	89	88	86	82	77	73
Kiirun	14	65	64	67	74	79	86	89	88	85	79	72	66
Kōshun	30	75	76	80	84	87	87	88	87	87	84	80	76
Taichū	30	71	70	74	80	86	89	90	90	89	85	80	74
Taihoku	30	66	65	70	77	83	89	92	91	88	81	74	69
Tainan	30	74	74	79	84	87	89	90	89	89	87	82	76
Taito	29	74	74	77	81	85	88	89	89	87	83	79	75
Minimum Temperature													
Karenkō	9	59	58	61	65	70	73	74	74	72	68	63	60
Kiirun	14	56	55	58	64	69	74	76	76	74	70	64	59
Kōshun	30	64	63	67	71	74	76	77	76	75	73	70	66
Taichū	30	53	52	58	65	70	74	75	75	73	67	61	55
Taihoku	30	54	53	57	63	69	73	76	75	73	68	62	57
Tainan	30	55	54	60	66	72	75	76	76	74	69	63	57
Taito	29	60	60	63	67	71	74	75	75	73	70	66	62

Table 4.-- Mean Number of Days with Thunderstorms, Gales (velocity over 22 m.p.h.), and Precipitation (over 0.004 in.)

Station	Yrs. Rec.	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Thunderstorms													
Karenkō	3	0	1	1	2	3	4	3	5	3	*	0	0
Kiirun	14	1	1	2	3	3	6	5	4	3	1	0	*
Kōshun	17	1	*	1	2	5	4	6	6	4	2	*	*
Taichū	17	1	1	2	3	4	9	13	12	5	1	0	*
Taihoku	17	1	1	3	3	4	8	11	9	6	1	*	*
Tainan	17	1	1	1	2	4	7	11	10	8	1	*	*
Taito	13	1	0	1	2	5	3	4	5	4	1	*	*
Gales													
Karenkō	3	11	8	9	6	3	4	1	3	8	9	12	15
Kiirun	14	13	12	12	8	5	6	5	5	6	9	12	13
Kōshun	17	18	16	14	11	10	6	7	6	7	14	20	22
Taichū	17	5	5	3	1	1	1	1	2	3	2	4	5
Taihoku	17	10	9	13	10	7	5	7	7	8	14	13	11
Tainan	17	7	9	8	4	2	4	4	4	3	3	5	6
Taito	13	13	12	11	7	6	6	5	5	7	13	13	16
Precipitation													
Karenkō	7	20	20	19	20	22	19	12	14	17	13	15	15
Kiirun	14	22	21	23	19	19	14	11	14	17	20	22	23
Kōshun	30	9	7	7	8	13	18	20	22	17	12	9	8
Taichū	30	8	10	12	11	13	16	15	18	9	4	5	7
Taihoku	30	16	17	17	15	16	15	14	15	14	15	15	16
Tainan	30	5	6	6	8	10	15	16	19	11	5	4	4
Taito	29	11	10	13	15	19	13	13	14	15	13	10	10

* Less than 0.5 day

Table 5.--Mean Monthly Precipitation and Maximum Precipitation in 24 Hours, in Inches

Station	Yrs. Rec.	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean Precipitation													
Karenkō	8	2.3	4.5	4.1	7.6	10.7	7.0	10.6	8.7	12.8	9.0	3.3	2.2
Kiirun	14	13.9	11.8	13.9	7.6	12.1	8.7	5.8	6.9	10.9	10.8	13.0	15.4
Kōshun	30	0.9	1.1	0.9	2.1	7.4	14.4	17.3	21.4	11.1	6.2	1.4	0.7
Taichū	30	1.4	2.6	3.9	5.0	9.5	13.4	10.5	12.9	6.2	1.0	0.8	0.9
Taihoku	30	3.4	5.3	6.7	6.4	8.9	11.1	8.2	11.8	10.2	5.3	2.7	3.0
Tainan	30	0.9	1.5	1.6	2.5	7.4	13.5	12.7	16.8	6.5	1.4	0.7	0.5
Taito	29	1.7	1.7	2.3	3.1	7.0	7.9	14.7	11.8	10.6	7.1	2.0	1.5
Maximum Precipitation in 24 Hours													
Karenkō	8	1.8	2.3	1.9	5.5	9.1	3.6	6.6	11.8	11.4	10.0	2.0	1.6
Kiirun	14	3.8	3.5	3.7	4.4	10.4	6.3	7.9	5.6	5.6	7.0	6.8	7.1
Kōshun	30	1.5	3.7	4.4	4.4	15.0	10.7	16.1	15.6	9.6	9.0	3.3	1.3
Taichū	30	3.5	2.3	3.4	5.3	5.6	11.2	12.0	16.2	11.6	8.1	2.4	1.3
Taihoku	30	2.0	2.3	2.8	4.6	6.2	7.8	7.5	11.3	9.1	7.8	2.2	3.1
Tainan	30	4.0	3.9	3.4	4.0	10.0	9.4	9.7	15.2	15.0	3.1	1.7	1.4
Taito	29	2.6	2.2	2.1	3.4	6.6	10.7	18.4	16.3	8.7	9.5	4.4	3.9

Table 6.--Mean Number of Clear Days (<2 tenths cloud cover) and Cloudy Days (>8 tenths cloud cover)

Station	Yrs. Rec.	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Clear Days													
Karenkō	8	0	*	*	1	1	1	4	2	1	1	1	*
Kiirun	14	1	1	1	1	2	2	6	5	5	2	1	1
Kōshun	30	4	4	3	4	2	2	2	2	3	4	5	4
Taichū	30	6	5	3	2	2	2	2	2	5	9	9	8
Taihoku	30	2	2	1	1	2	1	3	4	6	4	3	2
Tainan	30	6	5	5	5	5	2	2	2	4	8	7	7
Taito	29	1	*	1	1	1	3	5	3	3	2	1	1
Cloudy Days													
Karenkō	8	26	23	24	23	21	16	11	13	15	19	20	22
Kiirun	14	22	22	23	19	19	14	8	8	11	18	23	24
Kōshun	30	8	5	7	7	10	11	10	14	9	8	8	9
Taichū	30	10	11	13	12	12	12	9	11	6	6	7	8
Taihoku	30	20	19	21	18	16	14	8	9	9	15	17	19
Tainan	30	8	8	9	8	10	11	9	12	6	6	7	8
Taito	29	18	18	19	17	17	11	9	11	11	13	14	18

* Less than 0.5 day

Table 7.--Prevailing Surface Wind Directions and Velocities (m.p.h.)

Station	Yrs. Rec.	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Prevailing Direction													
Karenkō	3	NE	NE	N	N	N	W	SW/W	SW	N	NE	N/NE	NE
Kiirun	14	NE	N/NE	N/NE	N/NE	NE/E	SW	SW	E/SW	E	NE	NE	NE
Kōshun	17	NE	NE	NE	NE	NE	W	E	E	NE	NE	NE	NE
Taichū	17	N	N	N	N	N	S	S	S	N	N	N	N
Taihoku	17	E	E	E	E	E	E	E	E	E	E	E	E
Tainan	17	N	N	N	N	N	SE	SE	SE	N	N	N	N
Taito	13	N	N	N	NW	NW	NW	NW	NW	NW	N	N	N
Average Wind Velocity													
Karenkō	3	11	11	9	9	7	8	8	8	10	10	12	13
Kiirun	14	14	14	12	10	9	8	9	10	12	13	14	14
Kōshun	17	17	16	15	12	11	11	11	10	11	15	20	21
Taichū	17	8	8	7	6	5	6	6	6	6	7	7	8
Taihoku	17	11	11	12	11	10	8	8	10	10	13	13	12
Tainan	17	12	13	12	10	8	9	9	9	8	9	11	12
Taito	13	13	13	12	10	9	8	8	9	10	12	13	13