Issued July 1, 1944

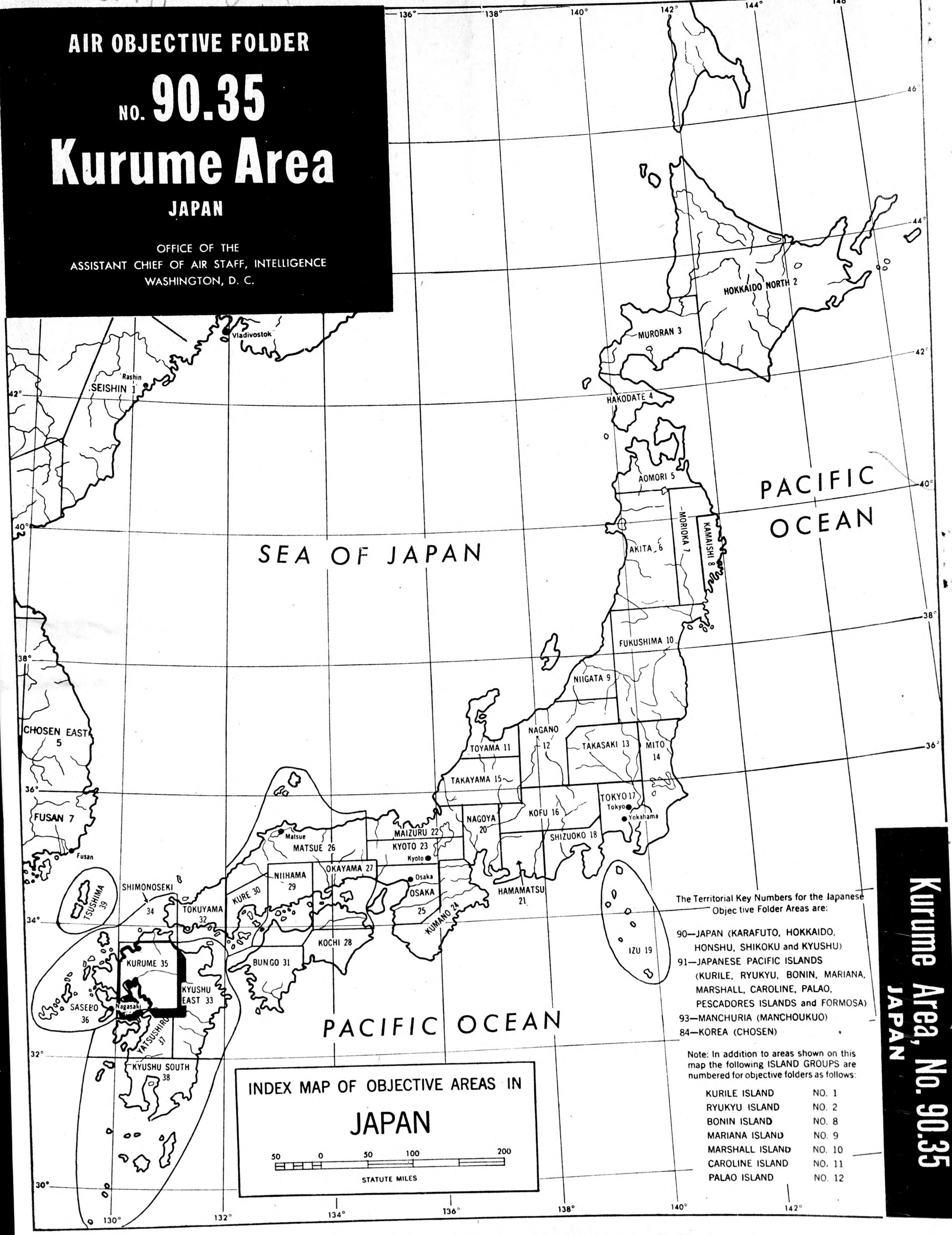
AIR OBJECTIVE FOLDER

NO. 90.35

Kurume Area

JAPAN

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



The Territorial Key Numbers for the Japanese Objective Folder Areas are:

90—JAPAN (KARAFUTO, HOKKAIDO, HONSHU, SHIKOKU and KYUSHU)
91—JAPANESE PACIFIC ISLANDS (KURILE, RYUKYU, BONIN, MARIANA, MARSHALL, CAROLINE, PALAO, PESCADORES ISLANDS and FORMOSA)
93—MANCHURIA (MANCHOUKUO)
84—KOREA (CHOSEN)

Note: In addition to areas shown on this map the following ISLAND GROUPS are numbered for objective folders as follows:

KURILE ISLAND	NO. 1
RYUKYU ISLAND	NO. 2
BONIN ISLAND	NO. 8
MARIANA ISLAND	NO. 9
MARSHALL ISLAND	NO. 10
CAROLINE ISLAND	NO. 11
PALAO ISLAND	NO. 12

INDEX MAP OF OBJECTIVE AREAS IN
JAPAN

50 0 50 100 200
STATUTE MILES

Kurume Area, No. 90.35
JAPAN

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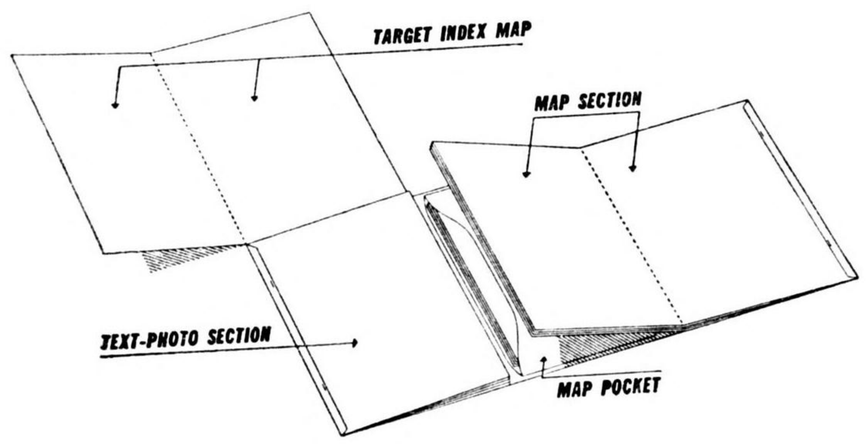
AIR OBJECTIVE FOLDERS

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: 90.35-1265 indicates Japan (90), Kurume Area (35) and TARGET 1265, the Nippon Rubber Co.

Supplementing the Air Objective Folder are AAF Target Charts, provided separately for the use of air crews. Each Target Chart is centered on a target but includes all other targets lying within a four-mile radius. Landmarks within a twenty-mile radius are identified. Each Chart is numbered according to the target on which it is centered.



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

AREA MAP OF KURUME 90.35

LOCATING ALL TARGETS

RAILROADS

DATE OF ANALYSIS—APRIL 1944

TACHIARAI
FOR TARGET 1236 SEE MAP ON PAGE M-3

ZASSHONOGUMA
FOR TARGETS 662, 1239 AND 1241 SEE MAP ON PAGE M-4

ISAHAYA
FOR TARGET 838 SEE MAP ON PAGE M-4

OMUTA
FOR TARGET 1877 SEE MAP ON PAGE M-5
FOR TARGETS 1245, 1246, 1261, 1278 AND 1596 SEE MAPS ON PAGES M-5, M-6
FOR TARGETS 1243, 1244, 1256, 1260 AND 1262 SEE MAPS ON PAGES M-5, M-6, M-8
FOR TARGETS 1249, 1254, 1268, 1279 AND 1595 SEE MAPS ON PAGES M-5, M-6, M-9

KURUME
FOR TARGET 1871 SEE MAP ON PAGE M-10
FOR TARGETS 1247, 1263, 1264, 1266 AND 1269 SEE MAPS ON PAGES M-10, M-11

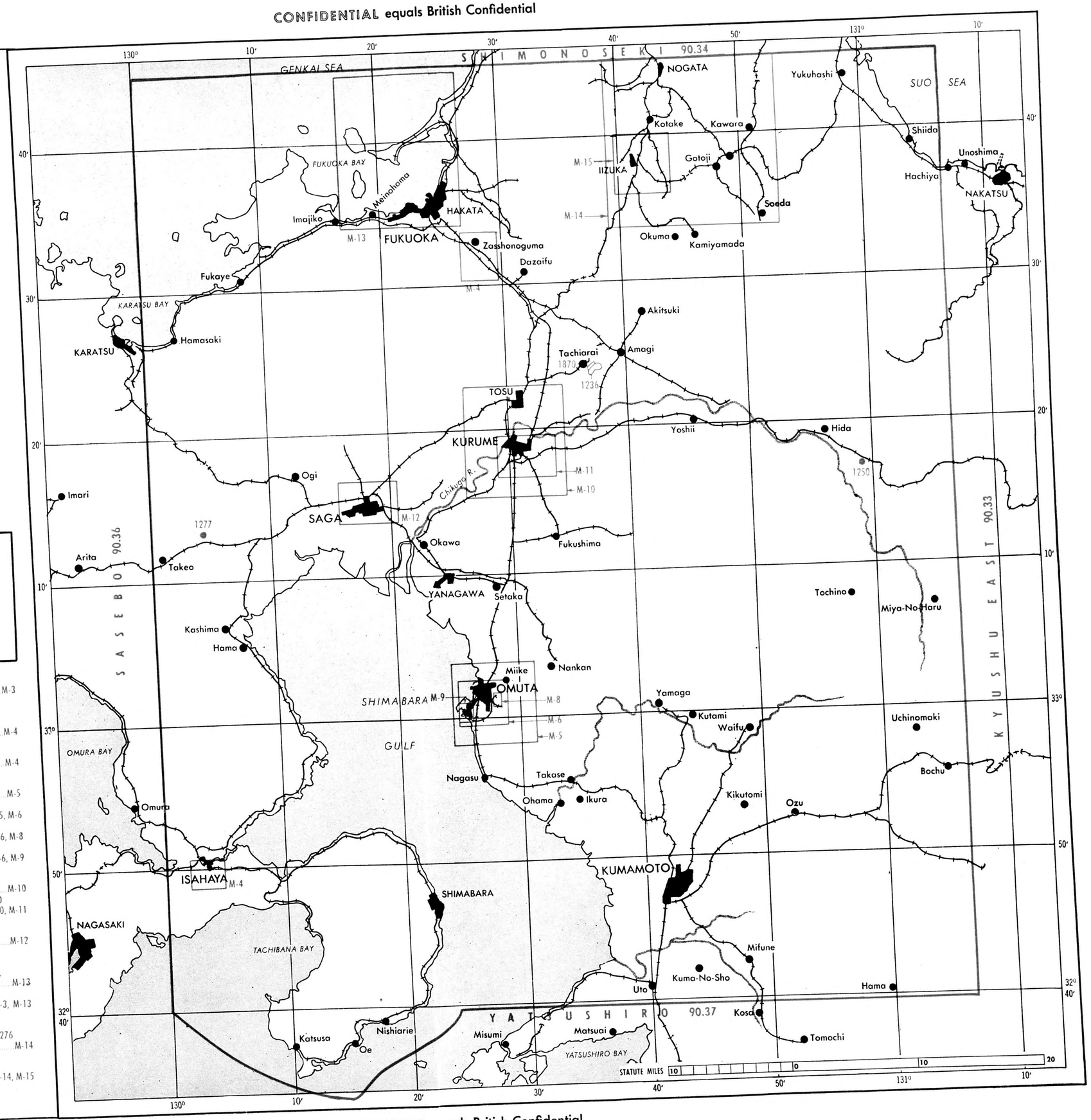
SAGA
FOR TARGET 1259 SEE MAP ON PAGE M-12

FUKUOKA
FOR TARGETS 664, 665, 1238, 1255, 1265, 1270, 1872 AND 1873 SEE MAP ON PAGE M-13
FOR TARGETS 663 AND 1237 SEE MAPS ON PAGES M-3, M-13

NOGATA
FOR TARGETS 1242, 1257, 1274, 1275, 1276 AND 1874 SEE MAP ON PAGE M-14

IIZUKA
FOR TARGET 1875 SEE MAPS ON PAGES M-14, M-15

M-3 CONTAINS THE AIRPORT MAP



Issued July 1, 1944

AIR OBJECTIVE FOLDER, JAPAN

KURUME AREA, No. 90.35

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Map Information, Kurume Area — 10
Target Chart Information, Kurume Area — 11

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Summary and Evaluation of Omuta Region — 12
Target Descriptions and Photos, Omuta Region — 14

Fukuoka Region

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Kurume Region

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Relief Map of Southern Japan (Showing Railroads and Roads) — POCKET

3049 ~~3024~~ Kurume – 1 – First Proof

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

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Alphabetical Index of Targets in Kurume Area, 90.35 Japan

Target Name	Target Number	Text Page
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Futase Mines	90.35—1276	50
Hakata Harbor	90.35—1255	37
Hakata RR Yds. & Station	90.35—1270	36
Isahaya RR Junction	90.35— 838	53
Japan Explosives Mfg. Co.	90.35—1875	49
Kineshima (Kishima) Mine	90.35—1277	57
Kobukuro Mchy. Wks.	90.35—1257	50
Kumamoto Military Zone	90.35—1248	54
Kurume Military Zone	90.35—1247	45
Kurume RR Station	90.35—1269	46
Kyushu Ordnance Plant	90.35—1239	57
Manda Mine	90.35—1278	28
Miike Dyestuffs	90.35—1243	14
Miike Harbor	90.35—1254	24
Miike Mchy. Works	90.35—1256	18
Mitsui Coal Liquefaction Plant	90.35—1262	16
Mitsui Electrolitic Zinc Refinery	90.35—1261	22
Mitsui RR Workshops	90.35—1268	30
Mitsui Zinc Distillery	90.35—1260	16
Miyata Motor Works	90.35—1241	57
Najima Seaplane Base	90.35—1237	39
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Omuta No. 1 Steam PP	90.35—1249	26
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Onagohata Power Station	90.35—1250	55
Oriental High Pressure Co., Plant A	90.35—1244	19
Oriental High Pressure Co., Plant B	90.35—1245	22
Saitozaki Petroleum Storage	90.35— 665	40
Sangyo Cement Co.	90.35—1242	49
Showa Iron Works	90.35—1872	37
Tachiarai Machine Works Ltd.	90.35—1870	52
Tachiarai Army Airfield	90.35—1236	52
Tagawa Mines	90.35—1275	48
Tatara Mchy. Works	90.35—1873	37
Togami Electric Works	90.35—1259	56
Tosu RR Yards & Repair Shops	90.35—1871	58
Toyo Aluminum Co.	90.35—1877	31
Tsuchiya Tabi Co. (Rubber Shoe Industry)	90.35—1266	45
Watanabe Aircraft Plant	90.35— 662	57
Watanabe Iron Works, Plant No. 1	90.35—1238	37
Yotsuyama Mine	90.35—1279	27

Numerical Index of Targets in Kurume Area, 90.35 Japan

Target Number	Name	Text Page
662	Watanabe Aircraft Plant	57
663	Fukuoka Air Station	40
664	Najima Steam Power Station	38
665	Saitozaki Petroleum Storage	40
838	Isahaya RR Junctions	53
1236	Tachiarai Army Airfield	52
1237	Najima Seaplane Base	39
1238	Watanabe Iron Works, Plant No. 1	37
1239	Kyushu Ordnance Plant	57
1241	Miyata Motor Works	57
1242	Sangyo Cement Co.	49
1243	Miike Dyestuffs	14
1244	Oriental High Pressure Co., Plant A	19
1245	Oriental High Pressure Co., Plant B	22
1246	Electro-Chemical Industry	20
1247	Kurume Military Zone	45
1248	Kumamoto Military Zone	54
1249	Omuta No. 1 Steam Power Station	26
1250	Onagohata Power Station	55
1254	Miike Harbor	24
1255	Hakata Harbor	37
1256	Miike Machinery Works	18
1257	Kobukuro Machinery Works	50
1259	Togami Electric Works	56
1260	Mitsui Zinc Distillery	16
1261	Mitsui Electrolytic Zinc Refinery	22
1262	Mitsui Coal Liquefaction Plant	16
1263	Bridgestone Tire Co.	43
1264	Nippon Rubber Co.	44
1265	Nippon Rubber Co., Fukuoka Plant	36
1266	Tsuchiya Tabi Co. (Rubber Shoe Industry)	45
1268	Mitsui RR Workshops	30
1269	Kurume RR Station	46
1270	Hakata RR Yards and Station	36
1274	Dainoura Mine	49
1275	Tagawa Mines	48
1276	Futase Mines	50
1277	Kineshima (Kishima) Mine	57
1278	Manda Mine	28
1279	Yotsuyama Mine	27
1595	Omuta No. 2 Steam Power Plant (Minato)	31
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1870	Tachiarai Machine Works	52
1871	Tosu RR Yards & Repair Shops	58
1872	Showa Iron Works	37
1873	Tatara Machinery Works	37
1874	Asano Cement Co.	48
1875	Japan Explosives Mfg. Co.	49
1877	Toyo Aluminum Co.	31

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Classified Index of Targets in Kurume Area, No. 90.35 Japan

CLASSIFICATION AND NAME	TARGET NUMBER	LOCATION (GENERAL)	APPROXIMATE COORDINATES	TEXT ON PAGE	MAP ON PAGE	PHOTO ON PAGE
AIRCRAFT						
Tachiarai Machine Works, Ltd.	1870	Tachiarai	33° 24′N 130° 37′E	52		52
Watanabe Aircraft Plant	662	Zasshonoguma	33° 32′N 130° 27′E	57	M-4	
AIRPORTS						
Fukuoka Air Station	663	Fukuoka	33° 41′N 130° 24′E	40	M-3, 13	40
Najima Seaplane Base	1237	Fukuoka	33° 39′N 130° 26′E	39	M-3, 13	35, 38, 39
Tachiarai Army Airfield	1236	Tachiarai	33° 24′N 130° 38′E	52	M-3	52
ARMS MANUFACTURE						
Kyushu Ordnance Plant	1239	Zasshonoguma	33° 33′N 130° 28′E	57	M-4	
Showa Iron Works	1872	Fukuoka	33° 38′N 130° 25′E	37	M-13	35
Watanabe Iron Works, Plant No. 1	1238	Fukuoka	33° 36′N 130° 25′E	37	M-13	37
AUTOMOBILES AND MOTORS						
Miyata Motor Works	1241	Zasshonoguma	33° 31′N 130° 29′E	57	M-4	
BUILDING MATERIALS						
Asano Cement Co.	1874	Nogata	33° 40′N 130° 51′E	48	M-14	48
Sangyo Cement Co.	1242	Nogata	33° 38′N 130° 46′E	49	M-14	49
CHEMICALS						
Electro-Chemical Industry	1246	Omuta	33° 02′N 130° 26′E	20	M-5, 7	20, 21, 26
Japan Explosives Mfg. Co.	1875	Nogata	33° 37′N 130° 40′E	49	M-14, 15	
Miike Dyestuffs	1243	Omuta	33° 02′N 130° 27′E	14	M-5, 6, 8	13 to 17
Oriental High Pressure Co., Plant A	1244	Omuta	33° 01′N 130° 28′E	19	M-5, 6, 8	14, 19
Oriental High Pressure Co., Plant B	1245	Omuta	33° 02′N 130° 26′E	22	M-5, 7	22
COAL						
Dainoura Mine	1274	Nogata	33° 43′N 130° 40′E	49	M-14	49
Futase Mines	1276	Nogata	33° 39′N 130° 40′E	50	M-14	50
Kineshima (Kishima) Mine	1277	Saga	33° 14′N 130° 05′E	57		57
Manda Mine (Miike Colliery)	1278	Omuta	33° 00′N 130° 27′E	28	M-5, 6	28, 29
Tagawa Mines	1275	Nogata	33° 38′N 130° 49′E	48	M-14	48
Yotsuyama Mine (Miike Colliery)	1279	Omuta	33° 00′N 130° 25′E	27	M-5, 7, 9	27, 30
ELECTRIC POWER						
Najima Steam Power Station	664	Fukuoka	33° 39′N 130° 25′E	38	M-13	35, 38, 39
Onagohata Power Station	1250	Hida	33° 17′N 130° 59′E	55		55
Omuta No. 1 Steam Power Station	1249	Omuta	33° 00′N 130° 26′E	26	M-5, 7, 9	24 to 26, 31
Omuta No. 2 Steam Power Station	1595	Omuta	33° 00′N 130° 25′E	31	M-5, 7, 9	24, 31
Omuta No. 3 Steam Power Station (Shin Karyoku)	1596	Omuta	33° 01′N 130° 26′E	26	M-5, 7	
HARBOR FACILITIES						
Hakata Harbor	1255	Fukuoka	33° 36′N 130° 24′E	37	M-13	
Miike Harbor	1254	Omuta	33° 00′N 130° 25′E	24	M-5, 7, 9	24-26, 30, 31
MACHINERY						
Kobukuro Mchy. Works	1257	Nogata	33° 39′N 130° 41′E	50	M-14	50
Miike Mchy. Works	1256	Omuta	33° 02′N 130° 27′E	18	M-5, 6, 8	16, 18
Tatara Mchy. Works	1873	Fukuoka	33° 36′N 130° 27′E	37	M-13	
Togami Electric Works	1259	Saga	33° 16′N 130° 18′E	56	M-12	56
MILITARY INSTALLATIONS						
Kumamoto Military Zone	1248	Kumamoto	32° 48′N 130° 43′E	54		53, 54
Kurume Military Zone	1247	Kurume	33° 18′N 130° 32′E	45	M-10, 11	
NON-FERROUS METALS						
Mitsui Electrolytic Zinc Refinery	1261	Omuta	33° 02′N 130° 26′E	22	M-5, 7	20, 22, 23
Mitsui Zinc Distillery	1260	Omuta	33° 02′N 130° 27′E	16	M-5, 6, 8	13 to 18
Toyo Aluminum Co.	1877	Miike	33° 03′N 130° 28′E	31	M-5	

3649 3624—Kurume—3—First Proof
3624—Kurume—3—First Proof

CLASSIFIED INDEX OF TARGETS—Concluded

CLASSIFICATION AND NAME	TARGET NUMBER	LOCATION (GENERAL)	APPROXIMATE COORDINATES	TEXT ON PAGE	MAP ON PAGE	PHOTO ON PAGE
PETROLEUM						
Mitsui Coal Liquefaction Plant	**1262**	Omuta	33° 02′N 130° 27′E	16	M-5, 6, 8	
Saitozaki Petroleum Storage	**665**	Fukuoka	33° 39′N 130° 22′E	40	M-13	
TRANSPORTATION (Railroad)						
Hakata RR Yards and Station	**1270**	Fukuoka	33° 36′N 130° 25′E	36	M-13	36
Isahaya RR Junctions	**838**	Isahaya	32° 51′N 130° 03′E	53	M-4	
Kurume RR Station	**1269**	Kurume	33° 19′N 130° 30′E	46	M-10, 11	46
Mitsui RR Workshops	**1268**	Omuta	33° 00′N 130° 25′E	30	M-5, 7, 9	30
Tosu RR Yards and Repair Shops	**1871**	Tosu	33° 23′N 130° 31′E	58	M-10	58
RUBBER						
Bridgestone Tire Co. (Nippon Rubber)	**1263**	Kurume	33° 19′N 130° 30′E	43	M-10, 11	43, 44, 46
Nippon Rubber Co., Fukuoka Plant	**1265**	Fukuoka	33° 35′N 130° 25′E	36	M-13	
Nippon Rubber Co., Kurume City Plant	**1264**	Kurume	33° 19′N 130° 30′E	44	M-10, 11	43, 44, 46
Tsuchiya Tabi Co. (Rubber Shoe Industry)	**1266**	Kurume	33° 18′N 130° 30′E	45	M-10, 11	45

9649 3624—Kurume—4—First Proof

Summary and Evaluation of Kurume Area, No. 90.35

OBJECTIVE AREA: The Kurume Area lies in NW Kyushu in the heart of the two most important coal fields in Japan Proper. It is south of the primary industrial concentration along the Moji Straits between Kyushu and Honshu and east of the great naval and military establishments around Nagasaki and Sasebo on the west coast of Kyushu. The most important cities in the Area are Omuta, Fukuoka, Kurume, Kumamoto and Saga.

IMPORTANCE: There are five districts in the Japanese Empire of outstanding industrial importance, those around Tokyo, Nagoya, Osaka and Yawata in Japan Proper, and Mukden in Manchuria. Ranking below these are a few districts where there are important industries, concentrated in small areas, which contribute very substantially to the Japanese war economy. The Kurume Area falls in the second classification.

The principal contribution of the Area is coal from the Chikuho and Miike Fields, chemicals, rubber products and zinc refining. More coal is produced in this Area than in any other section of Japan Proper. Omuta ranks with Niihama on the north coast of Shikoku, Nobeoka on the east coast of Kyushu, and Ube in south Honshu, as a major chemical concentration in which the important production comes from a few large plants. The rubber factories in Kurume are important in the industry, but rubber is not a critical industry in the Japanese economy. The two largest zinc refineries in Japan are at Omuta.

The Area contains a fairly large synthetic oil plant at Omuta, a number of factories producing machinery (chiefly for coal mines), and rather important production of munitions. There is, in addition, some general industry which, while important locally, does not contribute substantially to the Japanese economy as a whole.

49 targets have been selected in the Kurume Area. Of these, 12 are considered of key importance in the Japanese economy as a whole. These are:

Plant Name	City	Target No.
Miike Dyestuffs	Omuta	1243
Oriental High Pressure Co. (Plant A)	Omuta	1244
Electro-Chemical Industry	Omuta	1246
Omuta No. 1 Steam Power Plant	Omuta	1249
Omuta No. 2 Steam Power Plant	Omuta	1595
Omuta No. 3 Steam Power Plant	Omuta	1596
Najima Steam Power Plant	Fukuoka	664
Miike Harbor	Omuta	1254
Mitsui Zinc Distillery	Omuta	1260
Mitsui Electrolytic Zinc Refinery	Omuta	1261
Bridgestone Tire Co.	Kurume	1263
Tosu RR Yards and Repair Shops	Tosu	1871

In addition to these targets selected as primary, there are a number which for a variety of reasons are not considered of first importance to Japan as a whole but are of considerable importance in the Area. These include several machinery and machine tool plants which are fairly large, but not comparable to the huge machinery plants in other parts of Japan, the Saitozaki Petroleum Storage Center **TARGET 665,** the largest oil storage in the Area, but small compared to the storage around Nagasaki, Tokuyama, Tokyo, etc., and the airfields, the importance of which will vary with military requirements. Tachiarai Army Air Field **TARGET 1236** and Fukuoka Naval Air Station **TARGET 663** are large, well-equipped fields, primarily training stations, but will probably constitute very important bases of air defense.

DESCRIPTION: The Kurume Area includes two distinct regions lying respectively east and west of the Fukuoka-Omuta RR Line. The east part is mountainous with many peaks over 3000 ft and Mt. Aso, a smoking volcano, rising 5222 ft. The only two flat sections are the valleys running toward the east from Kurume and Kumamoto for distance of 18 and 15 mi respectively. The west part of the Area consists of scattered mountain groups interspersed with lowlands. Mountainous areas in both sections are largely forested. Mt. Aso's nearly barren slopes are the exception.

DEFENSE AND VULNERABILITY: There are two known large air bases and several subsidiary ones in the Kurume Area. These constitute the primary defenses. The large military garrisons at Kurume and Kumamoto and moderate sized garrisons at Saga, and Fukuoka are the major known ground defense units.

Approach by air from the west would have to be made through the defenses around Nagasaki and Sasebo. There are no known strong defense positions on the east coast of Kyushu.

AIRCRAFT: Two plants in the Kurume Area are known to be producing airplanes and parts. These are Watanabe Aircraft Plant **TARGET 662** SE of Fukuoka, producing Type O Float Planes and parts and Tachiarai Machine Works **TARGET 1870,** a part of the important Tachiarai Army Air Depot and training center. The latter plant is a large repair center and manufactures some components. Neither is a major Japanese aircraft factory.

AIRPORTS: The principal facilities in the Area are the Fukuoka Air Station **TARGET 663** in the North, and Tachiarai Army Airfield **TARGET 1236** in the central part of the area. The Fukuoka Air Station was a civil airport before the Pacific War and operated as both a land and seaplane base. There are small airports (not targets) at Isahaya, Kumamoto, Nogata, and Omuta. Seaplane bases are in Najima where there are complete facilities, and at Kutso. A seaplane base is reported at the head of Suminoye Bay in the northwest corner of Shimabara Gulf. Landing fields have been reported at Saga, on Shiga Island at mouth of Hakata Bay, and at Yukuhashi on northeast corner of Kurume Area. All are shown on the Airport Map.

ARMS MANUFACTURE: The production of arms in this Area is centered around Fukuoka. The Kyushu Ordnance Plant **TARGET 1239** is manufacturing munitions, precision tools and aircraft machinery. Watanabe

3649-~~3624~~—Kurume—5—First Proof

SUMMARY AND EVALUATION OF KURUME AREA, No. 90.35 — Continued

Iron Works, Plant No. 1 **TARGET 1238** is concentrating on the production of ordnance. Showa Iron Works **TARGET 1872** is expanding its facilities for manufacturing various types of ordnance. These plants are of considerable local importance, but do not compare with the large ordnance plants in other parts of Japan.

AUTOMOBILES AND MOTORS: The Miyata Motor Works **TARGET 1241** was a large prewar bicycle producer. In 1940 it ceased bicycle manufacture and has since been producing aircraft parts and motorcycles. Its importance cannot be accurately assessed, but it is not believed to be a major factor in Japanese production.

BUILDING MATERIALS: The Kawara plant of Asano Cement Co. **TARGET 1874** and Sangyo Cement plant **TARGET 1242** of Sangyo Cement and RR Co. are the largest building material plants in the area. Kawara plant has been reported producing some iron and electric steel in addition to Portland Cement. Neither are considered primary targets. A small cement plant with capacity about 400 bbls. a day, is operating in the compound of the Electro-Chemical Industry **TARGET 1246.** Many of the small cement plants formerly in this area have been reported dismantled.

CHEMICALS: Omuta is one of the important chemical centers in the Japanese Empire, although the development at Konan, Korea, is much larger and the plants around Niihama on north Shikoku, Ube in southern Honshu and a few other places are comparable in importance. Coke by-products, explosives, acids and fertilizers are among the principal heavy chemicals produced. The Miike Dyestuffs **TARGET 1243** producing explosives, poison gases and other coke by-products, Oriental High Pressure Co., Plant A **TARGET 1244** producing synthetic ammonia, and Electro-Chemical Industry **TARGET 1246** producing carbide and fertilizers are primary targets. Plant B of the Oriental High Pressure Co. **TARGET 1245** produces large quantities of fertilizers and sulphuric acid, but since ammonia is necessary for the production of fertilizer and sulphuric acid is not a critical chemical in the Japanese Empire, it would lose much of its importance if the synthetic ammonia plant (Plant A) of the same company or the coke ovens of the Dye Plant were destroyed. Destruction of the coke ovens operated by the Dye Plant would, in fact, nearly paralyze both the Dye Plant and both Oriental High Pressure Co. plants.

COAL: Coal is an indispensable raw material and has been drastically rationed. However, the Kyushu mines are scattered, no one of them produces a high percentage of the output of any field, and they are hard to put out of operation by bombing. A few of the largest mines have been included as secondary targets. The five largest producers are Dainoura Mine **TARGET 1274,** Tagawa Mines **TARGET 1275,** Futase Mines **TARGET 1276,** Kineshima Mine **TARGET 1277,** and the Manda **TARGET 1278** and Yotsuyama **TARGET 1279** mines of Miike Colliery. Manda Mine and Dainoura Mine in the Nogata Region have power plants which furnish electricity to other mines nearby. Power is especially important in the Miike Field, which has wet mines requiring constant pumping on a large scale. If electricity were to be cut off in the Miike vicinity for a day or two it would take months to get flooded mines in operation again. However, it must be assumed that the power network is such that practically all generating plants in the area would have to be destroyed before the pumps would be deprived of power.

ELECTRIC POWER: The great bulk of electric power used in the West Kyushu and a substantial amount used in the Nagasaki-Sasebo districts comes from four steam plants and one hydro plant in this area. The three steam plants in and near Omuta **TARGETS 1249, 1595 and 1596** have a total capacity of 300,000 KW, and the fourth, the Najima Plant **TARGET 664,** has a capacity of 60,000 KW. These are considerably larger than the only sizable hydroelectric plant, Onagohata **TARGET 1250** listed in this area. There are many small hydro plants along the rivers in the mountains and some coal mines and factories generate power, but their contribution to Kyushu power as a whole is small.

The western part of Kyushu uses 60 cycle power, while the northern and eastern parts use 50 cycle. There are a few fairly large double-cycle hydro plants in the adjoining area to the east (Kyushu East 90.33) from which some power can be obtained, but if the generating plants in the Kurume Area are destroyed it will be difficult to bring in substantial amounts of power from other areas—especially during the dry season. The principal lines in the Area net are shown on the Power Map (page M-4). The four large steam plants are considered among the most important targets in the area, the hydro plant secondary.

HARBOR FACILITIES: Miike Harbor **TARGET 1254** is the most important port in this area and ranks high among all Japanese ports as a shipping point for coal. The harbor facilities include at least four modern coal loaders, each capable of handling 5000 tons in 24 hours, a few small floating cranes, rather limited warehouse facilities, and extensive railroad yards and open coal storage. The small inner harbor "Wet Dock" (32 acres) can take four 3,000 ton ships at a time. Vessels caught in either the inner harbor or the Wet Dock can neither maneuver nor escape since both are approached by a long narrow channel and if sunk could seriously obstruct the harbor.

The only other important port, Hakata **TARGET 1255,** is primarily a bunkering point for ships moving in and out of the Shimonoseki Straits, although there is some general traffic through it.

Although more ships will be found in the Shimonoseki Straits and probably in the China Coast iron and coal ports, an appreciable amount of shipping in either of the above ports can be expected at all times.

3649 —Kurume—6— First Proof

SUMMARY AND EVALUATION OF KURUME AREA, No. 90.35 — Concluded

MACHINERY: The Kurume Area has a great many small widely scattered machinery plants. Most of them built mining machinery and equipment before the war and this production is still probably necessary to keep the coal mines in the Area running efficiently. Three plants, Miike Machinery Works **TARGET 1256** in Omuta (by far the largest), Togami Electric Works **TARGET 1259** in Saga, and Kobukuro Machinery Works **TARGET 1257** near Iizuka, are important locally. Tatara Machinery Works **TARGET 1873** is a medium sized plant producing coal equipment. Nogata City Industries are small and scattered, but in the aggregate contribute substantially to keeping the coal mines in operation. There is a plant at Omuta built by the Mitsui interests to manufacture synthetic oil. This plant may be important but little is known about it.

The Miike Machinery Works is much the most important since it is very closely connected with the maintenance of the extensive Mitsui mines, chemical plants, railroads, etc., near Omuta. If the main plants are damaged by bombing, damage to the machinery works will delay repair.

MILITARY INSTALLATIONS: Only two cities of the area are known to have military concentrations of importance. Kurume had, before the Pacific War began, barracks and HQ for a division, and an arsenal (for storage, not production). Kumamoto had two distinct clusters of barracks for a division including HQ and a drill field used for landing small light planes. These cities are now probably headquarters for defense garrisons and training areas.

NON-FERROUS METALS: Two very important zinc plants, Mitsui Zinc Distillery **TARGET 1260** and Mitsui Electrolytic Zinc Refinery **TARGET 1261** produce over one-fourth of Japan's zinc. Both are primary targets. Toyo Aluminum Co. **TARGET 1877** is the eighth largest aluminum plant in Japan—secondary.

PETROLEUM: The Mitsui Coal Liquefaction Plant **TARGET 1262** at Omuta is one of the larger synthetic oil plants in the Empire. It has new equipment for aviation fuel production and also produces fuel oil, Diesel oil, regular gasoline, and paraffin. Saitozaki Petroleum Storage **TARGET 665** is the only large petroleum storage compound in the Kurume Area. This installation is primarily for bunkering, with belt conveyors for loading coal.

TRANSPORTATION (Railroad): Kurume Area is the hub of the RR network of the island of Kyushu. The most important bridges which offer a possibility for disruption of flow of materials are across the Chikugo River, (1) on the Saga-Yanagawa Line, (2, 3, and 4) at the edge of Kurume. Another fairly important bridge crosses the Rokkuka River, on the Saga-Nagasaki Line. None of these bridges are designated as targets. The most important transportation target in the entire Kyushu RR network is the Tosu Marshalling Yards, where a major portion of the freight on the island is handled. These yards **TARGET 1871** can handle 3000 cars a day, and are equipped for complete repairs. The Mitsui RR Workshops **TARGET 1268** are the vulnerable point on the Miike Mines RR. Other important points include Hakata RR Yards and Station **TARGET 1270** and Kurume Station **TARGET 1269**. Only the Tosu Yard is considered a primary target. The main features of the Kyushu transportation system are shown on the Relief Maps of Southern Japan in the map pocket.

RUBBER: The city of Kurume has a high concentration of rubber plants. The Bridgestone Tire Co. **TARGET 1263** produces approximately 2100 tires and tubes daily (about 23% of Japan's total). Between this plant and the Chikugo River is the Nippon Rubber Co. **TARGET 1264**. This plant and Tsuchiya Tabi Co. **TARGET 1266** produce large quantities of rubber footwear. The Nippon Rubber Co.'s Fukuoka plant **TARGET 1265** produces both tires and rubber footwear.

Only the Bridgestone Tire Co. plant deserves consideration as a primary target since Japan has many plants capable of manufacturing rubber footwear. In considering the importance of the tire plant it should be noted that:

a. Japan has ample tire manufacturing capacity and a large surplus of rubber.

b. The many rubber footwear and general rubber plants in Japan can be converted to tire manufacturing in about six months—if equipment is available.

c. It is a heavy concrete structure and essential equipment is widely scattered. Partial destruction would probably not halt production, unless the factory's steam plant were destroyed.

NON-TARGET INSTALLATIONS: A number of large factories and prominent buildings which are not considered targets are indicated both on the Target Index Map and on a number of the regional maps. These include textile mills, flour mills, breweries and similar installations. They are shown as an aid to photo interpretation and to prevent confusion with more important objectives.

Among these non-target installations, textile mills present a peculiar situation. Reports from a number of sources indicate conversion of textile machinery factories and textile mills to aircraft component and munitions manufacture, sub-assembly works, etc. For the most part, these reports are too general to be evaluated. It is entirely possible to convert many plants of this type to war work but it is very doubtful whether most of them have been so converted. Final evaluation of the significance of these plants must depend on more complete ground and photo intelligence than is now available. Such plants have little strategic significance unless converted to war production and conversion cannot be assumed in the absence of confirming intelligence.

3649 3624—Kurume—7—First Proof

WEATHER INFORMATION FOR KURUME AREA, No. 90.35

Kyushu is a mountainous island with highly irregular topography and a deeply indented coastline. Various climatic differences may thus be expected because of the varying degree of shelter or exposure with regard to prevailing winds.

The Kurume area lies astride the Tukusi Range, which extends from northeast to southwest, parallel with the northwest coastline. The Tukusi Range is comparatively low, ranging between 1000 and 3000 feet in elevation, yet it has sufficient height to afford some shelter to the leeward and to intensify bad weather conditions on the windward side. The Kyushu Range in the southeastern part of Kyushu is considerably higher than the Tukusi. The volcanic peak located 25 miles east-northeast of Kumamoto rises to 6590 feet above sea level.

The warm Tsushima Current which flows to the northeast through Tsushima Strait is significant in its effect on the climate of Kyushu. The temperature of this current is approximately 55° F. in winter and 75° F. in summer.

Data in the accompanying tables from Fukuoka represent climatic conditions in the coastal area to the northwest of Tukusi Range, and data from Kumamoto conditions to the southeast of the range.

WINTER WEATHER

During winter, the prevailing air flow is from a northwesterly direction. This winter monsoon air, which flows more or less constantly from the Siberian *High*, is cold and dry as it flows outward from the Asiatic mainland, but rapidly absorbs heat and moisture on passing over the Japan Sea and warm Tsushima Current. Stratocumulus clouds form rapidly over the warm current, and orographic lifting over the Tukusi Range causes rather frequent instability showers.

Severe icing conditions may be encountered in clouds over the Tsushima Current or above the mountains in Kyushu.

Frontal activity in winter occurs over Kyushu occasionally, but it is more frequent in the vicinity of the warm Kuroshio Current to the south or east of Kyushu.

Winds aloft in winter at levels below 6000 feet are predominantly from directions between northeast and west. At levels above 6000 feet, westerly winds are predominant. The mean velocity of westerly winds at 10,000 feet is 28 m.p.h.

Rain or snow occurs quite frequently in winter, although the total amount of precipitation is less than in any of the other seasons. Fukuoka, which is on the windward side of the Tukusi Range in winter, has considerably more occurrences of precipitation than Kumamoto, which lies to the leeward of this range.

Table 1.—Selected Climatic Data for the Month of January

	Fukuoka	Kumamoto
Cloudiness		
Mean Amt. (tenths)	6.8	5.9
No. Clear Days	2	4
No. Cloudy Days	13	9
Precipitation		
Total (in.)	2.8	2.6
No. Days	17	12
No. Days with:		
Fog	0.1	1.4
Gales	7.1	2.8
Mean Wind Vel. (m.p.h.)	6.5	3.8
Relative Humidity	73	77

WEATHER OF TRANSITION SEASONS

During spring and autumn, the day-to-day weather is changeable, owing to the fact that both warm and cold fronts frequently pass directly over the Kyushu area. During the transition seasons, alternate invasions of Tropical and Polar air masses are characteristic, whereas either Tropical or Equatorial air predominates in summer and Polar air in winter.

Very poor flying weather may be expected in the vicinity of fronts, and even after a cold front has passed the weather may not clear very rapidly, owing to clouds which form in the cold air mass as it moves across the Tsushima Current. Clear days are most likely in the relatively calm winds as the center of a cold air mass passes slowly over Kyushu.

Typhoons reach their maximum frequency either in late summer or early autumn.

In frontal clouds at heights above the freezing level, more or less severe icing is always a probability.

Conditions in September are about average as regards aerial operations, but October and November are usually the best months during the entire year in the Kurume area.

From March through May, the weather usually is more changeable from day to day than in autumn, although rather frequent occurrences of favorable weather may be expected.

FREQUENCY OF SUITABLE BOMBING WEATHER

Optimum conditions for incendiary bombing occur during the afternoon hours in winter; wind velocities are usually highest and relative humidity is lowest in winter during the warmest part of the day. Early summer is the most unfavorable time of the year for incendiary bombing.

Table 1 is given to show how winter weather conditions at Fukuoka on the windward side of the Tukusi Range differ from those at Kumamoto on the leeward side.

In winter, the probability of suitable weather for aerial operations is somewhat greater at Kumamoto than at Fukuoka, but there are a few exceptions which may be noted. For example, fog is more likely to occur at Kumamoto than at Fukuoka. Furthermore, the wind velocity is considerably lower and the relative humidity slightly higher at Kumamoto, and conditions favoring the spreading of fire are therefore less favorable than at Fukuoka.

SUMMER WEATHER

During June, July, and August, weather conditions at Fukuoka and Kumamoto are similar in most respects, although the amount of cloudiness and rain is somewhat greater at Kumamoto.

The air flow in summer is mainly from directions between southeast and southwest at the lower levels, but westerly winds tend to prevail from about 6000 feet upward. At 10,000 feet, the mean velocity of westerly winds at Fukuoka is 20 m.p.h. Surface wind directions vary greatly from one station to another because of topographic influences and land and sea breezes.

Summer is the cloudiest season in the area because of the great amount of cloudiness that usually occurs in June. The amount of cloudiness at Kumamoto decreases from 7.9 in June to 5.6 in August. It increases thereafter in September, but notably decreases in October.

The amount of rain during the "Bai-U" period (June through early July) is, as a rule, very heavy. The amount at Kumamoto during the month of June over a period of 22 years has varied between 33.7 and 7.4 inches; comparable values for July are 28.8 and 0.3 inches; for August, 19.6 and 0.8 inches. In 22 years, June has never been a dry month, whereas July and August have had at times very small amounts of rain.

Thunderstorms are relatively infrequent in June, the rainiest month, but occur rather often in July, August, and September.

Early summer, the time of the rainy "Bai-U" period in June and early July, usually has very poor weather for all types of aerial operations. Ordinarily, the weather is much better from late July through August. This statement, however, should be qualified, for the maximum frequency of thunderstorms is reached in August, and of typhoons either in August or September.

Low-level bombing missions may be successful except when weather conditions are unusually bad. This type of bombing will be hampered by such factors as low ceilings and precipitation associated with fronts, which are most frequent from late winter until early summer; by thunderstorms and typhoons, which are most frequent in late summer and early autumn; and by instability showers, especially during the colder months, at Fukuoka and other places having a northerly or westerly exposure.

For high-level visual bombing, the weather is unfavorable during a large percentage of the time. The months with most clear days are generally most favorable, for which see figures 2 and 3 and tables 3 and 4. Figures 4 and 5, which show diurnal variation of cloudiness, should also be noted. Furthermore, it may be assumed that an additional number of days will occur each month with relatively favorable conditions for high-level bombing, e.g., days with high clouds only, or days with two-tenths to three-tenths sky coverage (low, middle, or high clouds).

October and November are usually the best months for most types of aerial operations. Winter is slightly worse than average at Fukuoka, but somewhat better than average at Kumamoto. From winter through spring, weather conditions tend to grow slightly worse at Kumamoto, but at Fukuoka they improve somewhat. The "Bai-U" period from early June through early July usually has very poor weather conditions. In late summer, the weather is normally much better than in early summer; conditions in September are usually worse than in August or October.

Table 2.—Monthly Frequency of Thunderstorms at Fukuoka and Kumamoto

	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
Fukuoka	0.2	0.1	0.9	1.3	0.5	1.2	4.5	7.0	3.8	0.6	0.7	0.2	21.0
Kumamoto	0.2	0.2	2.0	1.6	0.8	1.7	4.1	6.7	3.0	0.9	0.2	0.2	21.6

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WEATHER INFORMATION FOR KURUME AREA No. 90.35—Concluded

Table 3.—Climatic Summary for Fukuoka 33°35′ N. 130°25′ E. Elev. 20 ft.

	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Yr.	No. yrs. rec.
Temperature (°F.)														
Mean Max.	49	49	56	65	73	79	86	88	81	72	63	53	68	30
Mean Min.	34	34	38	45	53	63	72	72	65	52	44	36	50	30
Cloudiness														
No. days Clear (< 0.2)	2	2	3	4	5	2	2	5	4	6	5	2	42	30
Cloudy (> 0.8)	13	12	12	12	13	17	13	8	12	9	8	12	141	30
Precipitation														
Mean Amt. (in.)	2.8	3.3	4.4	5.1	5.1	10.2	7.7	5.2	8.1	4.2	2.9	3.0	64.0	30
No. days with 0.01 in.	17	15	16	14	12	15	14	11	15	12	13	16	170	30
No. of Days with:														
Fog	0.1	0.4	0.3	0.5	0.6	0.6	0.4	0.2	0.4	0.3	0.3	0.3	4.5	30
Snow	5	6	2	0	0	0	0	0	0	0	0	3	16	30
Hail	0.2	0.2	0.4	0.2	0.0	0.0	0.0	0.0	0.0	*	0.2	0.2	1.4	22
Gales	7	5	8	7	4	4	4	3	3	3	4	6	58	22

*Less than 0.05.

Table 4.—Climatic Summary for Kumamoto 32°49′ N. 130°42′ E. Elev. 128 ft.

	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Yr.	No. yrs. rec.
Temperature (°F.)														
Mean Max.	51	52	59	69	76	80	87	90	84	74	64	54	70	30
Mean Min.	33	32	38	46	54	64	71	72	66	52	42	33	50	30
Cloudiness														
No. days Clear (< 0.2)	4	3	4	4	4	1	2	4	4	8	7	5	50	30
Cloudy (> 0.8)	9	9	10	12	13	19	13	8	11	9	7	7	127	30
Precipitation														
Mean Amt. (in.)	2.6	2.8	5.2	6.3	6.5	14.5	12.3	6.4	6.8	4.4	2.8	2.3	72.9	30
No. days with 0.01 in.	12	11	14	14	13	16	16	13	14	10	10	12	155	30
No. of Days with:														
Fog	1.4	0.9	1.9	1.2	1.4	2.0	1.6	1.3	1.6	1.1	1.6	1.3	17.3	30
Snow	4	4	1	0	0	0	0	0	0	0	*	2	11	30
Gales	2.8	2.7	3.2	2.9	1.9	2.1	1.5	2.6	1.5	0.5	1.5	2.3	25.5	22

*Less than 0.5.

Figure 1.—Prevailing Direction and Average Velocity (m.p.h.) of Air Flow at Kumamoto

MONTH	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
PREVAILING DIRECTION	↓	↓	↓	↓	↗	↗	↗	↗	↓	↓	↓	↓
AVERAGE VELOCITY (M.P.H.)	3.8	4.0	4.5	4.3	3.8	3.8	3.8	3.6	3.6	3.6	3.6	3.6

Figure 2.—Average Number of Days Clear (Less than 0.2 Cloud Cover), Partly Cloudy (0.2-0.8 Cloud Cover), and Cloudy (over 0.8 Cloud Cover) at Fukuoka

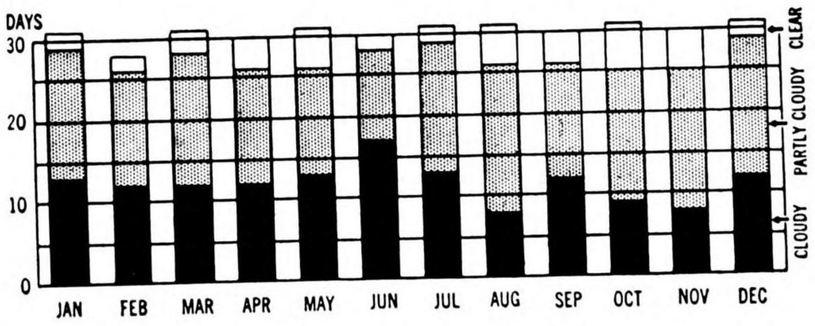


Figure 3.—Average Number of Days Clear (Less than 0.2 Cloud Cover), Partly Cloudy (0.2-0.8 Cloud Cover), and Cloudy (over 0.8 Cloud Cover) at Kumamoto

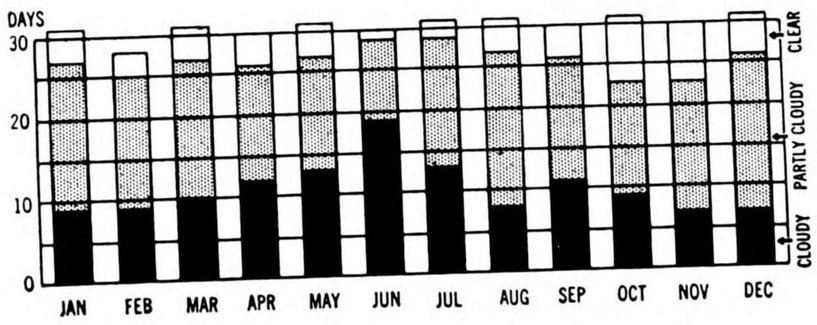


Figure 4.—Diurnal Variation of Cloudiness (0-10 Sky Coverage) at Fukuoka, 0600 and 1400 Observations

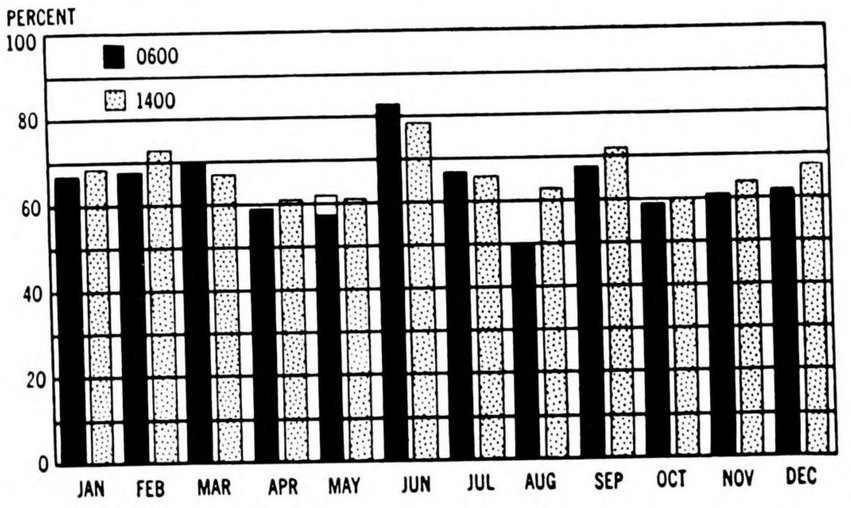
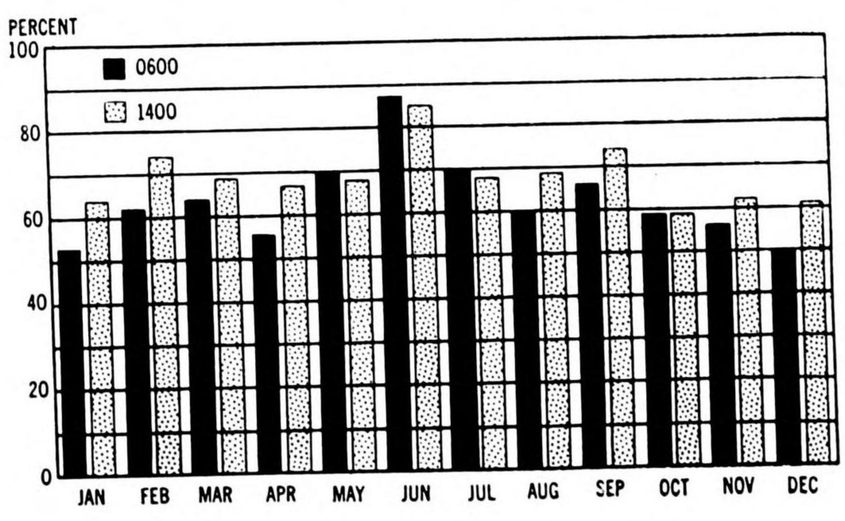


Figure 5.—Diurnal Variation of Cloudiness (0-10 Sky Coverage) at Kumamoto, 0600 and 1400 Observations



J649-902—Kurume—9—First Proof

Map Information for Kurume Area, No. 90.35

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

All above Sea Level

- 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
- Feeder Railways: (C) Station (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

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

4.7 Height of Bank
2.8 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

GLOSSARY

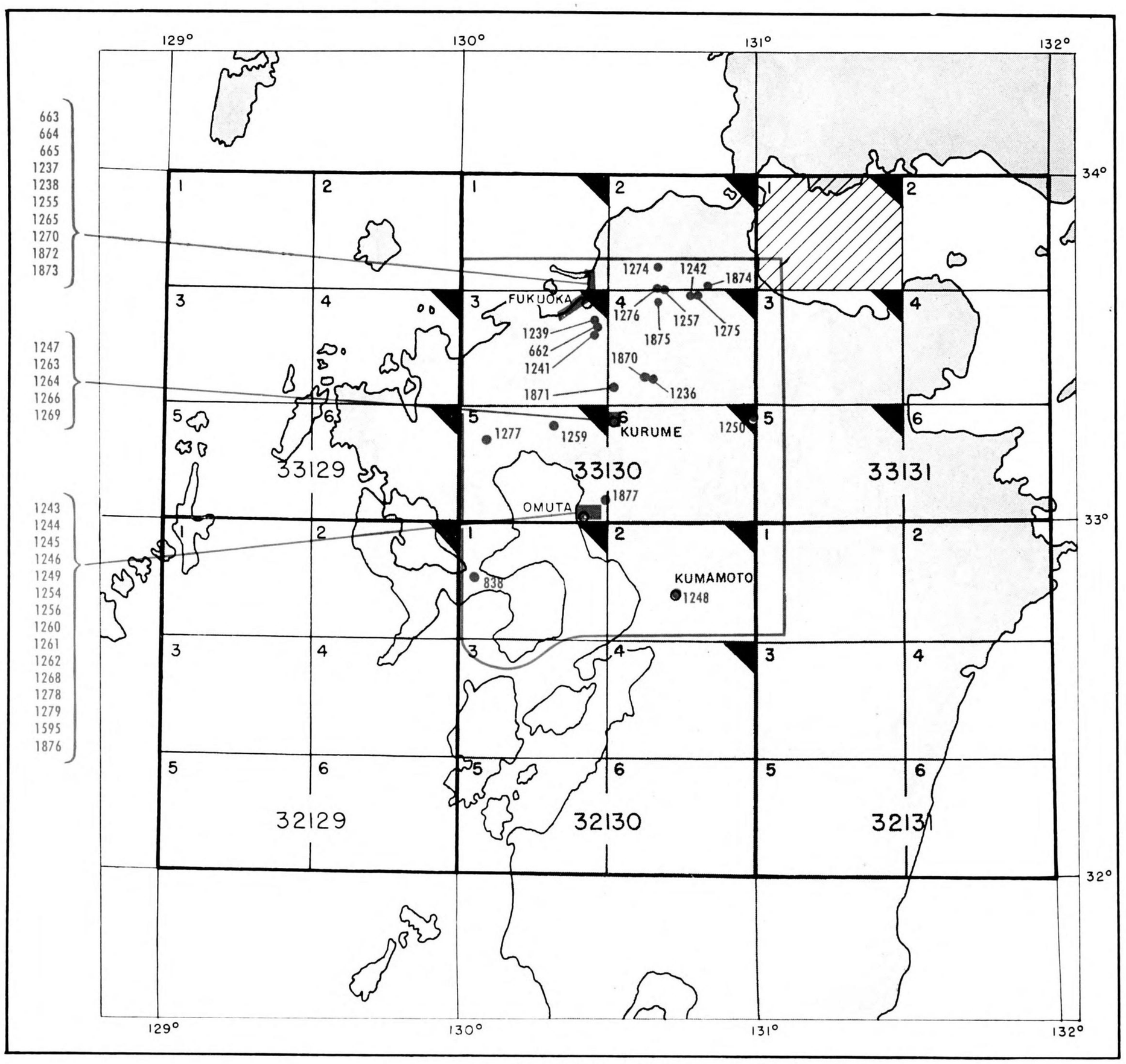
VARIANTS IN PARENTHESES

-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

Target Chart Information for Kurume Area, No. 90.35

INDEX

AAF TARGET AREA BASES, 1:75,000



● 663····TARGET NUMBERS IN RED

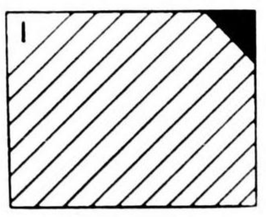
—BASE MAP FILM POSITIVE PUBLISHED AND DISTRIBUTED

—BASE MAP FILM POSITIVE AVAILABLE ON SPECIFIC REQUEST

EXPLANATION: In lieu of AAF Target Charts which heretofore have been distributed in conjunction with Air Objective Folders, Target Area Base Maps 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 base maps 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.



FOR EXAMPLE: 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 1 in the Index Map on this page is identified by the block, (the reading at its SW corner is Lat. 33° N., Long. 131° E.) and then the sheet (Sheet 1).

The correct sheet number is therefore: "33131-1."

3649 — Kurume — 1st Proof — First Proof

Air Objective Folder

OMUTA REGION

KURUME AREA, No. 90.35

INDEX OF TARGETS BY NUMBER, CLASSIFICATION AND NAME

TARGET NUMBER	NAME	PAGE
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1245	Oriental High Pressure Co., Plant B	22
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1249	Omuta No. 1 Steam Power Station	26
	HARBOR FACILITIES	
1254	Miike Harbor	24
	MACHINERY	
1256	Miike Machinery Works	18

TARGET NUMBER	NAME	PAGE
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1877	Toyo Aluminum Co.	31
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1262	Mitsui Coal Liquefaction Plant	16
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1595	Omuta No. 2 Steam Power Plant (Minato)	31
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Summary and Evaluation of Omuta Region

Omuta City contains the most important concentrations of targets in the Kurume Area. The targets are clustered at three points: (1) Miike Harbor, (2) Omuta River Mouth, and (3) East Omuta. These are connected by the Mitsui Mines RR which swings in a loop southward from Omuta and then westward from Manda Mine **TARGET 1278.** The three concentrations include:

(1) Miike Harbor: This is one of the large coal ports in Japan. The port consists of the artificial inner harbor with an area of about 125 acres in which ships may anchor or load at quays on the E side, and a smaller Wet Dock of 32 acres in which four ships up to 3,000 tons can load coal from three mechanical loaders capable of handling 5000 tons per day. The Wet Dock is separated from the inner harbor by a lock which is opened at high tide to allow vessels to enter and leave, and kept closed at low tide to maintain the water level in the inner harbor. The lock and the coal loaders are critical installations. To the E of the Wet Dock are extensive railroad yards and loading tunnels. The Mitsui RR Workshops **TARGET 1268** are SE of the yards. East of the yards is the Omuta Steam Power Plant No. 1 **TARGET 1249,** one of the four large steam power plants in the area. Omuta No. 2 **TARGET 1595,** the largest power plant in the area, is just SW of the locks between the Wet Dock and the inner harbor. Omuta Power Plant No. 3 **TARGET 1596** is situated in the harbor area but has not been located exactly. A wharf with an 80-ton loading crane in the N corner of the Wet Dock, a 300-ft general cargo pier surrounded by warehouses, and several small floating cranes in the inner harbor are other important harbor facilities. All lie within an area of less than one square mile.

(2) Omuta River Mouth: North of the Omuta River mouth on made land are three important targets, a large carbide plant **TARGET 1246,** the largest high-grade zinc refinery in Japan **TARGET 1261,** and a fertilizer and acid plant **TARGET 1245.**

(3) East Omuta: The largest concentration is on the eastern side of Omuta between the I.G.R.R. and low hills. Here are the important Miike Dyestuffs Plant **TARGET 1243,** Plant B of Oriental High Pressure Co. **TARGET 1244,** the important Mitsui Zinc Distillery **TARGET 1260,** the Miike Machinery Works **TARGET 1256** and Mitsui Coal Liquefaction Plant **TARGET 1262.** A special plant was erected about 1936 to build coal liquefaction machinery near the coal liquefaction plant. Little is known concerning it. If the plant is large it will be important since it will produce heat exchangers, high pressure equipment, etc. Its location is indicated on the Map of East Omuta, but since information is incomplete it is not listed as a target.

The whole concentration of targets in East Omuta lie within an area of less than one square mile.

KURUME 90.35 INDEX OF TARGETS AND SUMMARY (OMUTA REGION)

KURUME 90.35 INDEX OF TARGETS AND SUMMARY (OMUTA REGION)

3649

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KURUME 90.35 INDEX OF TARGETS AND SUMMARY (OMUTA REGION)

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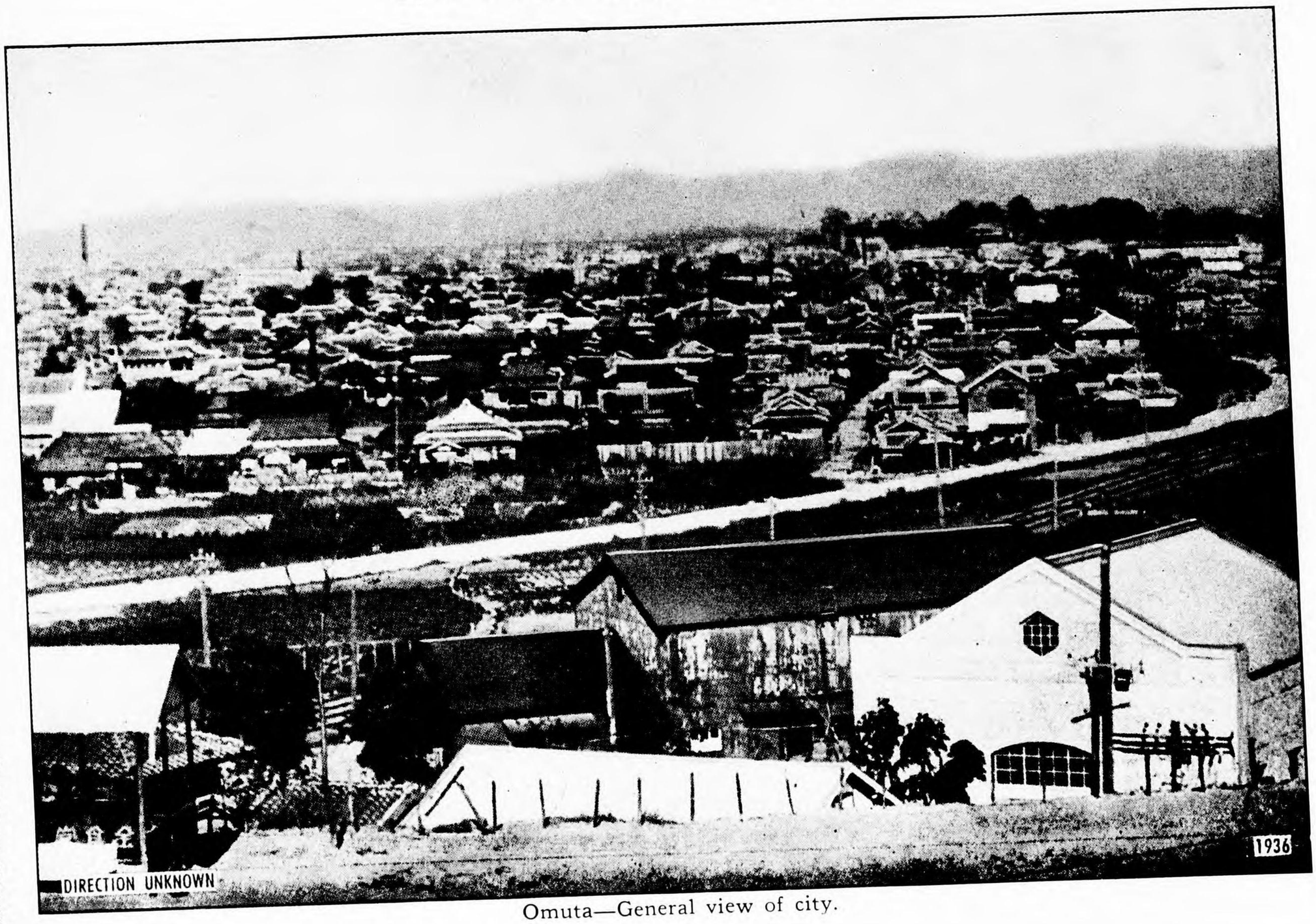
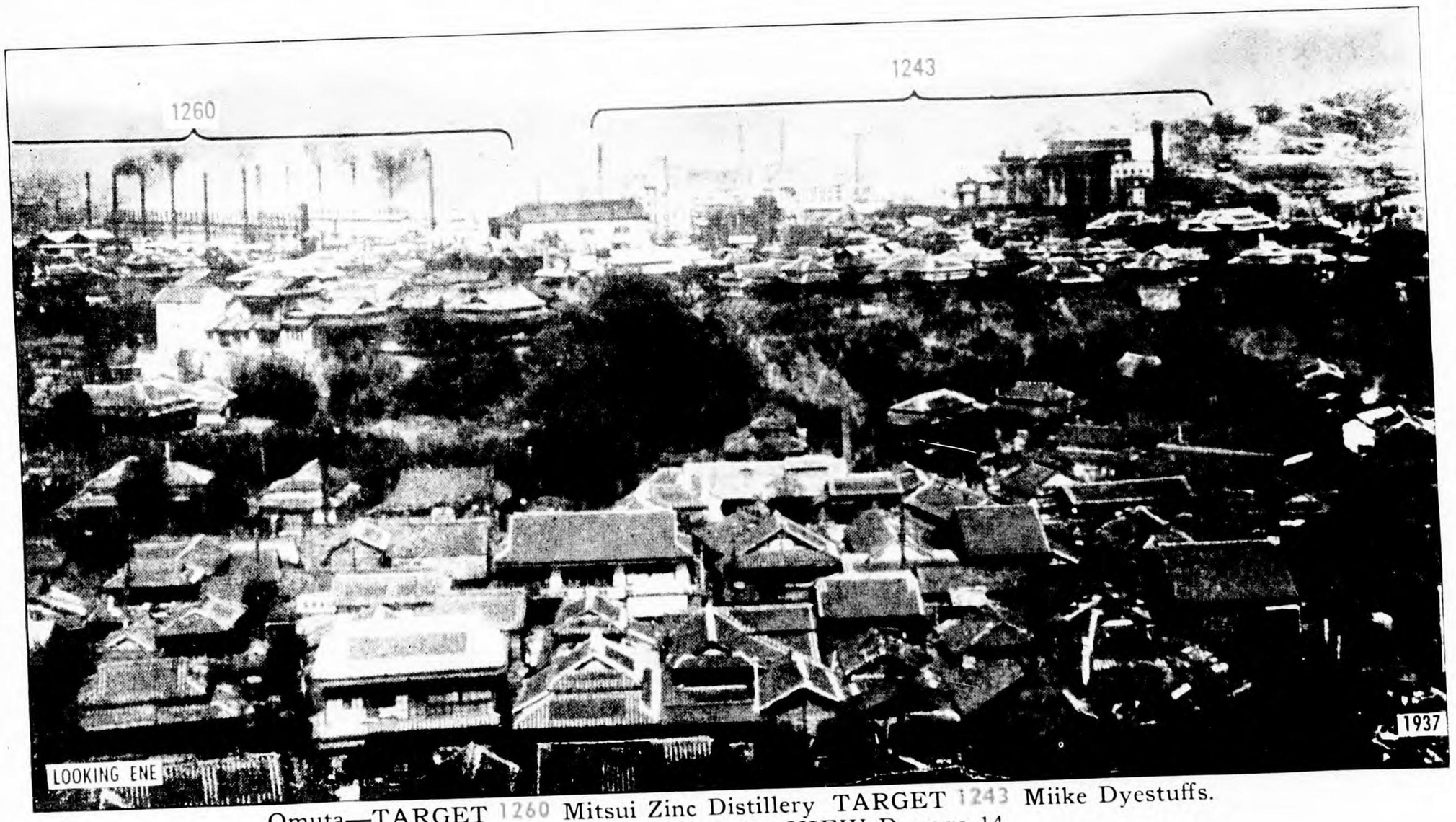


Omuta—General view of city.



Omuta—TARGET 1260 Mitsui Zinc Distillery TARGET 1243 Miike Dyestuffs.
For direction of photo see VIEW D, page 14.

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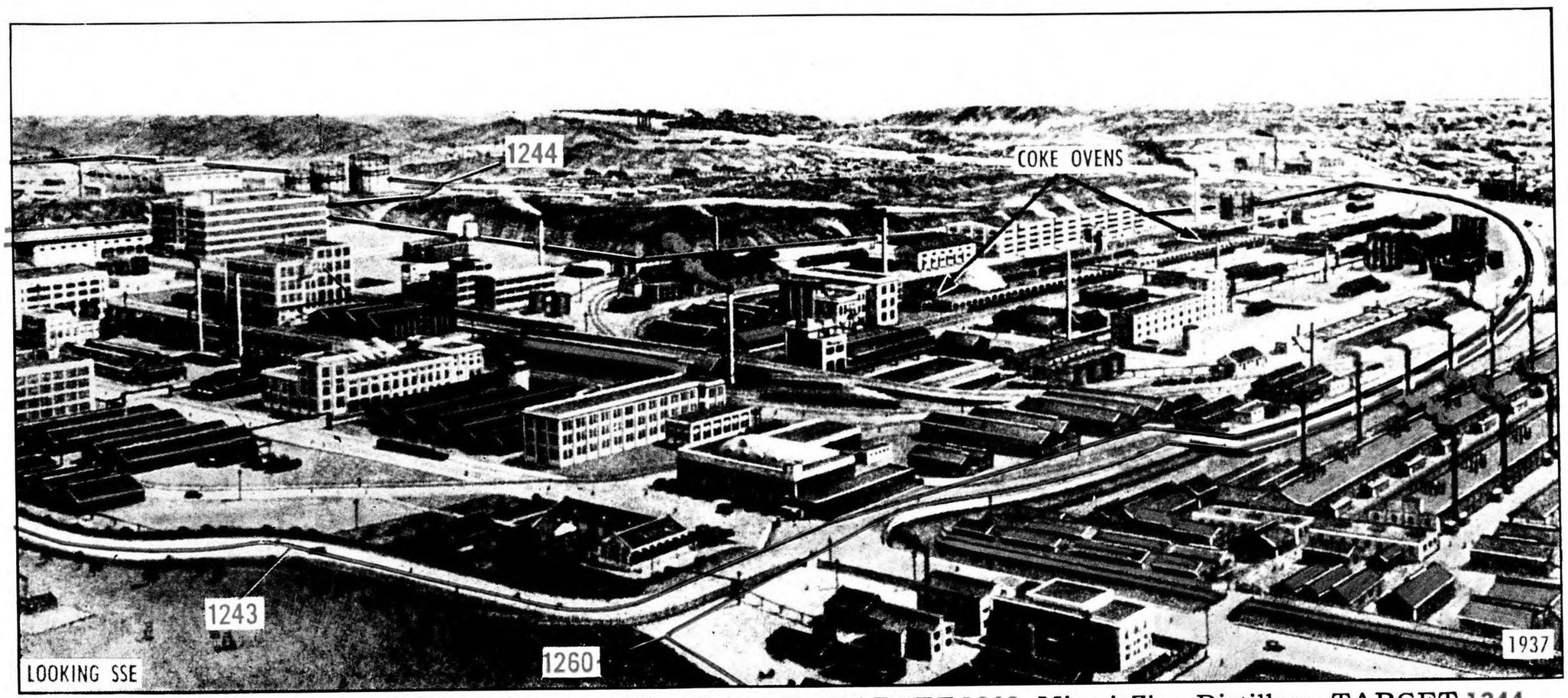
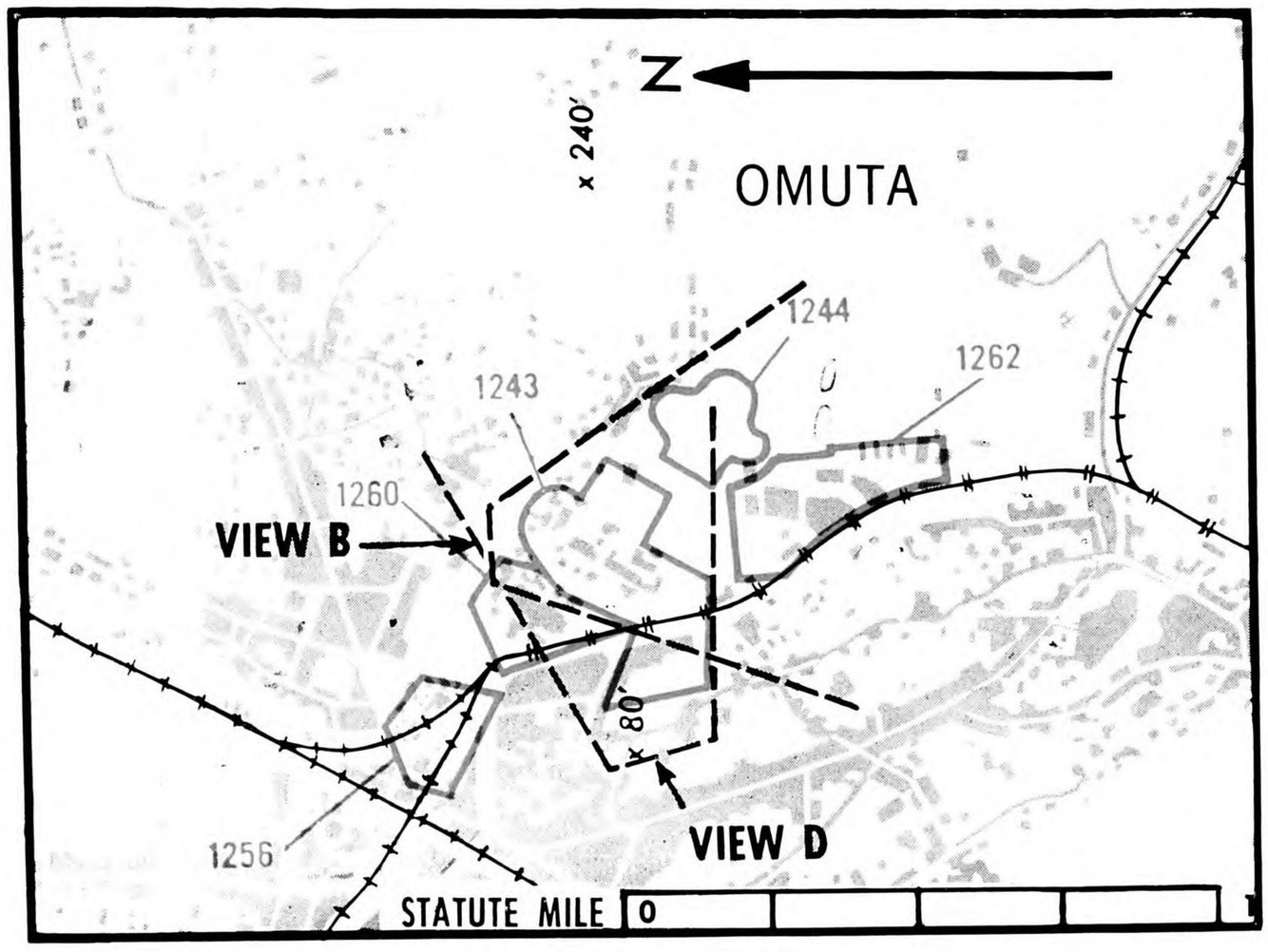
KURUME 90.35 SUMMARY (OMUTA REGION)

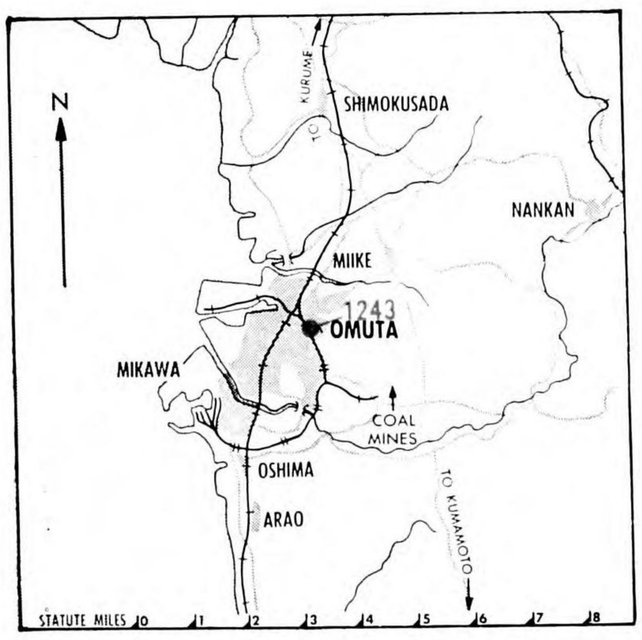
KURUME 90.35 SUMMARY (OMUTA REGION)

3649—Kurume—13—First Proof



Omuta—Artist's sketch TARGET 1243 Miike Dyestuffs TARGET 1260 Mitsui Zinc Distillery TARGET 1244 Oriental High Pressure Co., Plant A. All plant sites will look much more cluttered.
For direction of photo note VIEW B.





TARGET
90.35—
1243

MIIKE DYESTUFFS

(Mitsui Senryo KK)

OMUTA

(CHEMICALS)

33° 02′ N 130° 27′ E (Approx)—Produces picric acid, TNT, ammonium nitrate, explosives (navy main customer), poison gases and other coal tar derivatives. Only company mfg explosives which produces its own supply of basic raw materials. Prior to 1941 was one of five plants producing 70% of Japan's dyes and 66% of Japan's intermediates. Operation of this plant and of the two Oriental High Pressure Co. plants nearby depends on three coke oven batteries. These coke ovens are the primary chemical targets in the area. Location: E Omuta, 2.2 mi NE of Miike Harbor; between Mitsui Zinc Distillery (TARGET 1260) and Oriental High Pressure Co, Plant A (TARGET 1244). Plant site marked by RR spurs, and wide expanse of bldgs mostly modern construction. Plant expansion toward the E and SE.

(See photos on pages 13, 14, 15, 16 and 17; maps on pages M-5, M-6 and M-8.)

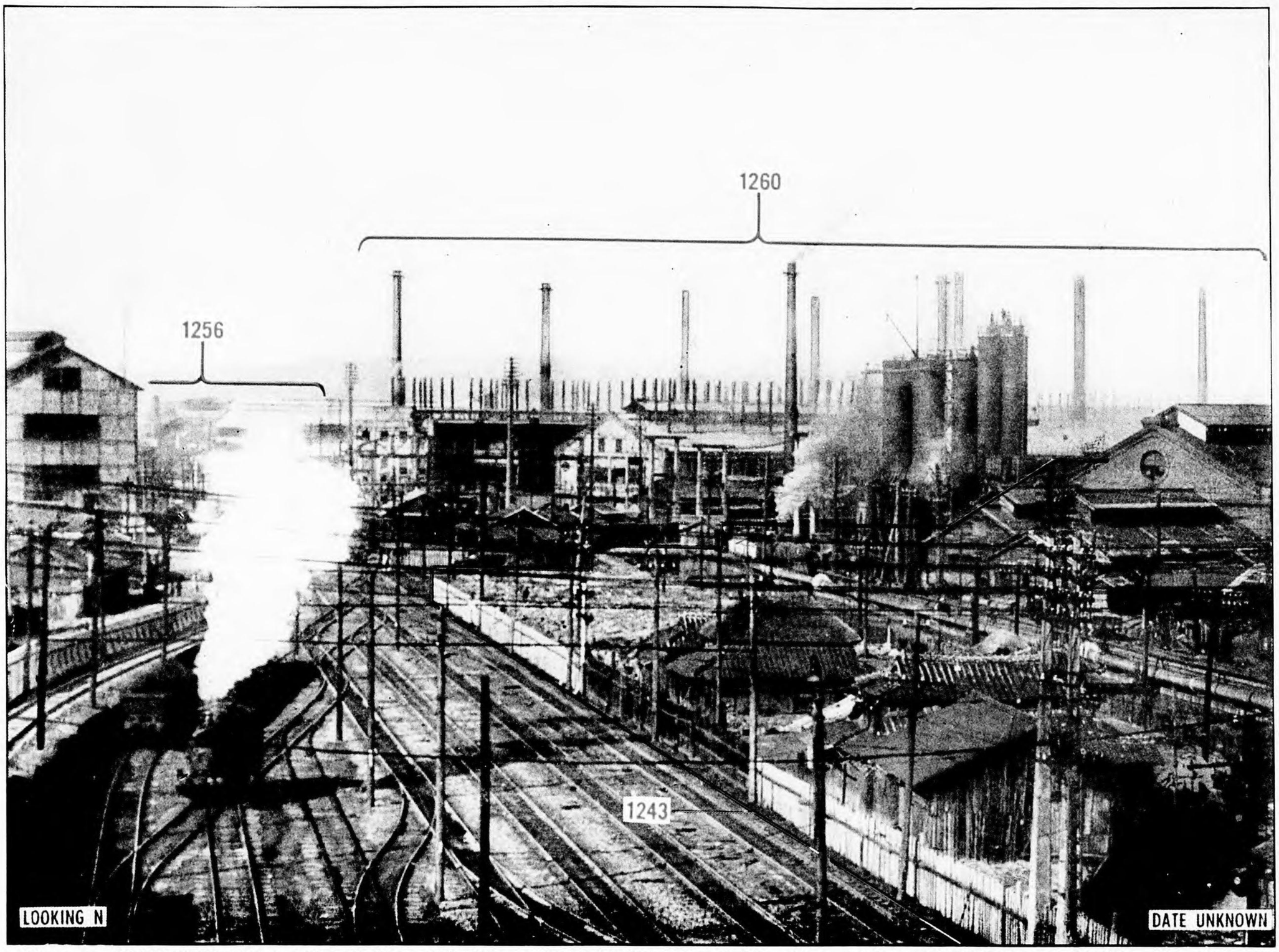
3649—Kurume—P4—First Proof

Omuta—TARGET 1243 Miike Dyestuffs TARGET 1260 Mitsui Zinc Distillery.

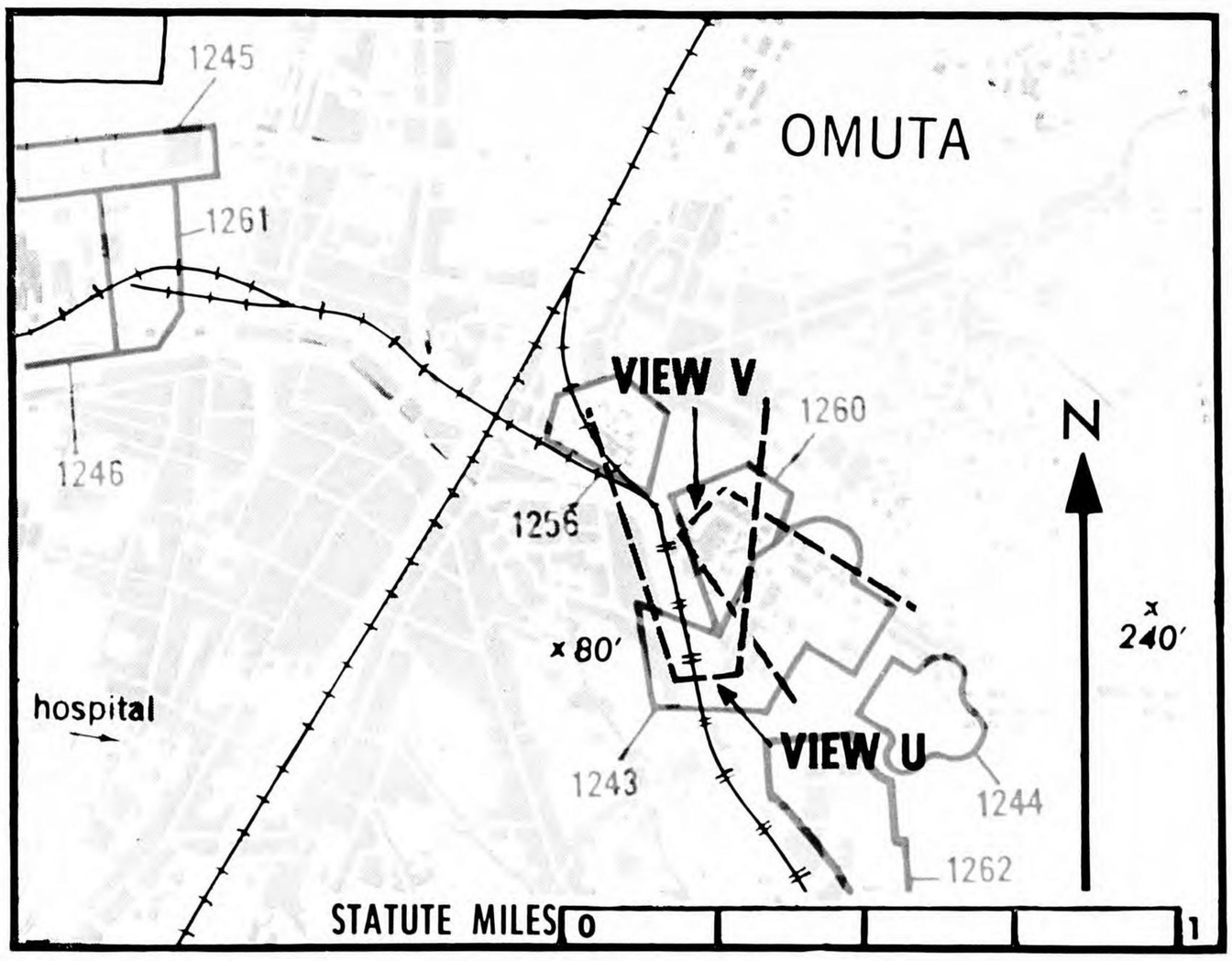
Omuta—Miyanoura Coal Mine and Gas Power Plant. TARGET 1260 Mitsui Zinc Distillery. TARGET 1243 Miike Dyestuffs.

KURUME 90.35 TARGETS 1243, 1260 (OMUTA REGION)

3649—Kurume—15.—First Proof



Omuta—TARGET 1260 Mitsui Zinc Distillery. TARGET 1243 Miike Dyestuffs. TARGET 1256 Miike Machinery Works.



TARGET 90.35—1262

MITSUI COAL LIQUEFACTION PLANT

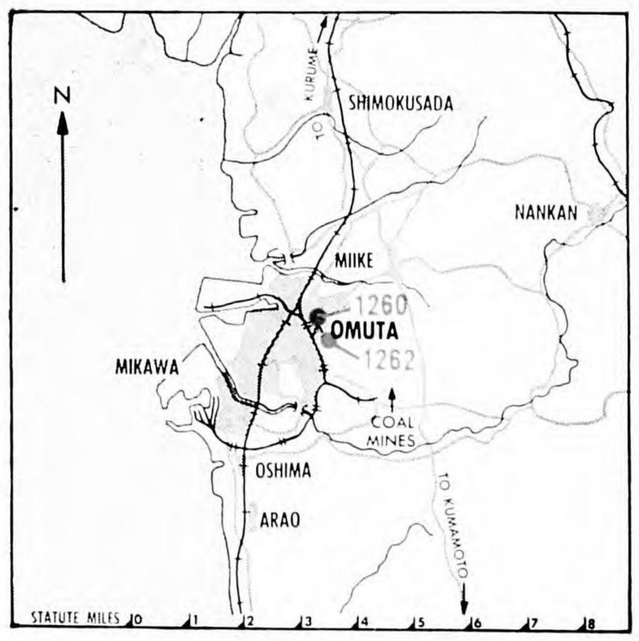
(Sekitan Yukwa Kojo)

OMUTA

(PETROLEUM)

33° 02′ N 130° 27′ E (Approx)
One of larger Japanese synthetic oil plants. Estimated cap 80,000 tons per year or about 5% Japanese synthetic oil cap. Fischer process. Produces about 60% gasoline, 30% Diesel oil, 1% lubricating oil, and some aviation gasoline. Coal, the raw material, is obtained from nearby Mitsui colliery. Located adjoining Miike Dyestuffs (TARGET 1243) and Oriental High Pressure Co, Plant A (TARGET 1244) in E Omuta.

(See maps on pages M-5, M-6 and M-8.)



TARGET 90.35—1260

MITSUI ZINC DISTILLERY

(Miike Seirensho)

OMUTA

(NON-FERROUS METALS)

33° 02′ N 130° 27′ E (Approx)
Largest high grade zinc plant in Japanese Empire; cap in 1943 estimated at 31,000 tons. Also produces large quantity of sulphuric acid. Located between Miike Machinery Works (TARGET 1256) and Miike Dyestuffs (TARGET 1243), 2.2 mi NE of Miike Harbor. Plant site marked by about twelve tall stacks and ninety vents.

(See photos on pages 13, 14, 15, 16, 17 and 18; maps on pages M-5, M-6 and M-8.)

KURUME 90.35 TARGETS 1260, 1262 (OMUTA REGION)

3649—Kurume—16—First Proof

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KURUME 90.35 TARGET 1260 (OMUTA REGION)

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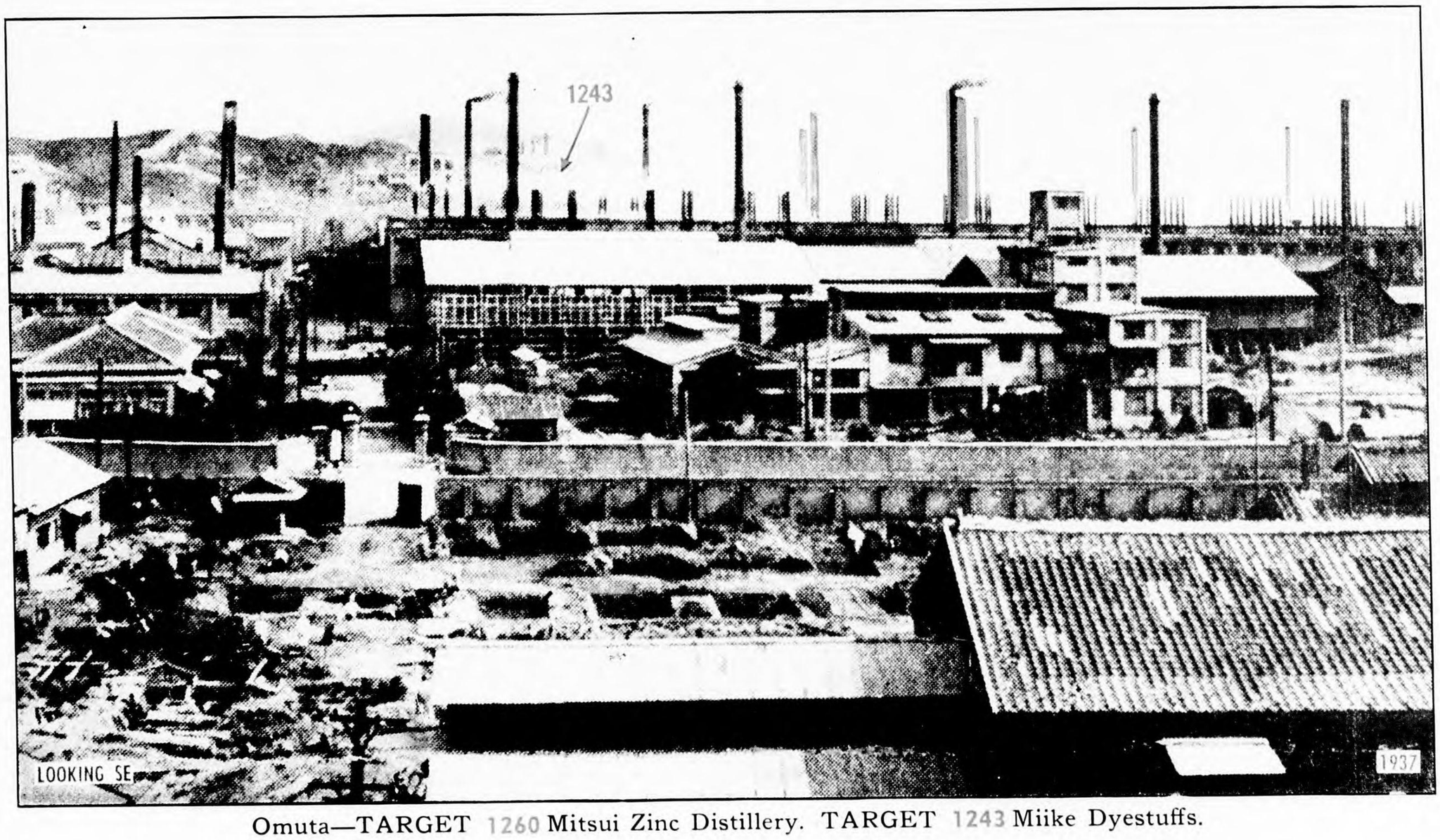
Omuta—TARGET 1260 Mitsui Zinc Distillery. TARGET 1243 Miike Dyestuffs.



Omuta—TARGET 1260 Mitsui Zinc Distillery. TARGET 1243 Miike Dyestuffs.

KURUME 90.35 TARGET 1260 (OMUTA REGION)

3649—Kurume—17.—First Proof

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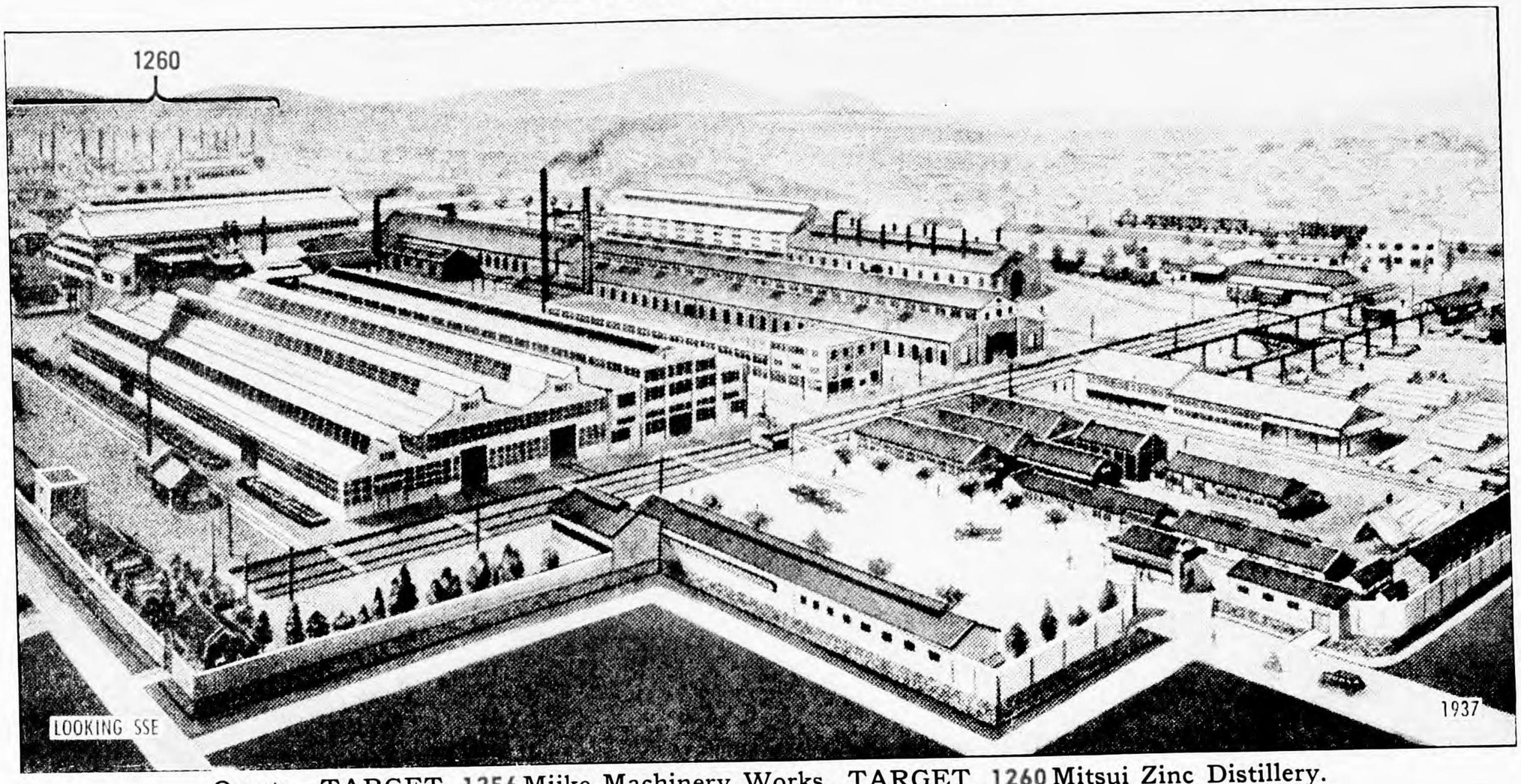
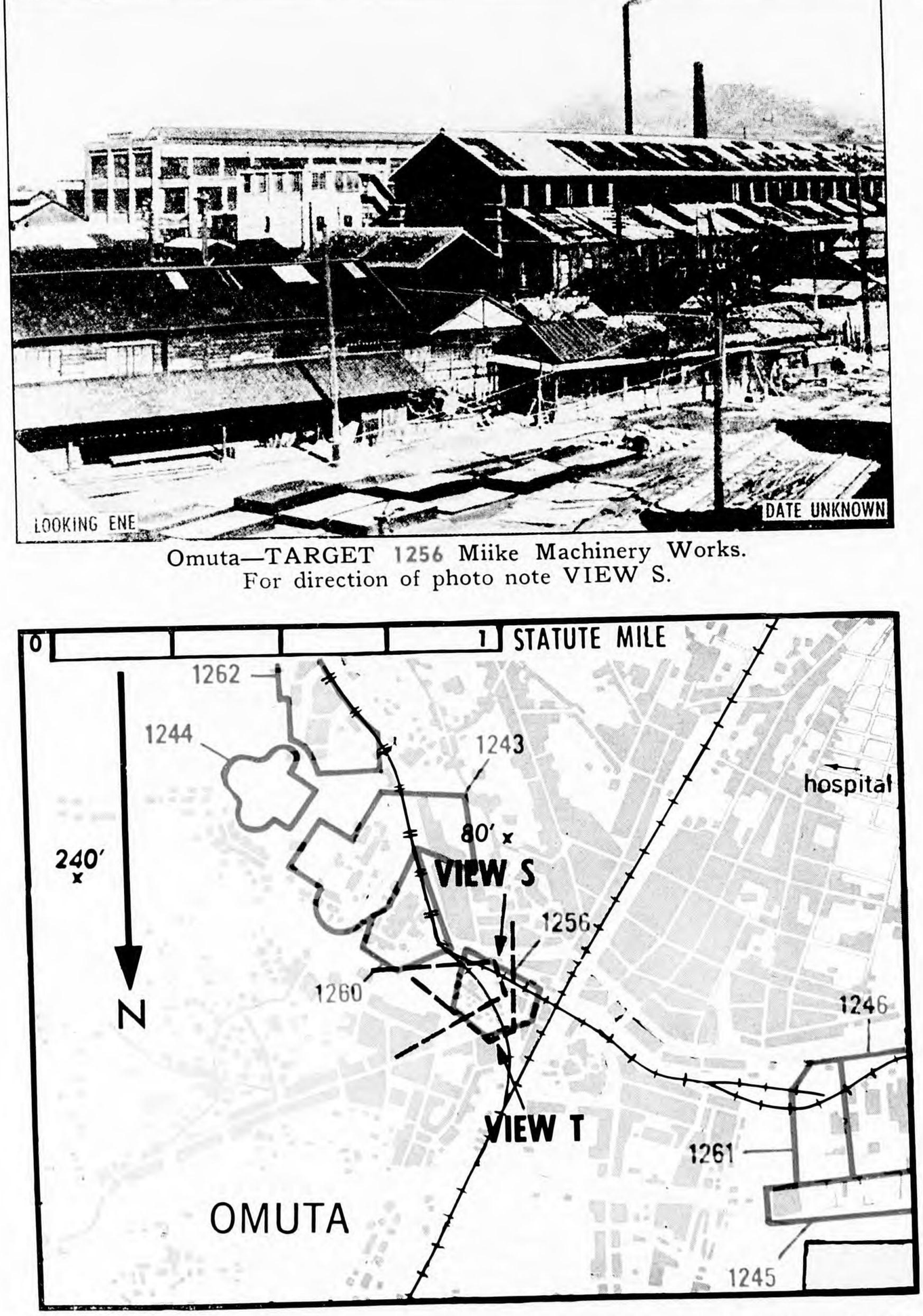
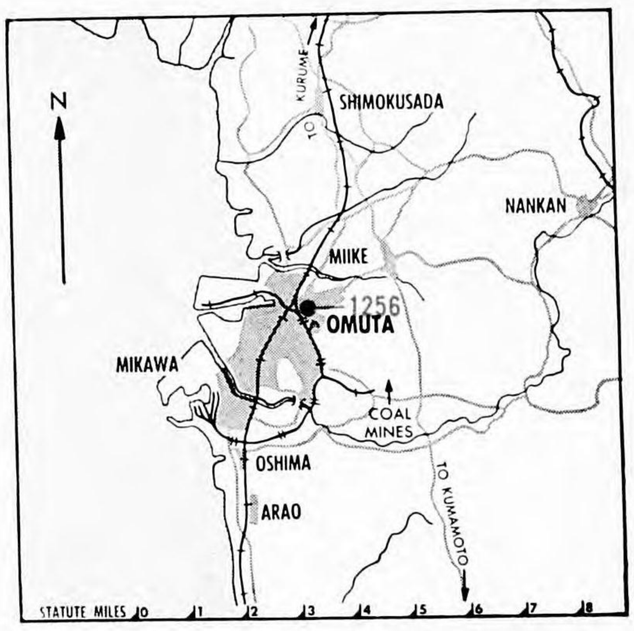
KURUME 90.35 TARGET 1260 (OMUTA REGION)



Omuta—TARGET 1256 Miike Machinery Works. TARGET 1260 Mitsui Zinc Distillery.
For direction of photo note VIEW T.

Omuta—TARGET 1256 Miike Machinery Works.
For direction of photo note VIEW S.





TARGET 90.35—1256

MIIKE MACHINERY WORKS

(Miike Seisakusho)

OMUTA

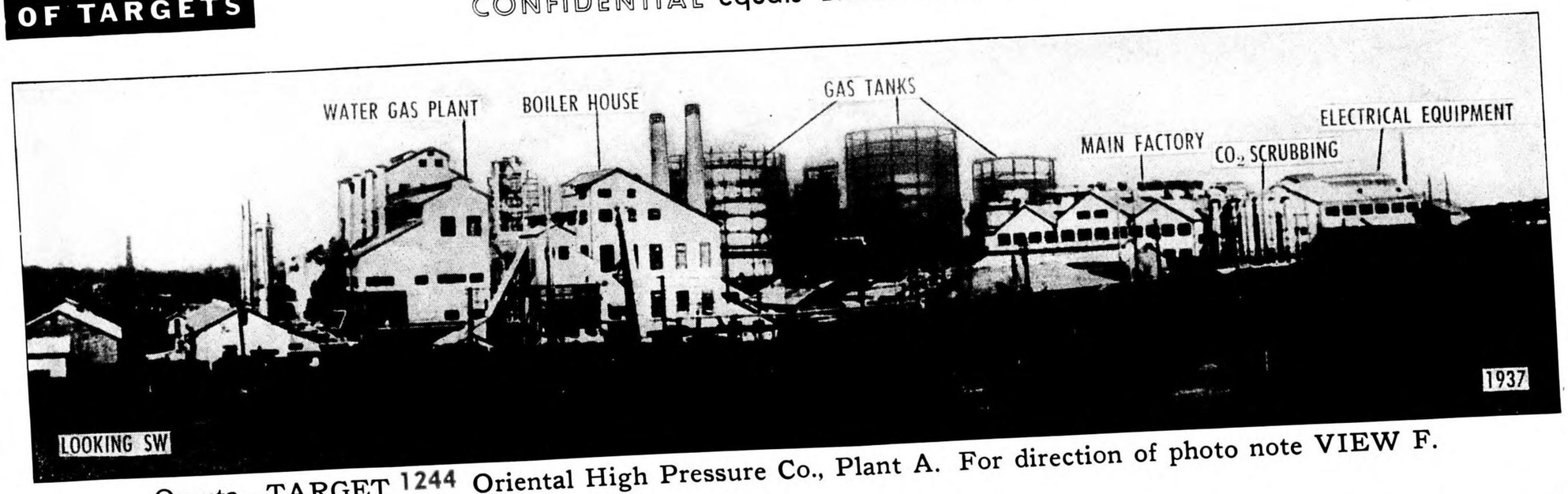
(MACHINERY)

33° 02′ N 130° 27′ E (Approx)—Large plant, manufactures and repairs colliery machinery (pumps, cutters, screening machines, etc.), large gas engines, electric motors. Also repairs marine engines. Manufactures and repairs all kinds of equipment for extensive Mitsui coal mines, chemical and metallurgical plants and railroads in Cmuta Area. Plant marked by a number of small and two large stacks. Construction of most bldgs appear to be metal or asbestos sheeting over metal frame, few ferro-concrete. Located between Kanegafuchi Spinning Mill and Mitsui Zinc Distillery (TARGET 1260) 2.2 mi NE of Miike Harbor.

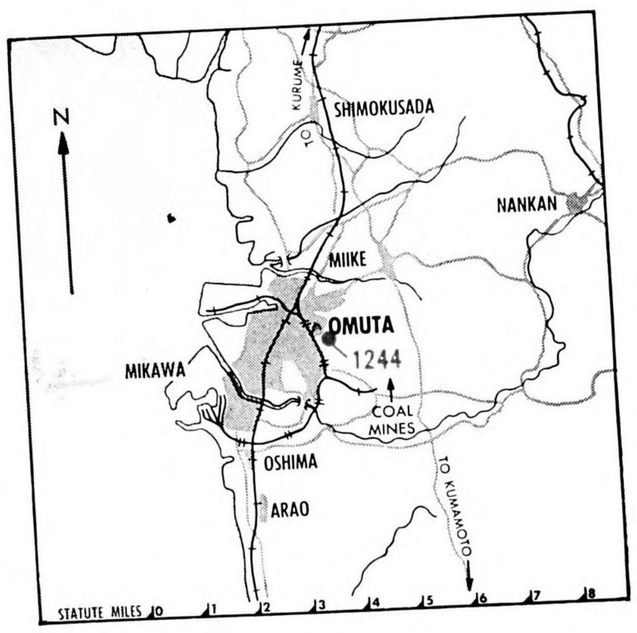
(See photos on pages 16 and 18; maps on pages M-5, M-6 and M-8.)

KURUME 90.35 TARGET 1256 (OMUTA REGION)

3646—Kurume-18—First Proof



Omuta—TARGET 1244 Oriental High Pressure Co., Plant A. For direction of photo note VIEW F.



TARGET 90.35— 1244

ORIENTAL HIGH PRESSURE CO., PLANT A

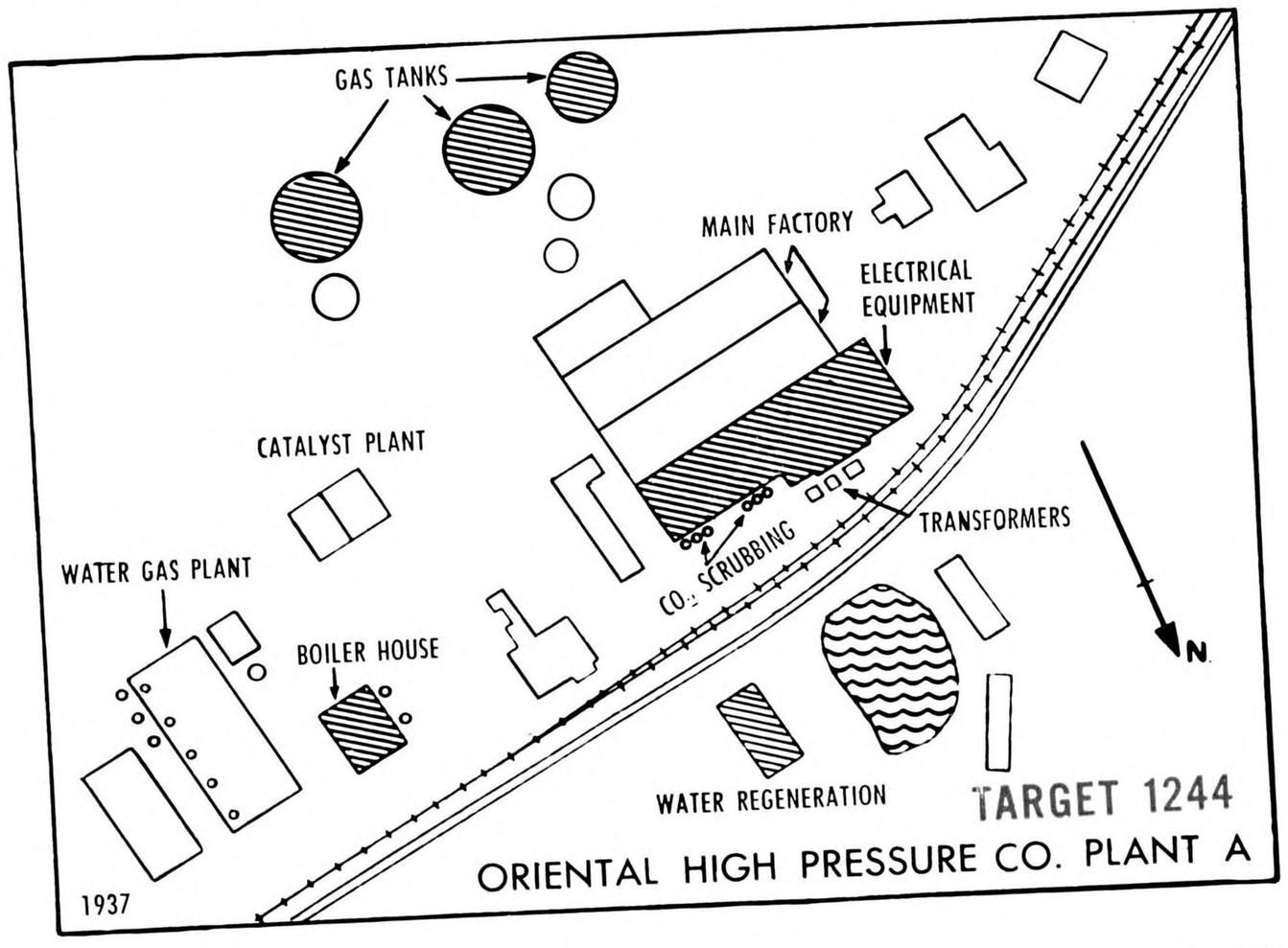
(Toyo Koatsu Kogyo)

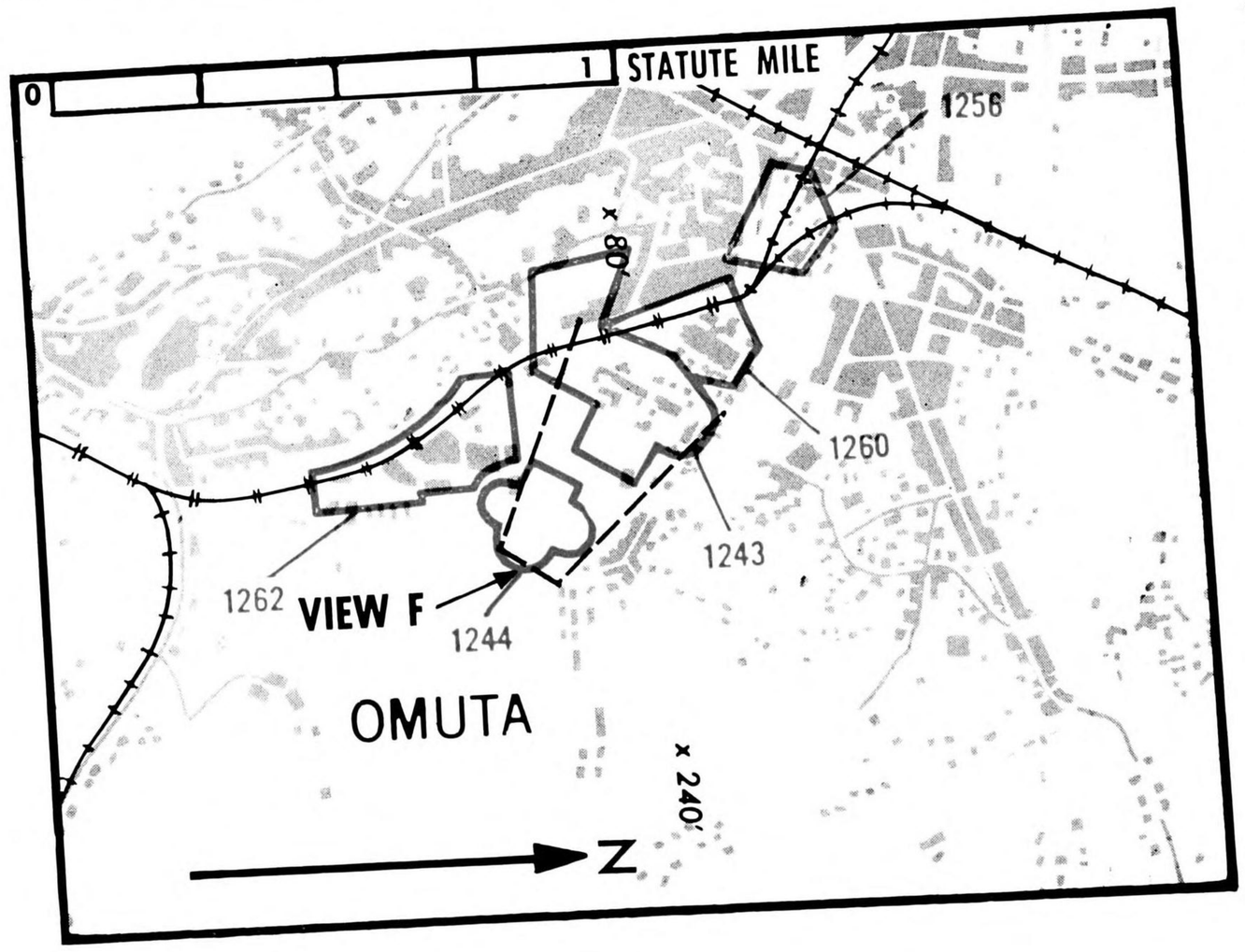
OMUTA

(CHEMICALS)

33° 01′ N 130° 28′ E (Approx)—Company has two plants in Omuta (Plants A and B—TARGETS 1244 and 1245). Plant A produces ammonia, Plant B acid and fertilizer. Estimated production of Plant A (1943) 37,500 tons ammonia and unknown amounts nitric acid and other nitrogen products. Plant A comprises water gas plant, gas holders, boiler house, main factory (measures 250 by 250 ft), three reservoirs with small dams adjoining two water cooling towers, and electrical equipment bldg. Bldgs of asbestos sheeting over steel frame. The critical points in the plant are the boiler house, gas generators and electrical equipment. Located 2.2 mi NE of Miike Harbor and immediately SE of Miike Dyestuffs (TARGET 1243).

(See photos on pages 14 and 19; maps on pages M-5, M-6 and M-8.)





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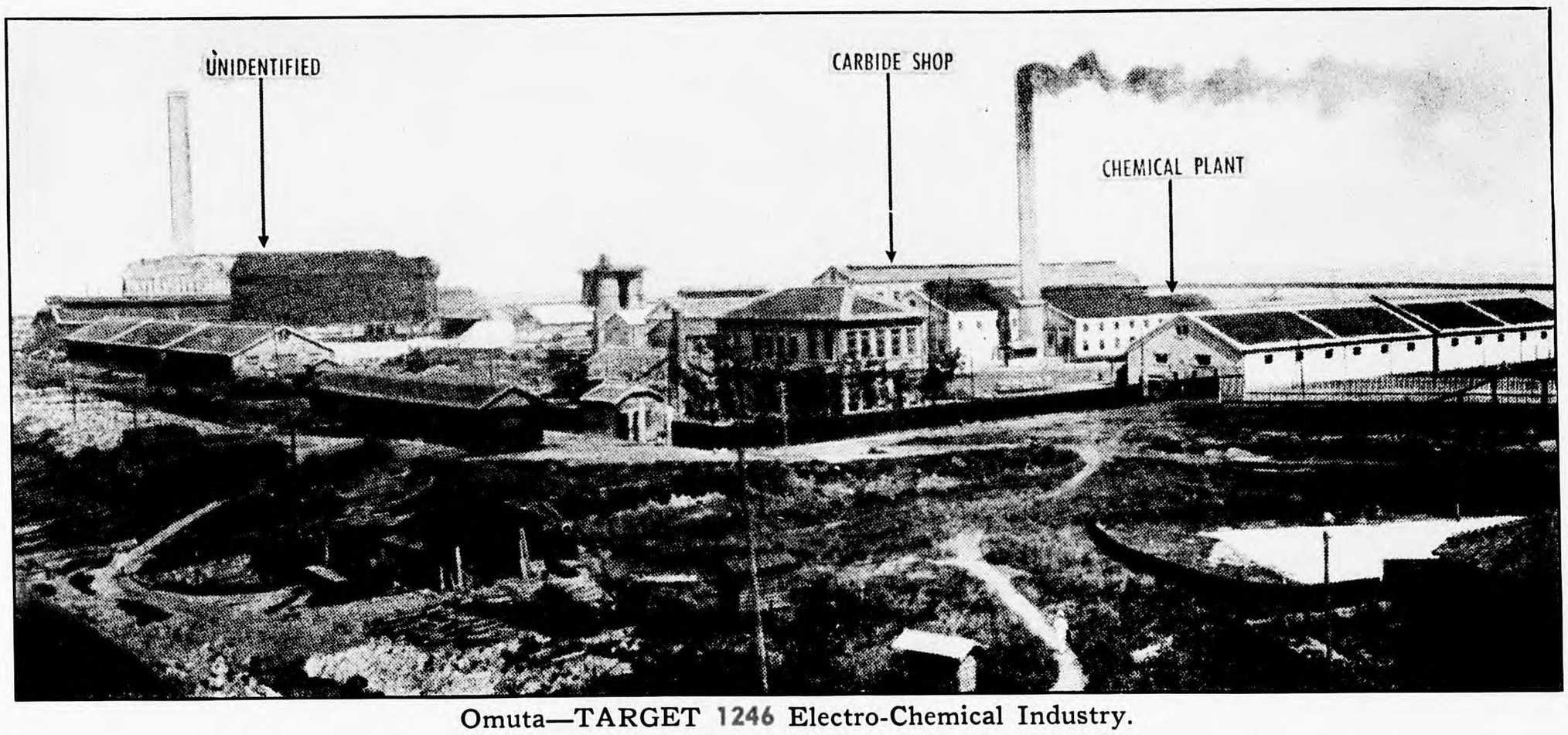
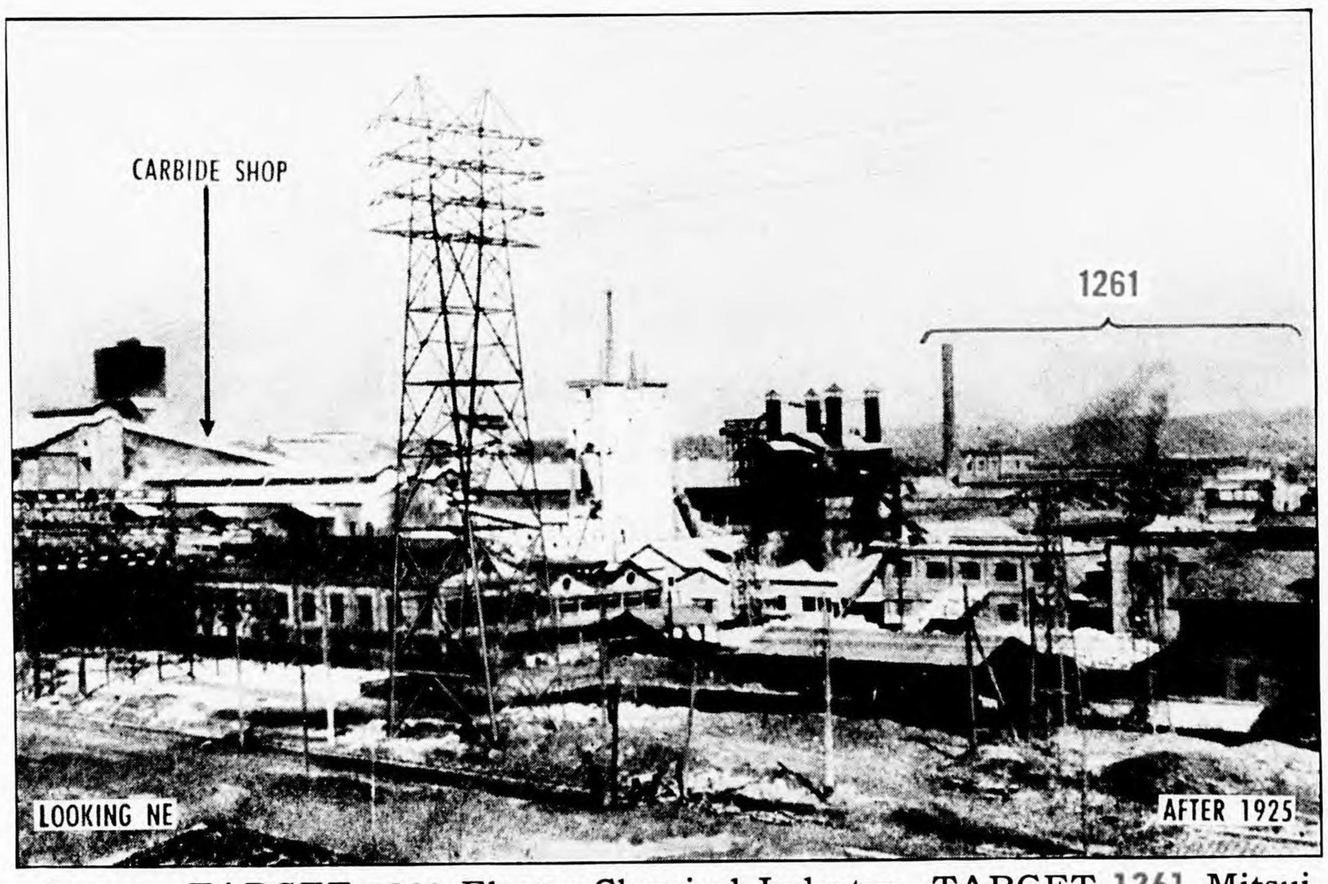
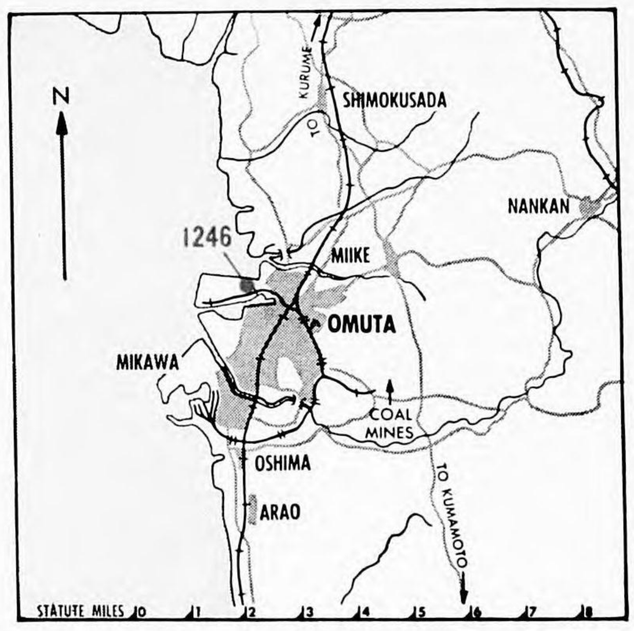


Omuta—TARGET 1246 Electro-Chemical Industry.



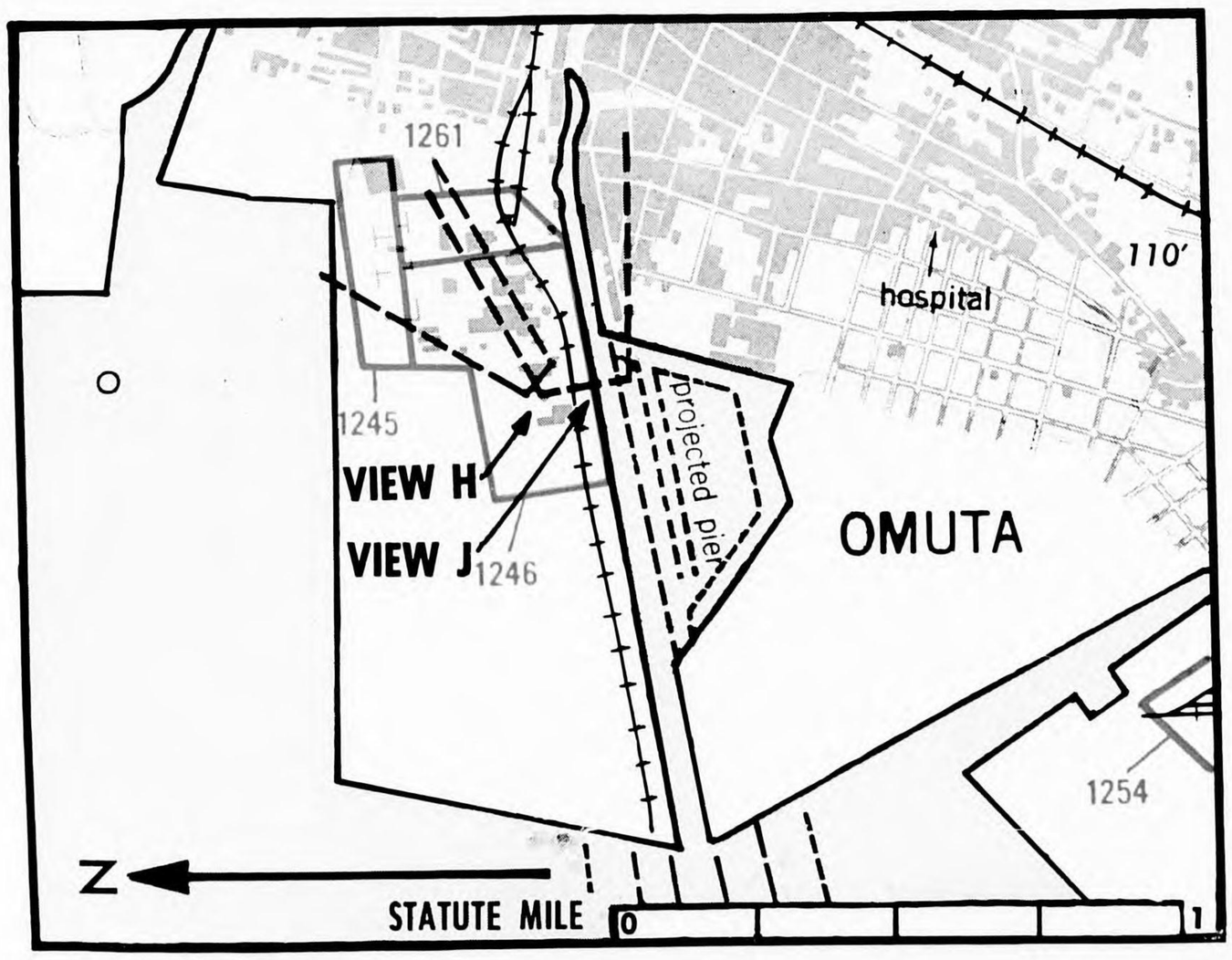
Omuta—TARGET 1246 Electro-Chemical Industry. TARGET 1261 Mitsui Electrolytic Zinc Refinery. For direction of photo note VIEW H.



TARGET 90.35—
1246 ELECTRO-CHEMICAL INDUSTRY
(Denki Kagaku)
OMUTA
(CHEMICALS)

33° 02′ N 130° 26′ E (Approx)—Estimated annual production (1943) 136,000 long tons of carbide; 75,000 long tons of cyanamide; also metallic silicon. Company operates a small cement plant on the compound, producing 400 bbls per day and has very small coke cap. Located 2 mi NNE of Miike Harbor and W of Mitsui Electrolytic Zinc Refinery (TARGET 1261) and S of Oriental High Pressure Co, Plant B (TARGET 1245).

(See photos on pages 20, 21 and 26; maps on pages M-5 and M-7.)



33649—Kurume-20—First Proof

KURUME 90.35 TARGET 1246 (OMUTA REGION)

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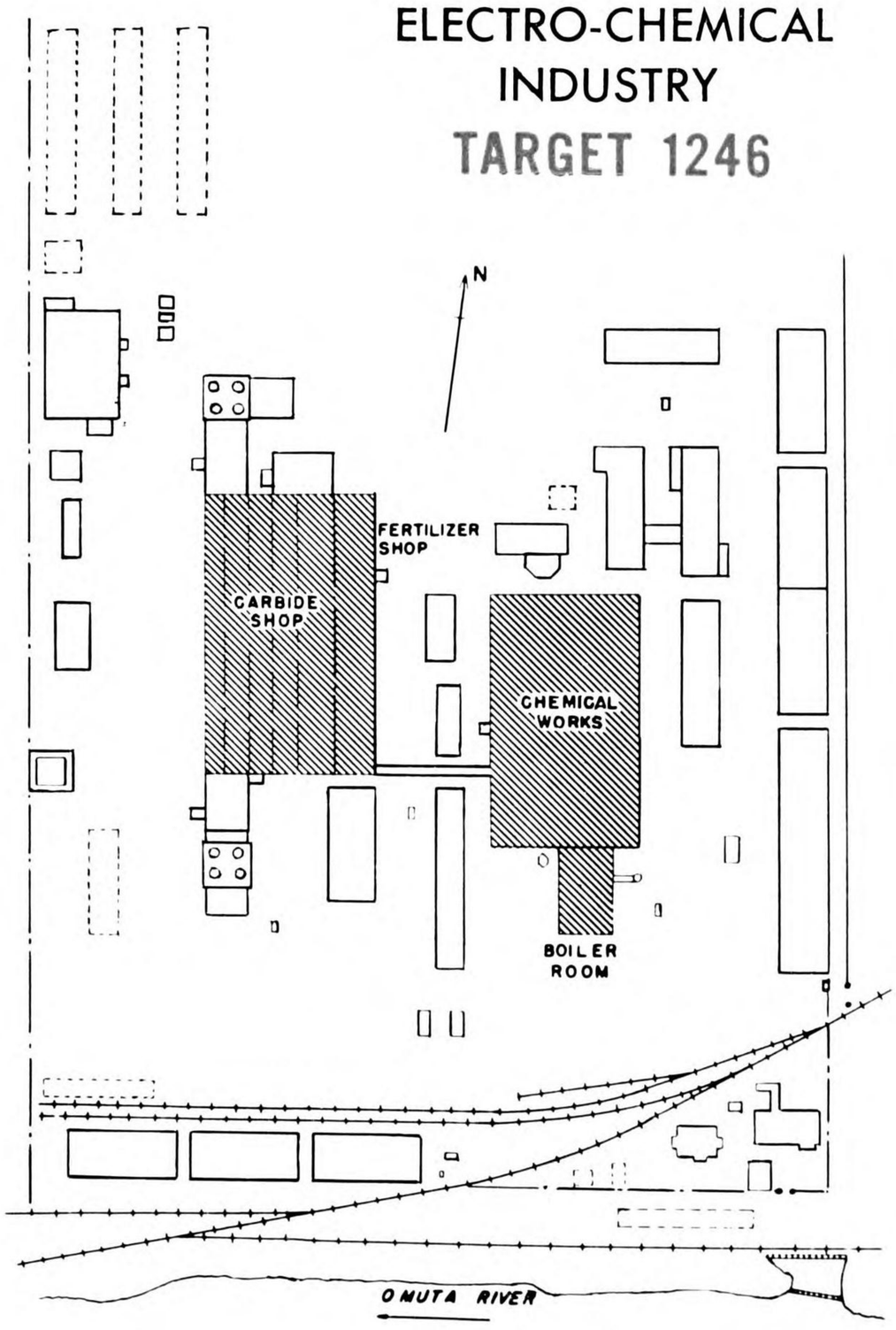
Omuta—TARGET 1246 Electro-Chemical Industry.
For direction of photo see VIEW J, page 20.

ELECTRO-CHEMICAL INDUSTRY
TARGET 1246



KURUME 90.35 TARGET 1246 (OMUTA REGION)

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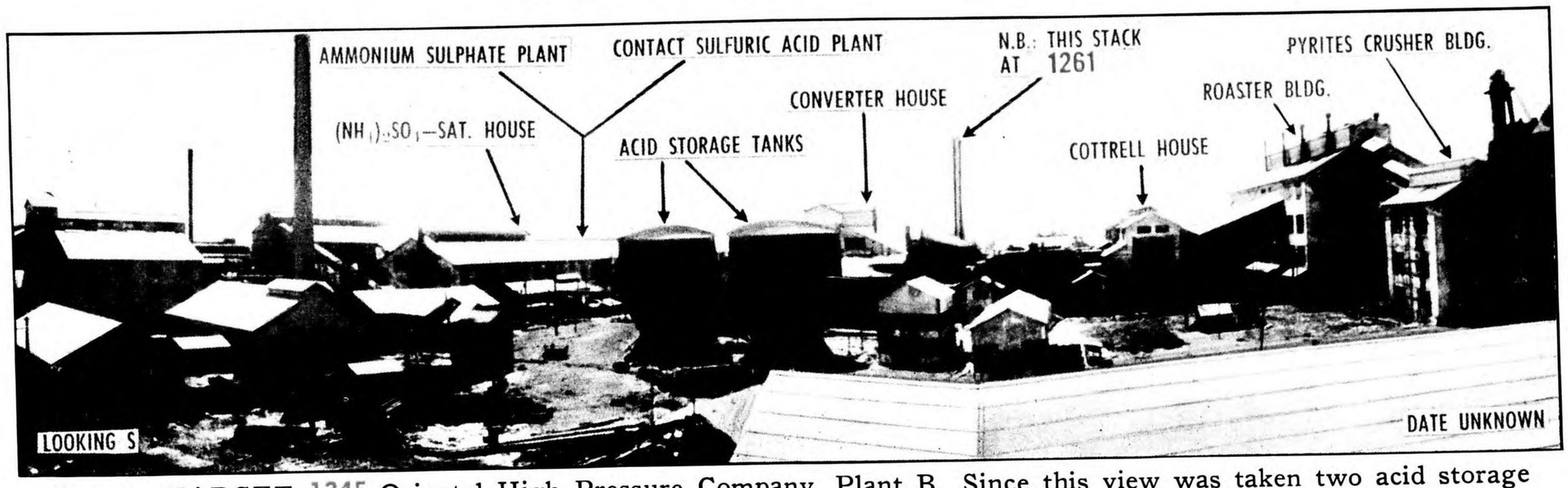
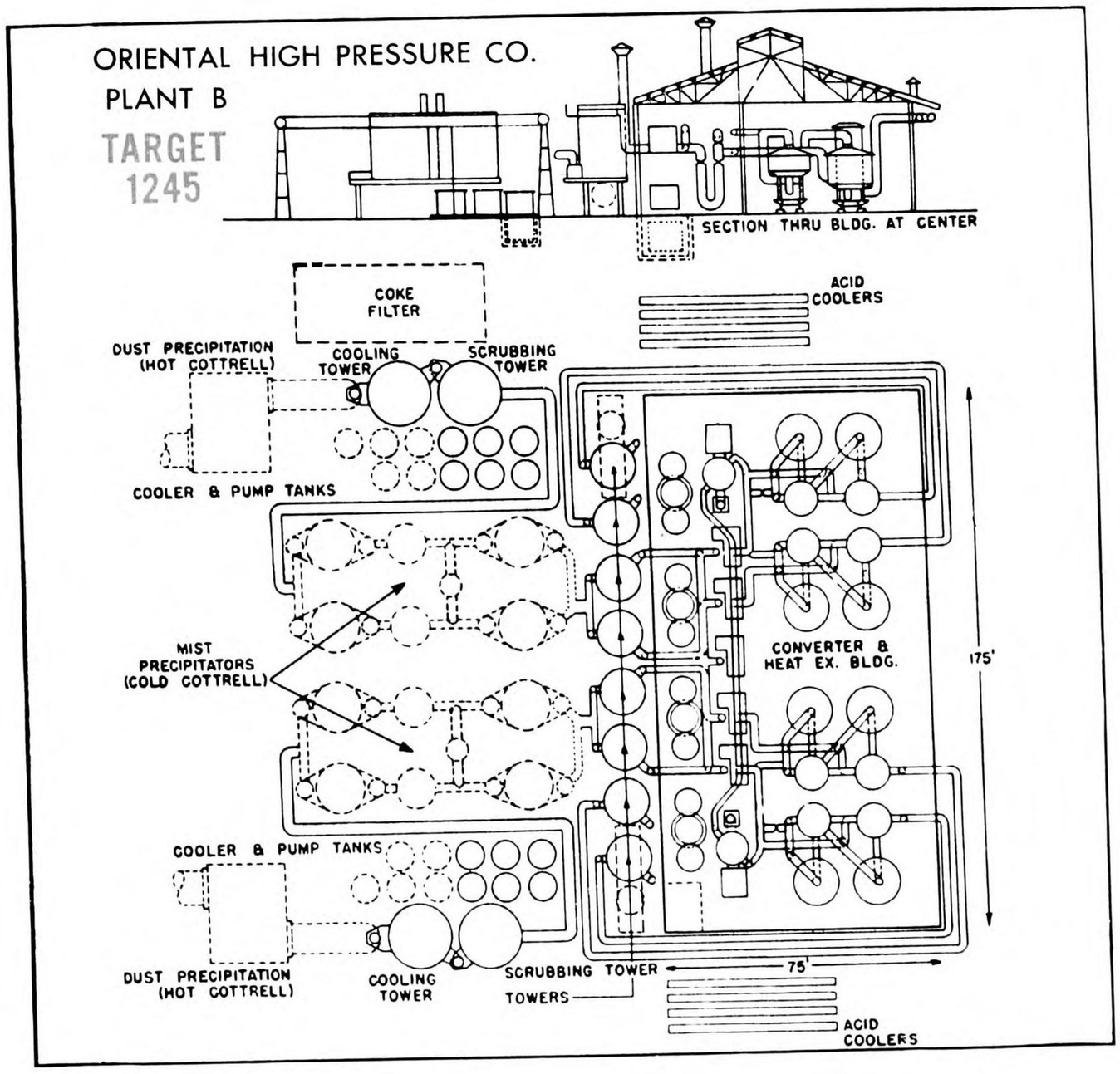
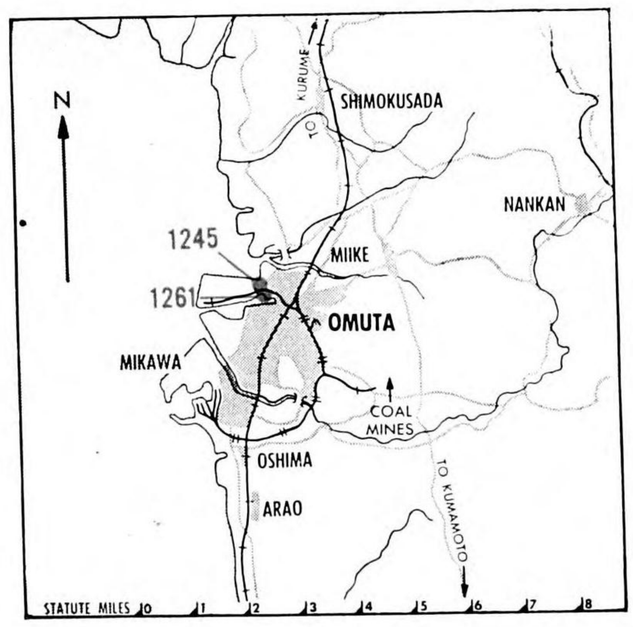
3649—Kurume-21—First Proof



Omuta—TARGET 1245 Oriental High Pressure Company, Plant B. Since this view was taken two acid storage tanks and a coke filter plant have been added. TARGET 1261 Mitsui Electrolytic Zinc Refinery. For direction of photo note VIEW G.





TARGET 90.35—1245

ORIENTAL HIGH PRESSURE CO., PLANT B

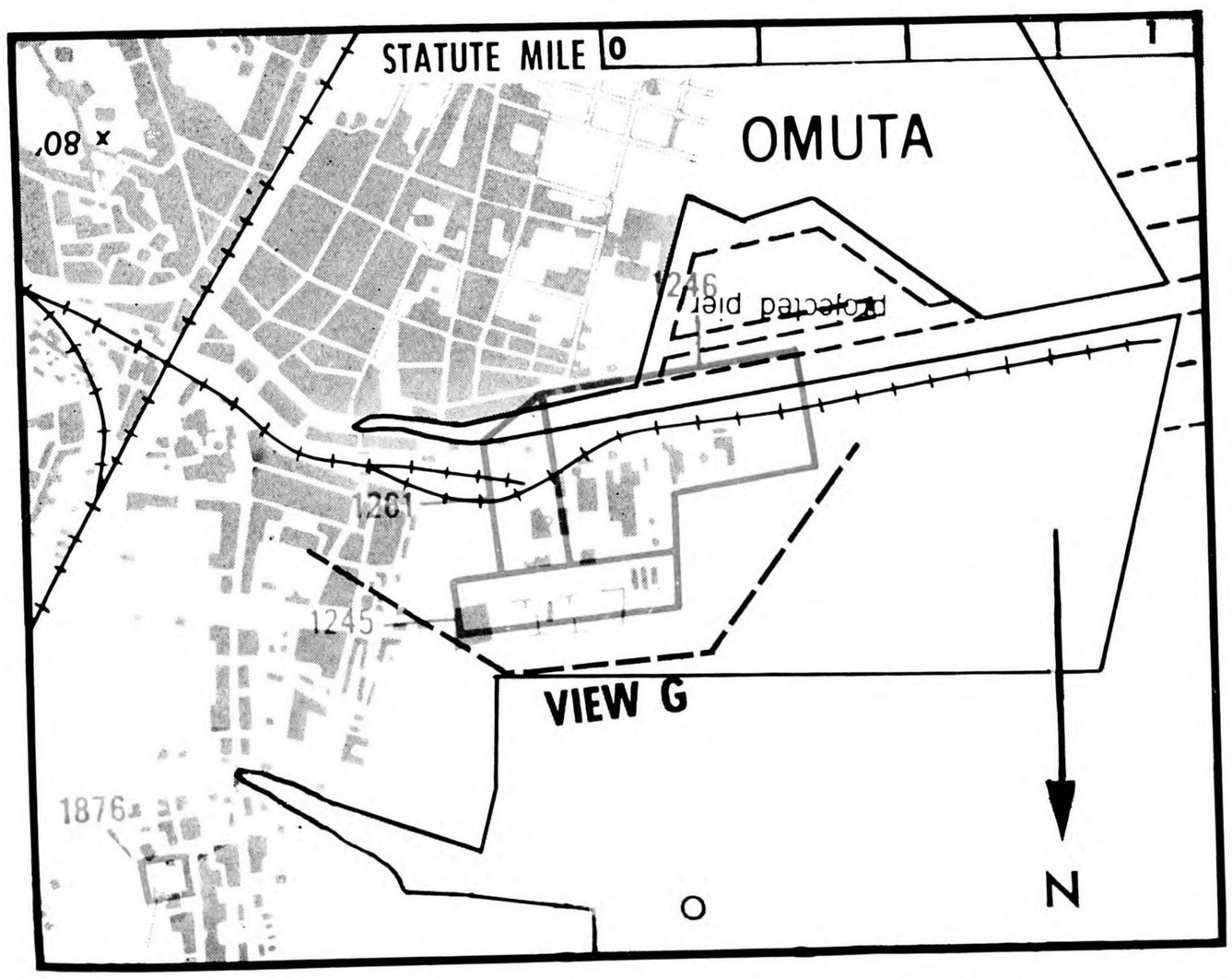
(Toyo Koatsu Kogyo)

OMUTA

(CHEMICALS)

33° 02′ N 130° 26′ E (Approx)—Large contact sulphuric acid and ammonium sulphate plants. (See Oriental High Pressure Co, Plant A, TARGET 1244). Plant B comprises: converter and cottrell houses, coke filter bldg, large roaster and crusher bldgs, four drum-shaped acid storage tanks, saturating house. Compound is marked by one large stack and the four acid storage holders. Destruction of the synthetic ammonia plant of this Co (TARGET 1244) would severely impair its usefulness to the Japanese. Located 2.1 mi NNE of Miike Harbor, directly N of electro-chemical industry (TARGET 1246) and Mitsui Electrolytic Zinc Refinery (TARGET 1261).

(See photo on page 22; maps on pages M-5 and M-7.)



TARGET 90.35—1261

MITSUI ELECTROLYTIC ZINC REFINERY

(Mitsui Aen Mekki Seirensho)

OMUTA

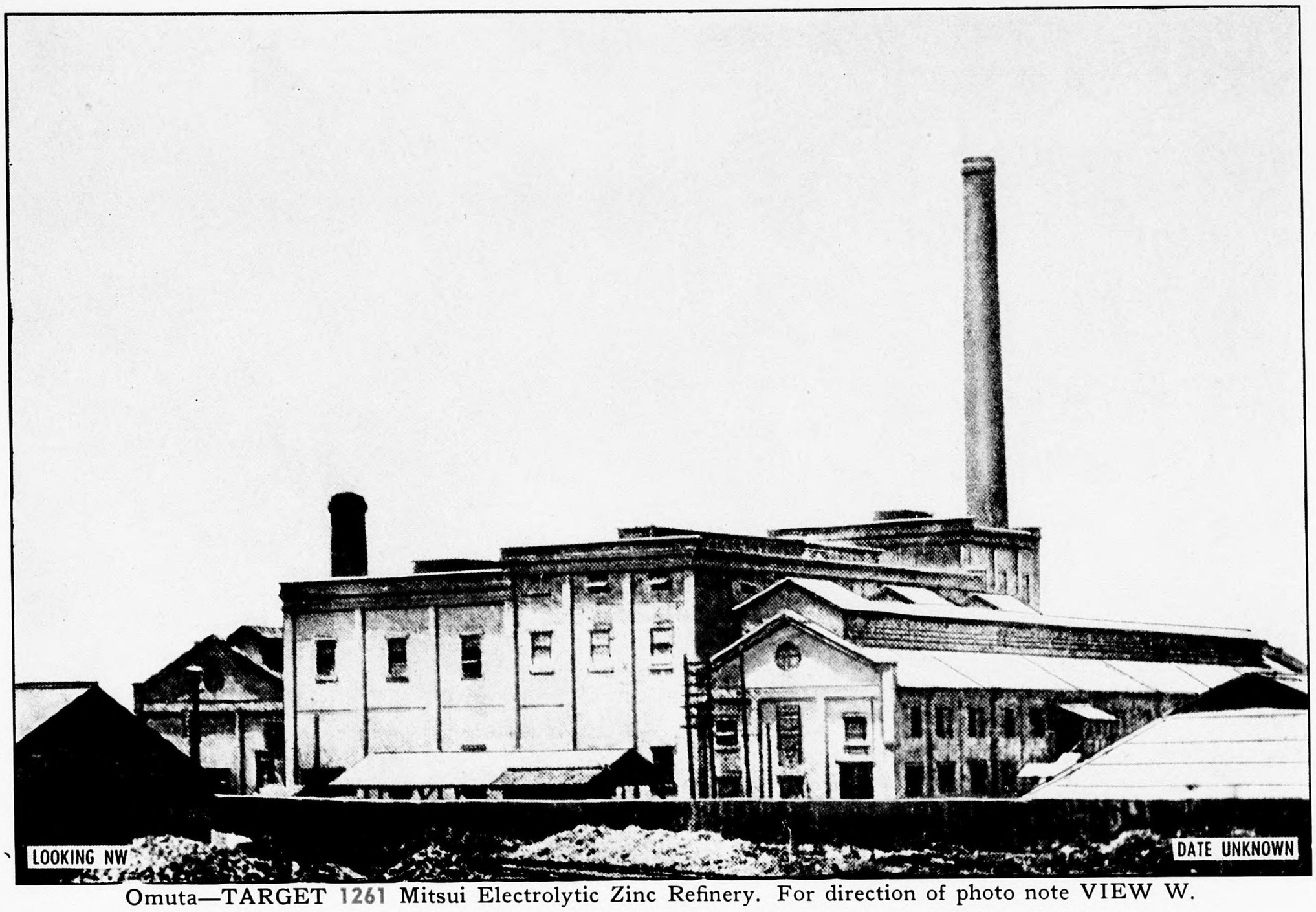
(NON-FERROUS METALS)

33° 02′ N 130° 26′ E (Approx)—Very important zinc refinery produces 6000 tons of high-grade zinc (11% Japanese capacity), and large quantity of sulphuric acid. Located 2 mi NNE of Miike Harbor, between Oriental High Pressure Co, Plant B (TARGET 1245) on the N, and Electrochemical Industry (TARGET 1246) on the W. Heavy ferro-concrete bldgs with one short thick stack and one tall stack.

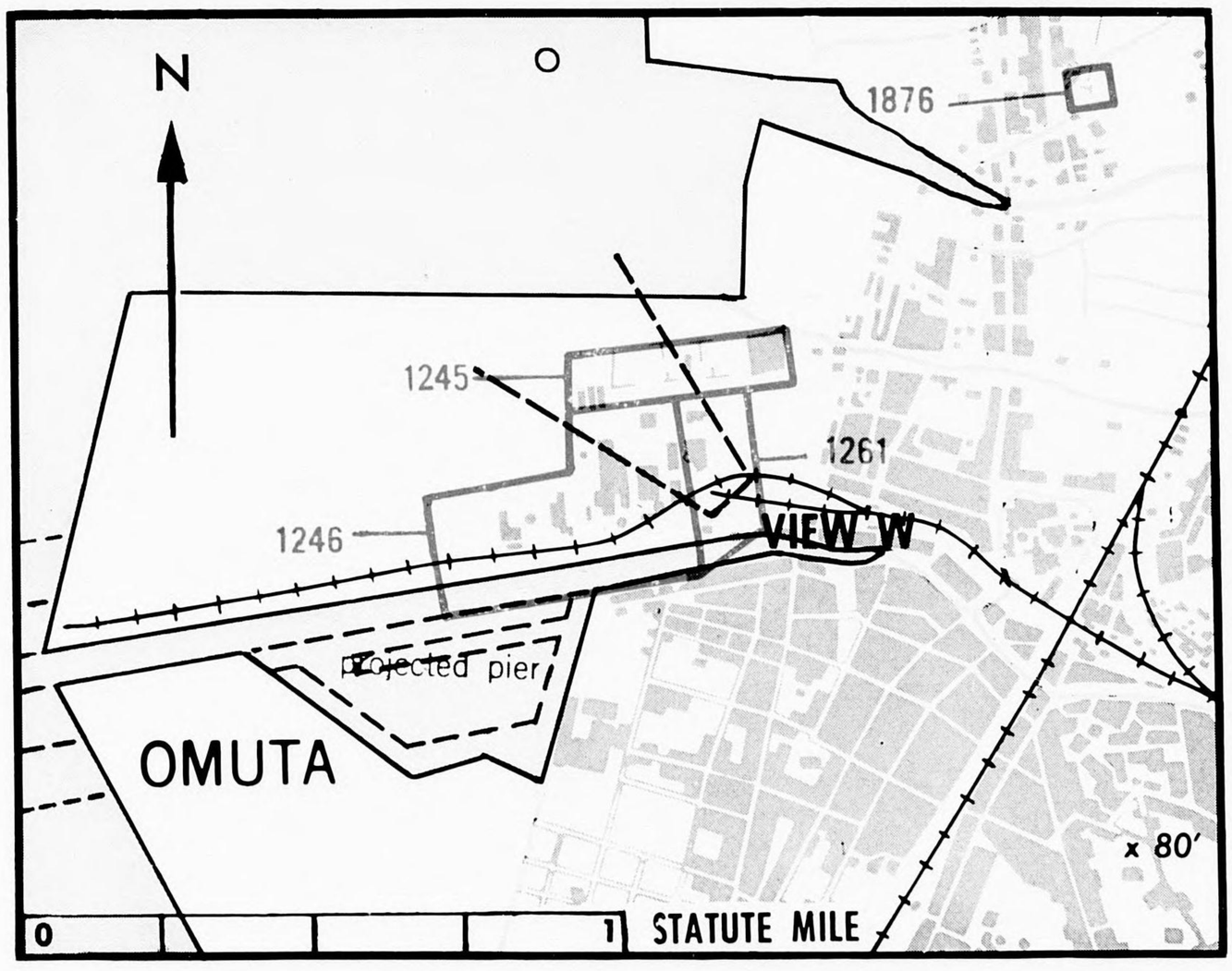
(See photos on pages 20, 22 and 23; maps on pages M-5 and M-7.)

KURUME 90.35 TARGETS 1245, 1261 (OMUTA REGION)

3649—Kurume—22—First Proof



Omuta—TARGET 1261 Mitsui Electrolytic Zinc Refinery. For direction of photo note VIEW W.



KURUME 90.35 TARGETS 1245, 1261 (OMUTA REGION)

33649—Kurume—23—First Proof

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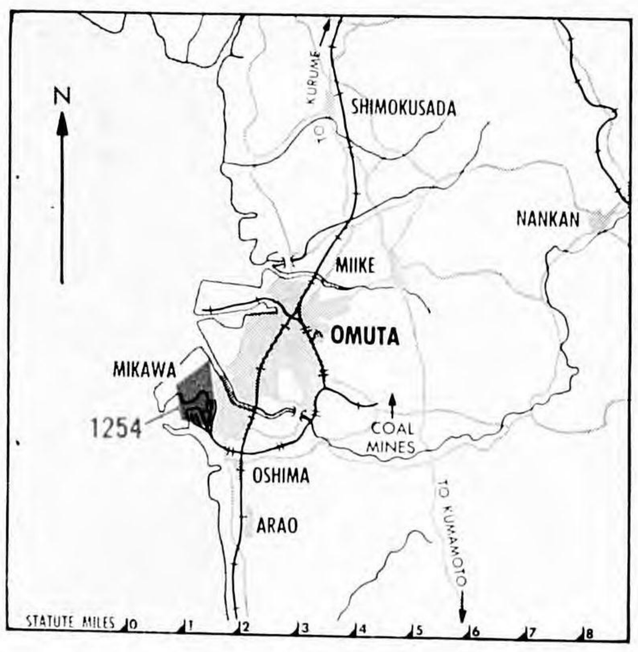
Omuta—TARGET 1254 Miike Harbor. TARGET 1249 Omuta No. 1 Steam Power Plant. Site of TARGET 1595 Omuta No. 2 Steam Power Plant (Minato). For direction of photo note VIEW L.



TARGET 90.35— **1254**

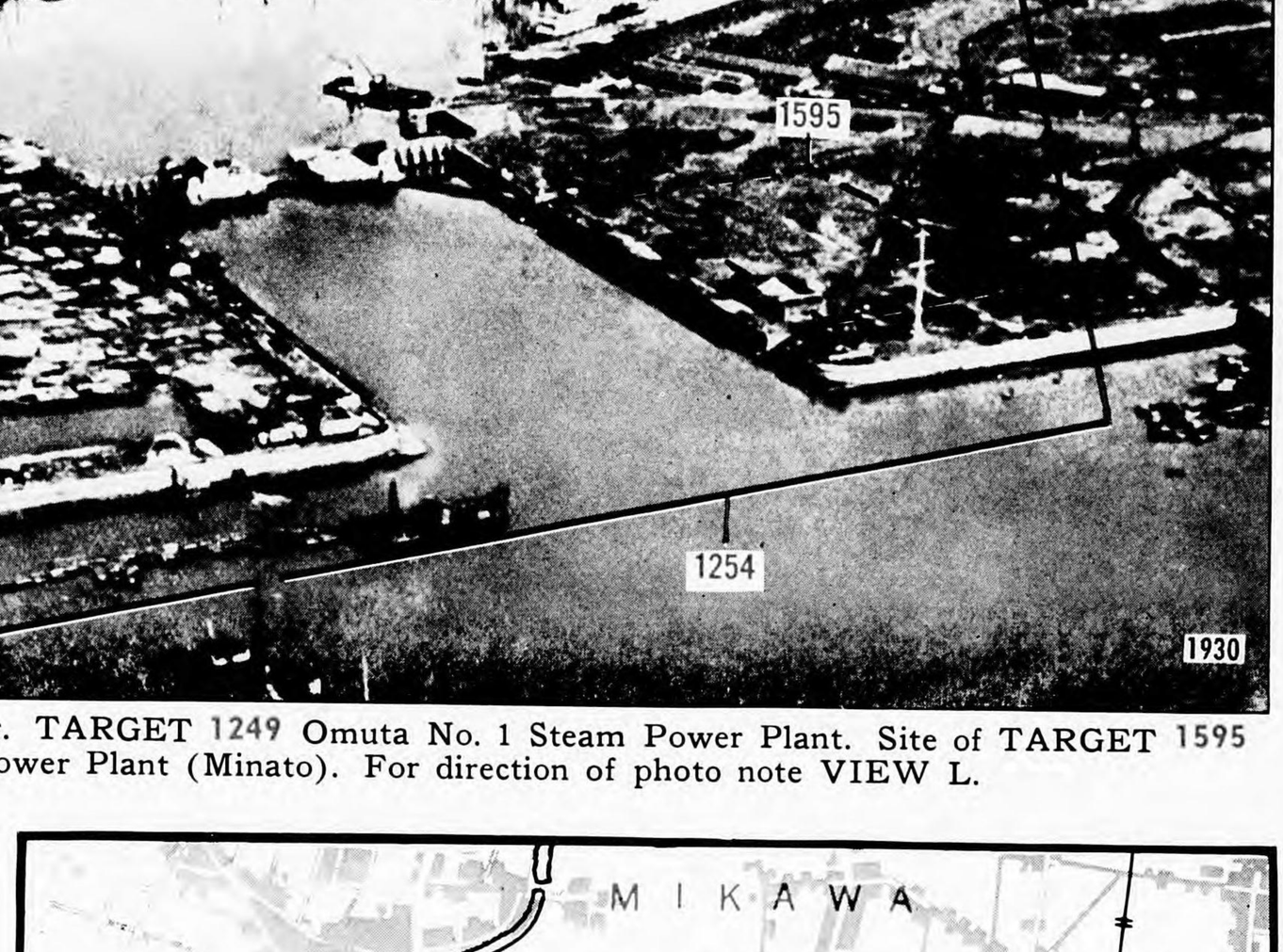
MIIKE HARBOR

(Harbor Facilities)

OMUTA

33° 00′ N 130° 25′ E (Approx) — Very important coal exporting port. Comprises 125 acre inner harbor and 32 acre "wet dock", connected by dock gate 66 ft wide. At E side of wet dock is 1380 ft quay, equipped with three electrically operated loaders, each capable of loading 5000 tons every twenty-four hrs. Four ships up to 3,000 tons can be accommodated at the quay. These loaders and the dock gate are the critical equipment. Extensive coal storage and loading yard of Mitsui Mines RR parallels E side of wet dock and serves the three loaders. Five rows of trestles over brick tunnels provides storage above tunnels and loading on electric RR below. Spurs connect tunnels with special loaders on loading quay. At S side of wet dock a 300 ft general cargo pier; about twelve whses near it. A new 600 ft wharf with fixed 80 ton crane at the center located near NE corner of wet dock. Just outside the wet dock lock gates there is a new 300 ft wharf along the N side of the channel. Coal bunkering pier 600 ft S of entrance to wet dock, on the E side of Inner Harbor, can load at rate of 5000 ton per day. Minimum depth alongside 31 ft. Three floating cranes three to fifteen ton lifting cap operate in Miike Harbor. Located 1.8 mi SW of Omuta.

(See photos on pages 24, 25, 26, 30 and 31; maps on pages M-5, M-7 and M-9.)



3649—Kurume—24—First Proof

KURUME 90.35 TARGET 1254 (OMUTA REGION)

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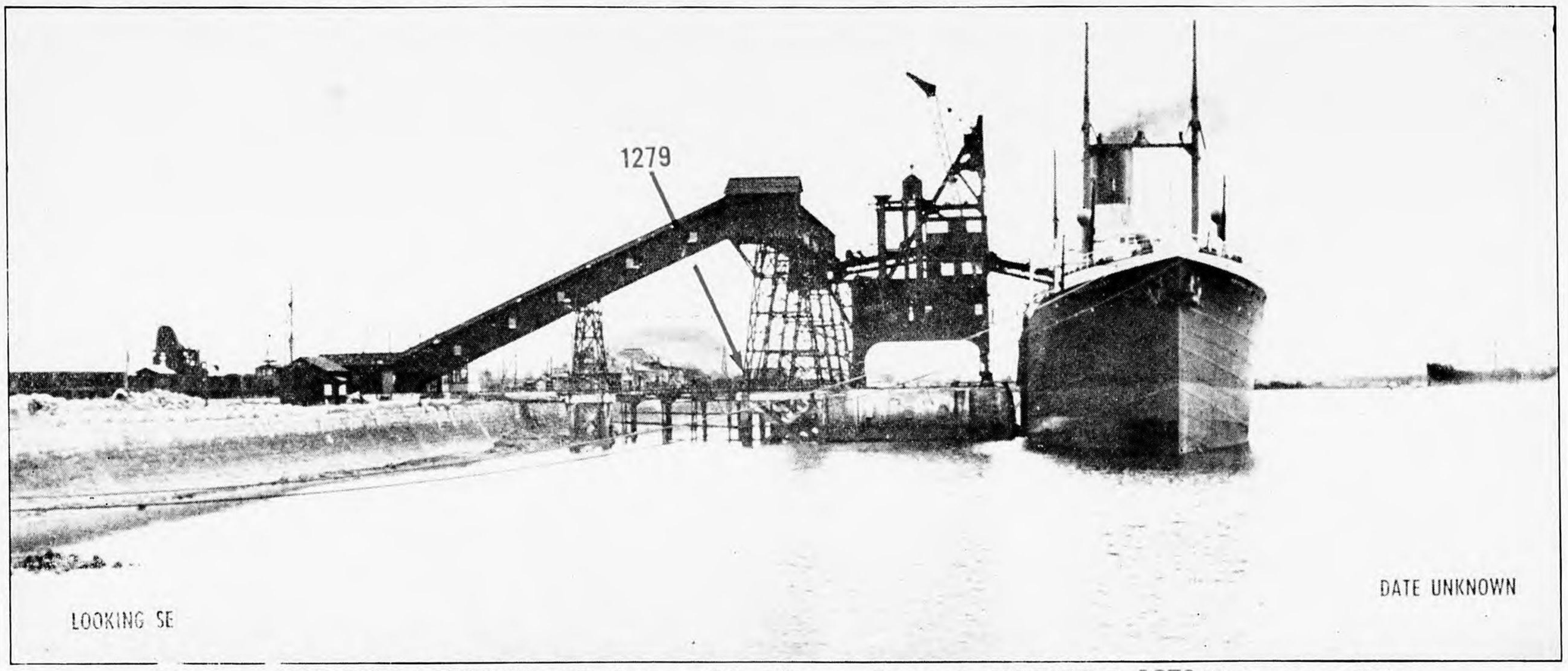
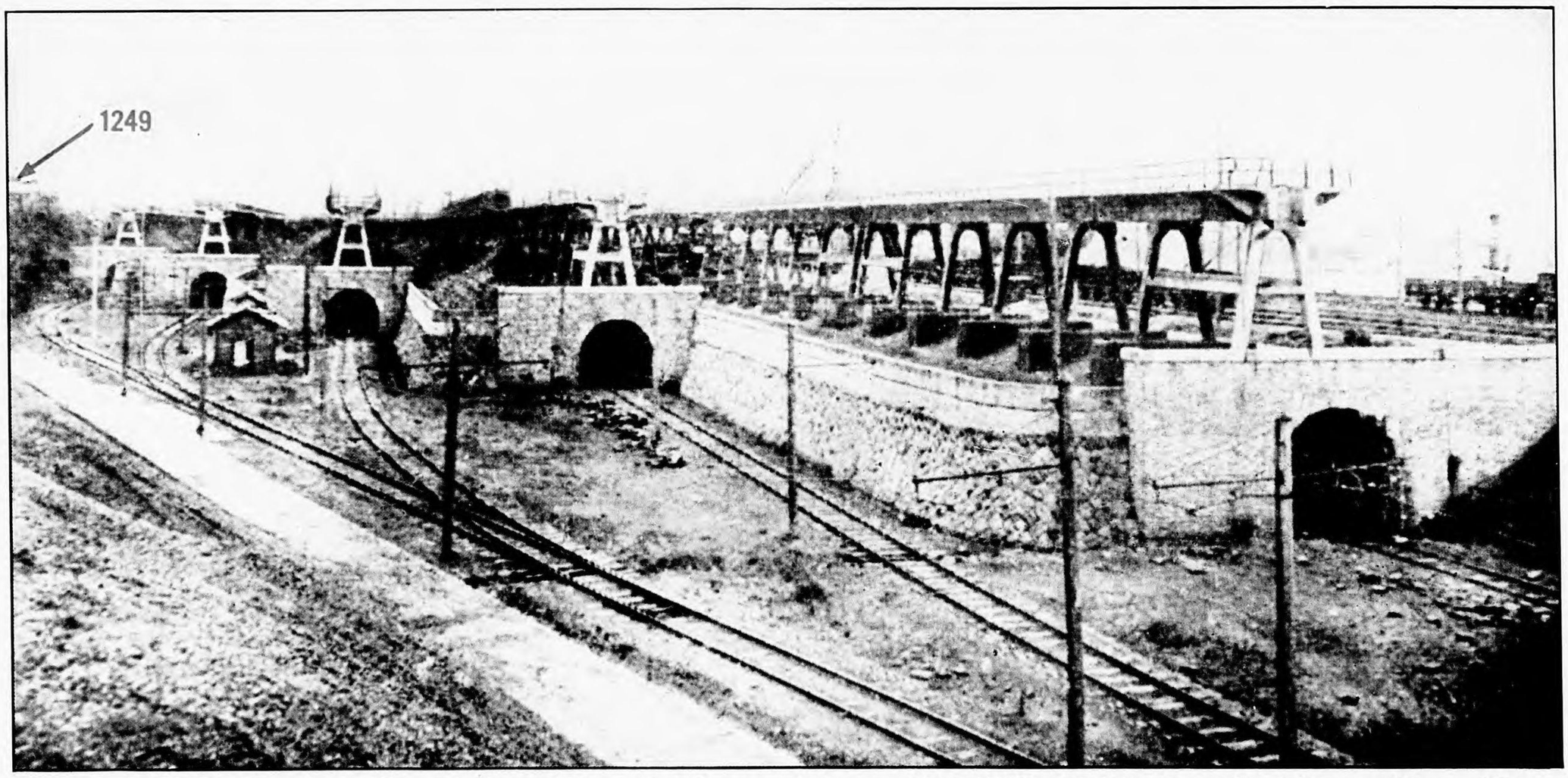
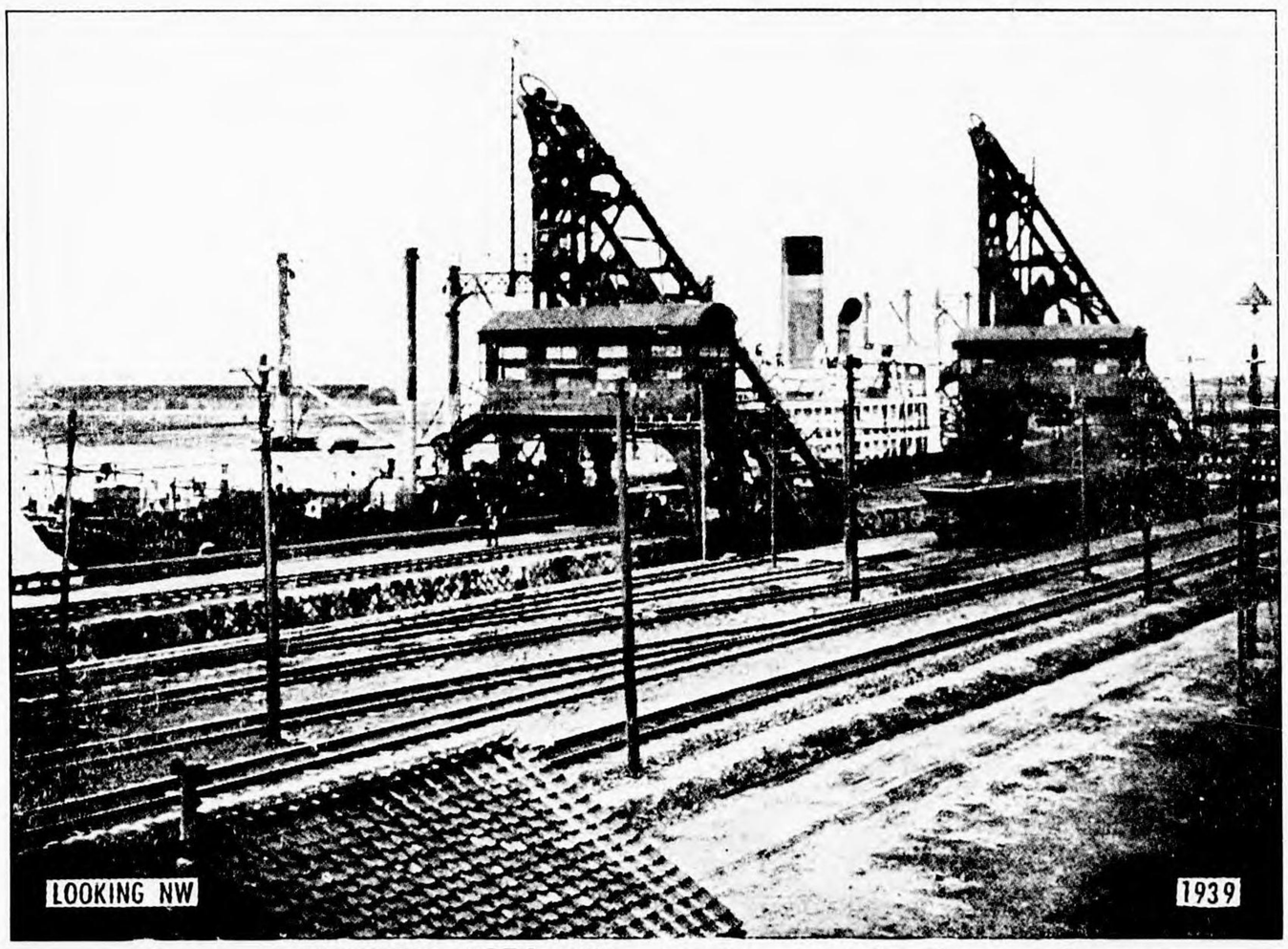


Omuta—TARGET 1254 Miike Harbor coal loading equipment. TARGET 1279 Yotsuyama Mine.



Omuta—TARGET 1254 Miike Harbor. RR carloading equipment. TARGET 1249 Omuta No. 1 Steam Power Plant.
For direction of photo see VIEW P, page 24.



Omuta—TARGET 1254 Miike Harbor coal loading equipment.
For direction of photo see VIEW O, page 24.

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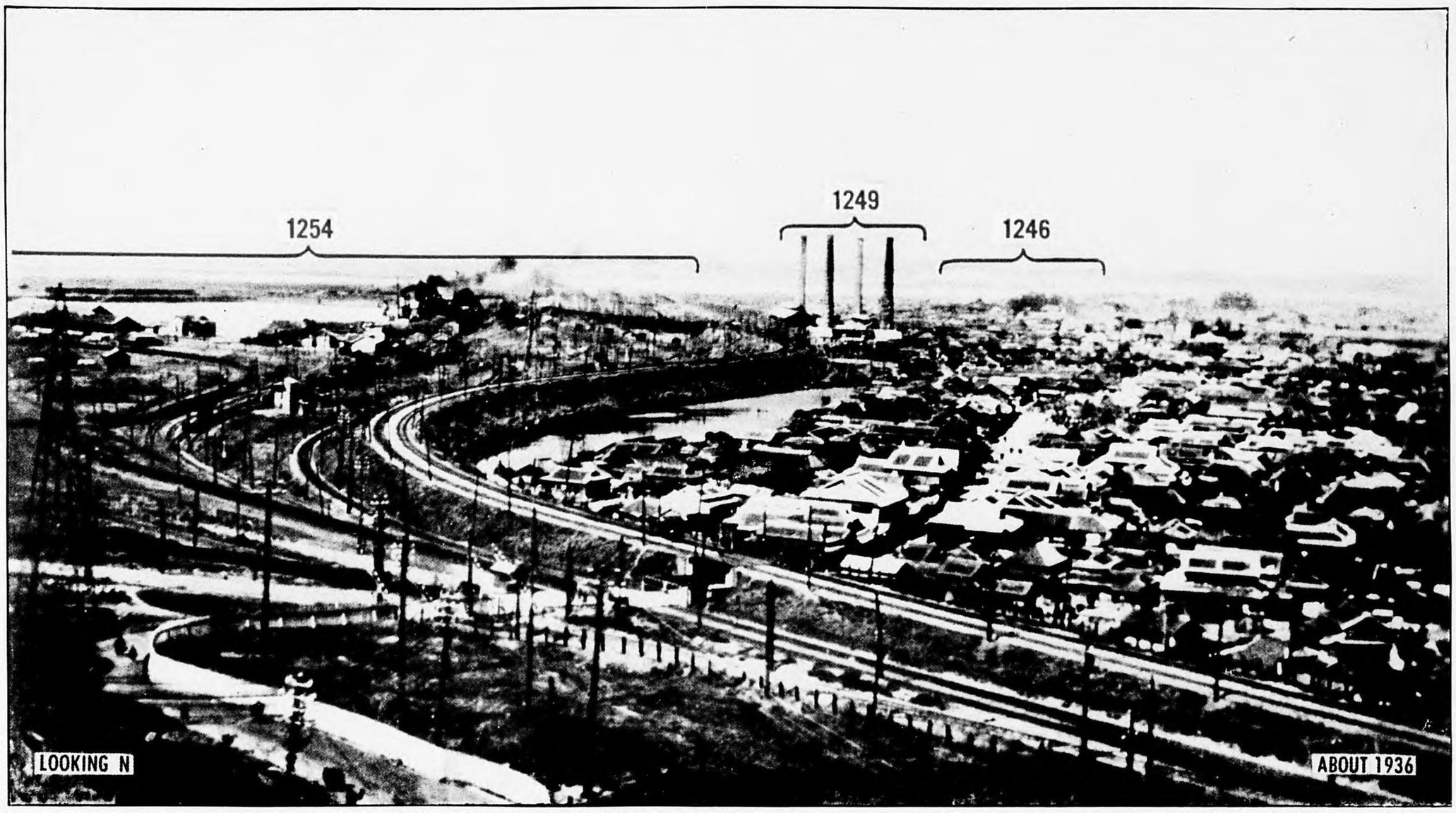
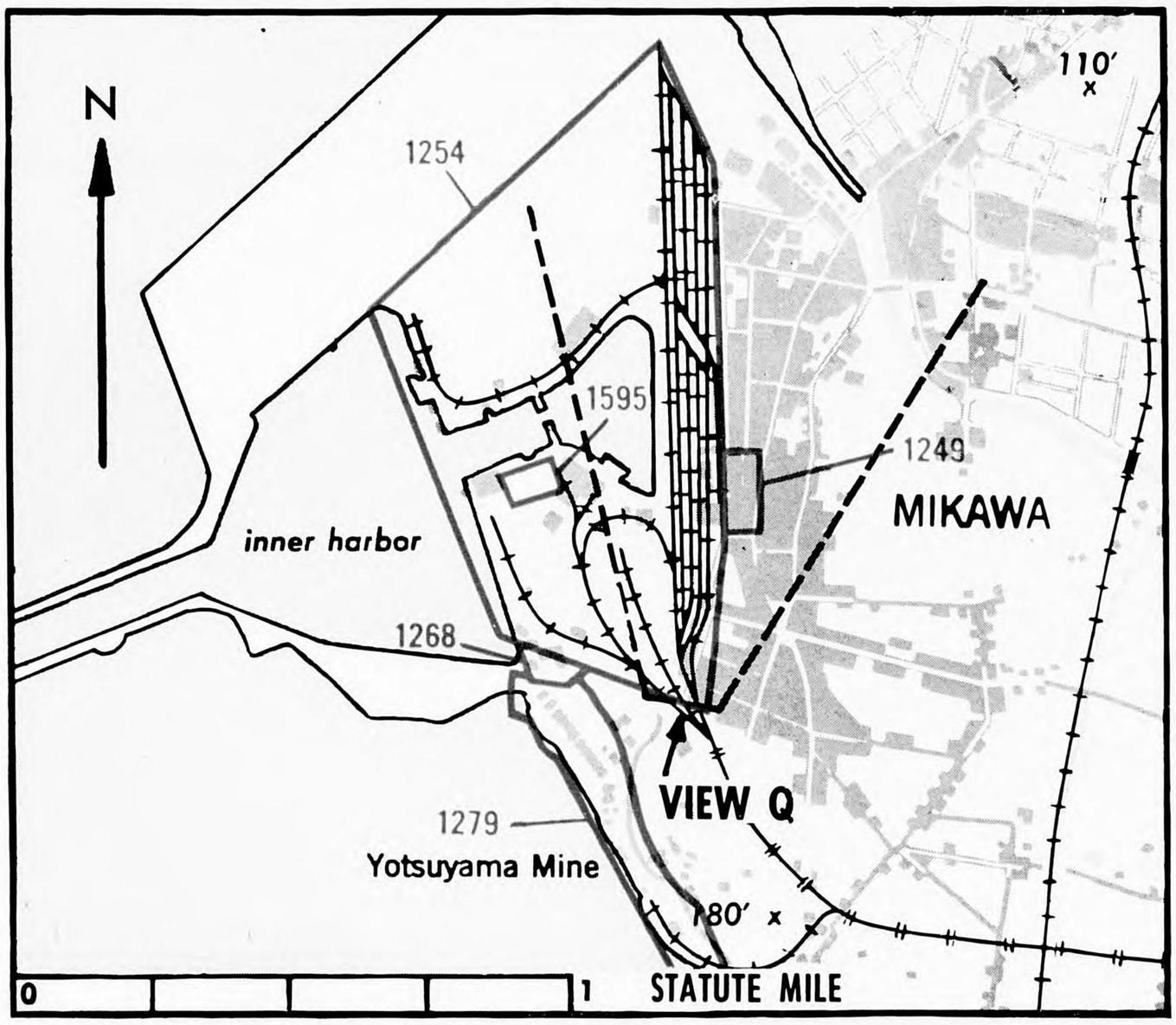
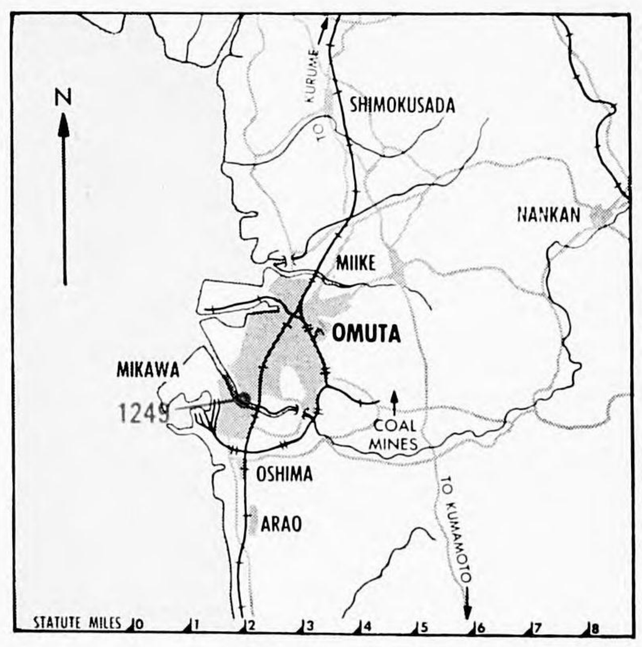
KURUME 90.35 TARGET 1254 (OMUTA REGION)

3649—Kurume,—25—First Proof



Omuta—TARGET 1254 Miike Harbor. TARGET 1249 Omuta No. 1 Steam Power Plant. TARGET 1246 Electro-Chemical Industry. For direction of photo note VIEW Q.





TARGET 90.35— **1249**

OMUTA No. 1 STEAM POWER STATION

OMUTA

(ELECTRIC POWER)

33° 00′ N 130° 26′ E (Approx)— 34,000 KW steam power station supplying power for Miike Harbor coal loading equipment, Omuta chemical plants and coal mine pumping systems. Boiler room and turbine room are in main bldg cornered by the four large stacks. The transformer bldg is just to the S of the larger unit. Located West of RR yard serving Wet Docks and on the E side of the Mitsui RR coal siding and storage (TARGET 1254).

(See photos on pages 24, 25, 26 and 31; maps on pages M-5, M-6 and M-9.)

TARGET 90.35— **1596**

OMUTA No. 3 STEAM POWER STATION

(Shin Karyoku)

OMUTA

(ELECTRIC POWER)

33° 00′ N 130° 25′ E (Approx)— Reported now 104,000 KW. Supplies Omuta industries and is a large contributor to the system feeding areas around Fukuoka and Sasebo. Located near the harbor. Exact location not known.

(See maps on pages M-5 and M-7.)

KURUME 90.35 TARGETS 1249, 1596 (OMUTA REGION)
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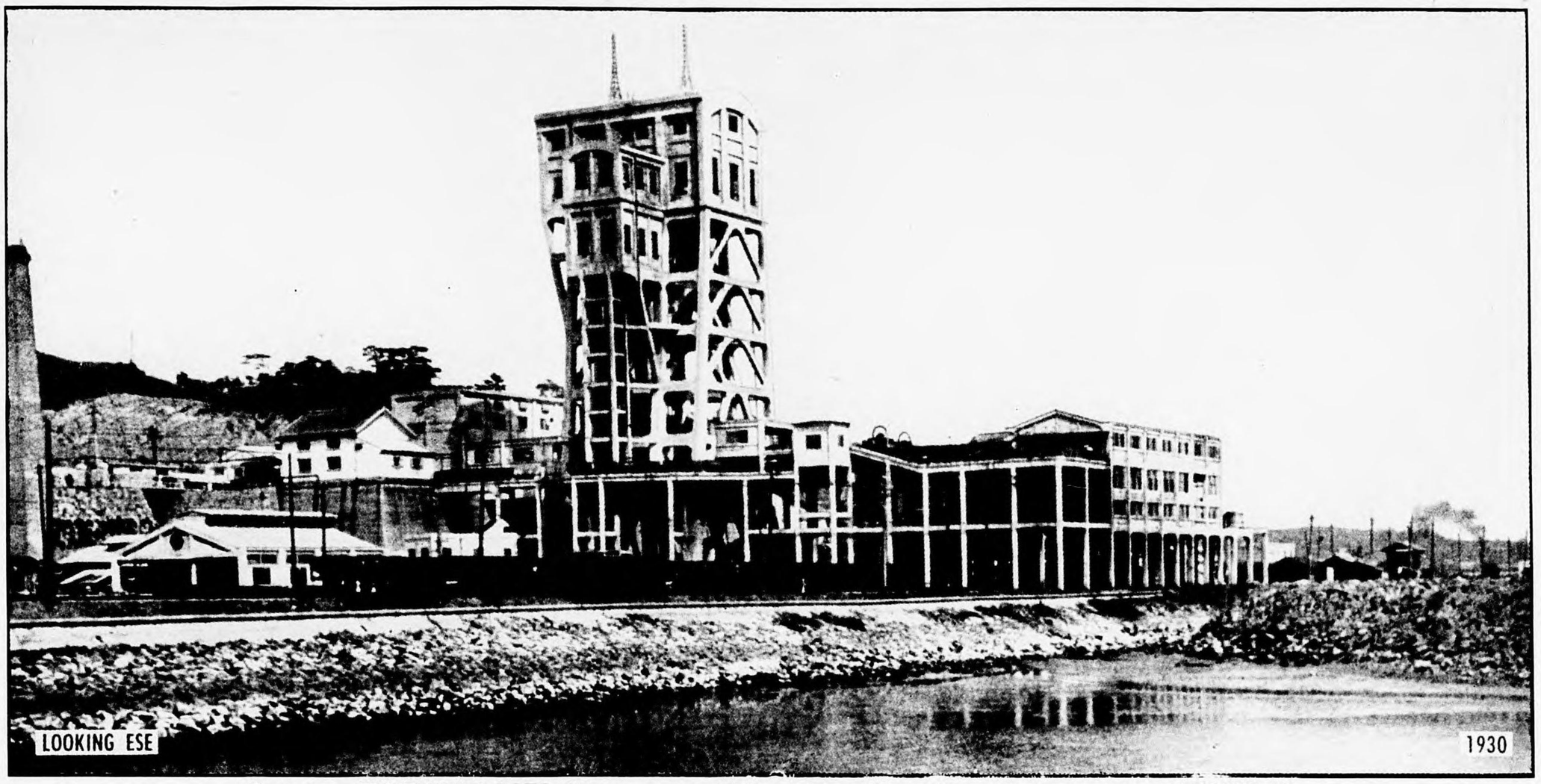
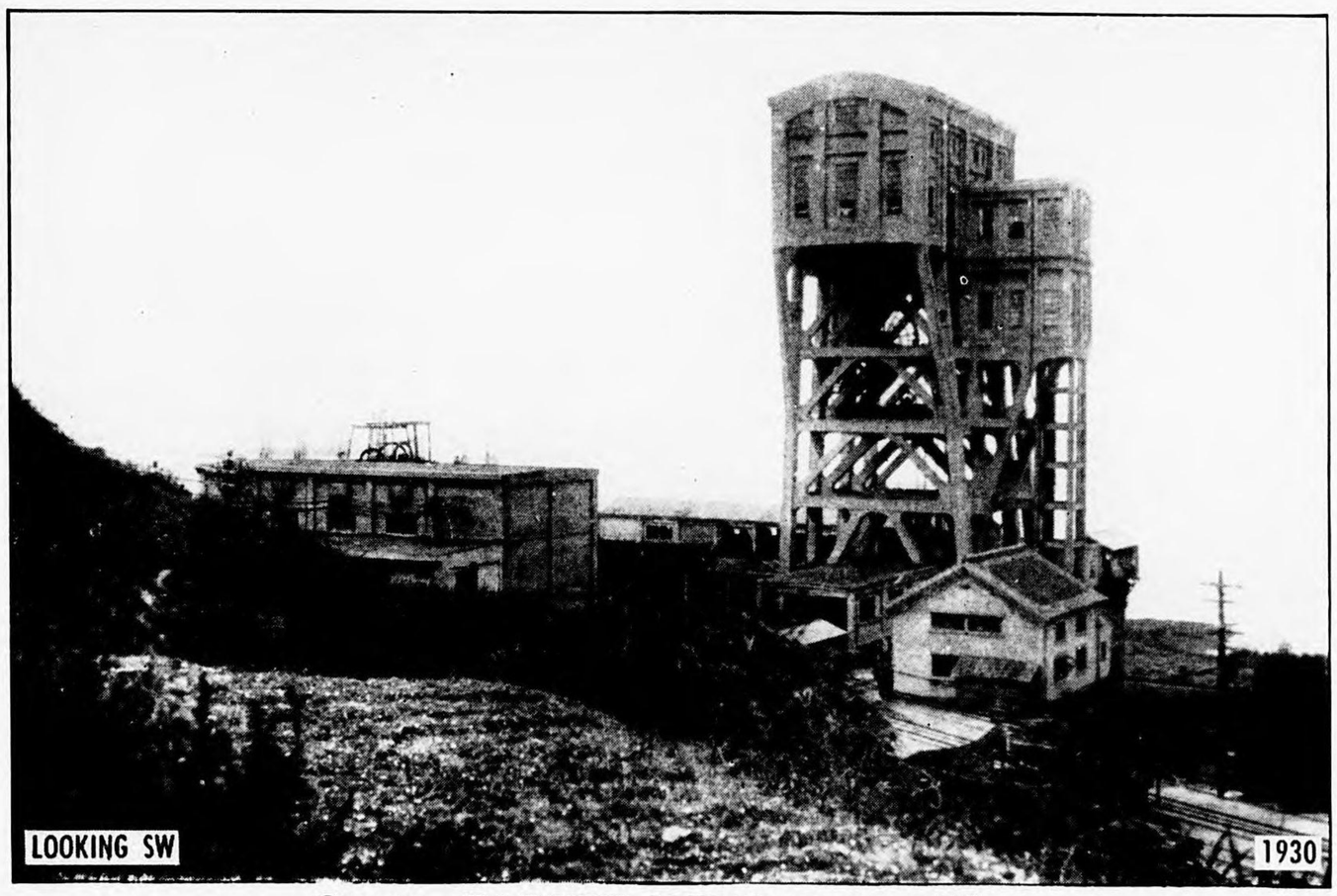
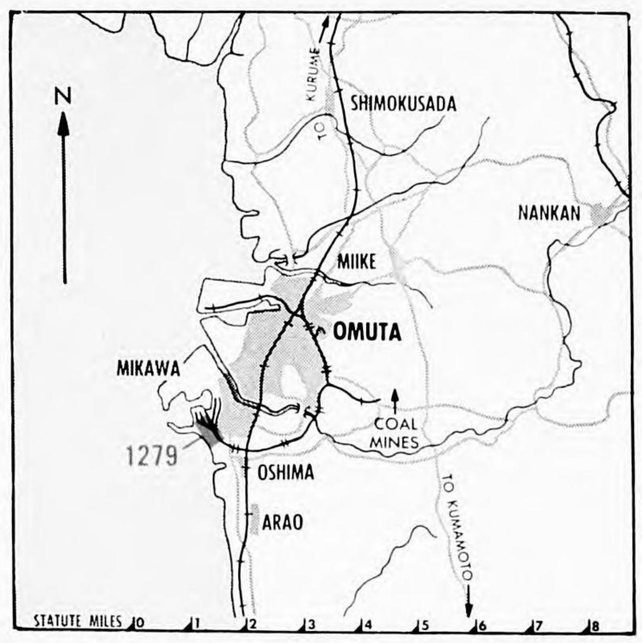


Omuta—TARGET 1279 Yotsuyama Mine. For direction of photo note VIEW X.



Omuta—TARGET 1279 Yotsuyama Mine.
For direction of photo note VIEW Y.



TARGET 90.35— 1279

YOTSUYAMA MINE

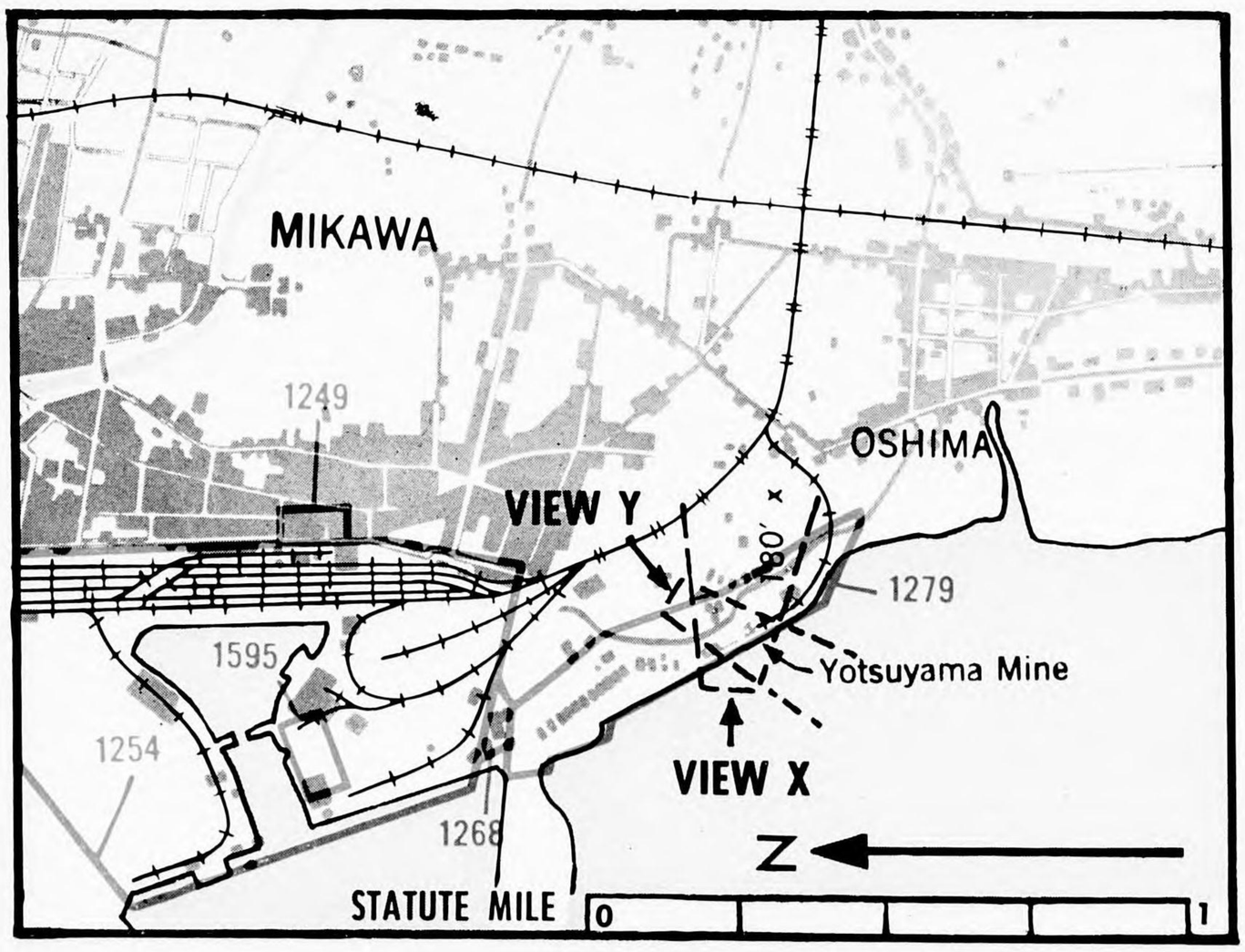
(Miike Colliery)

OMUTA

(COAL)

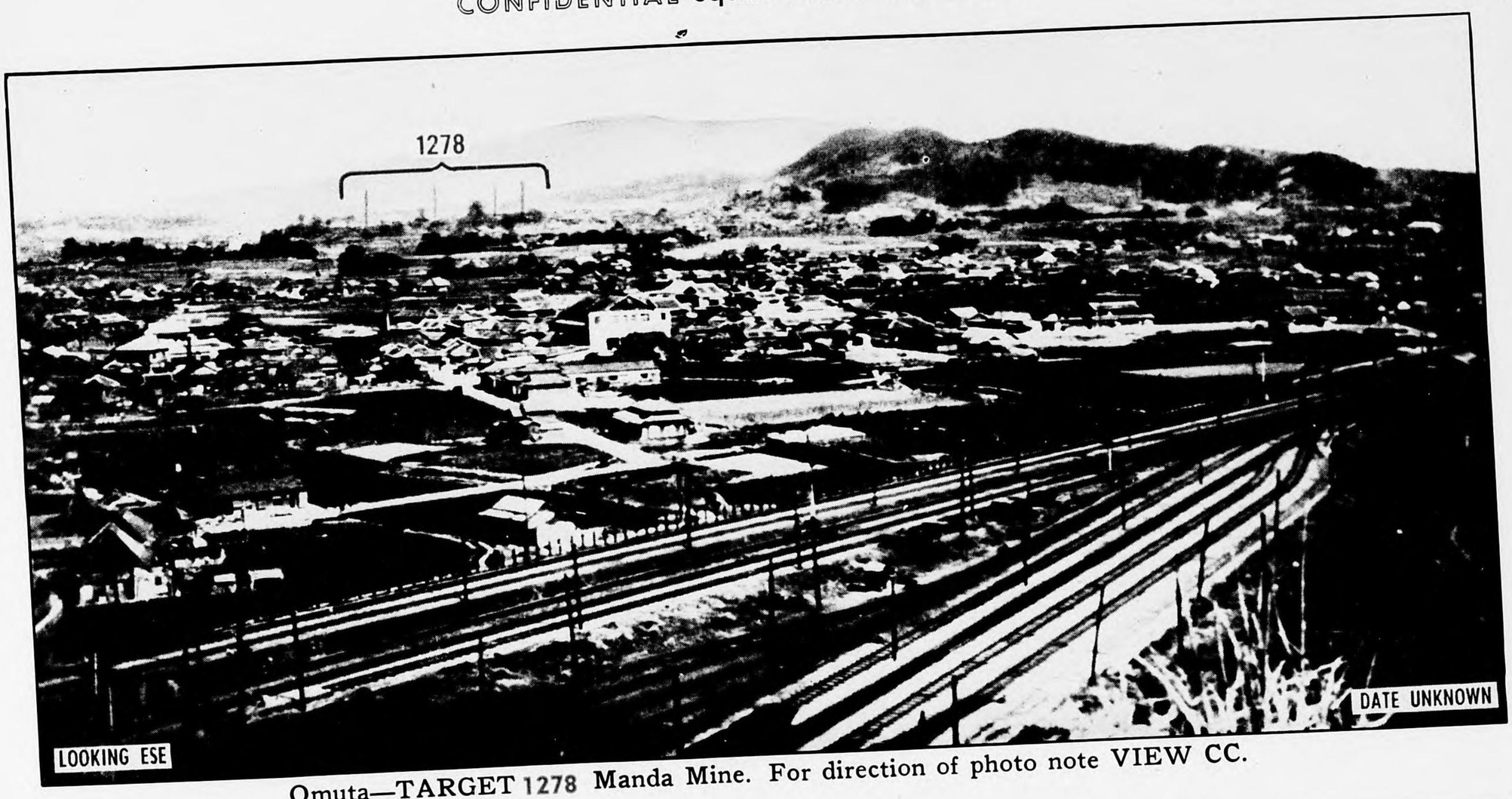
33° 00′ N 130° 25′ E (Approx)—Largest producer of Miike Colliery Co. Two shafts are marked by winding towers. Pits are just S of large group of workers' barracks which extend N to Mitsui Mines RR Workshops (TARGET 1268). Located .7 mi S of Miike Inner Harbor, and between an abrupt row of hills and Shimabara Gulf.

(See photos on pages 27 and 30; maps on pages M-5, M-7 and M-9.)

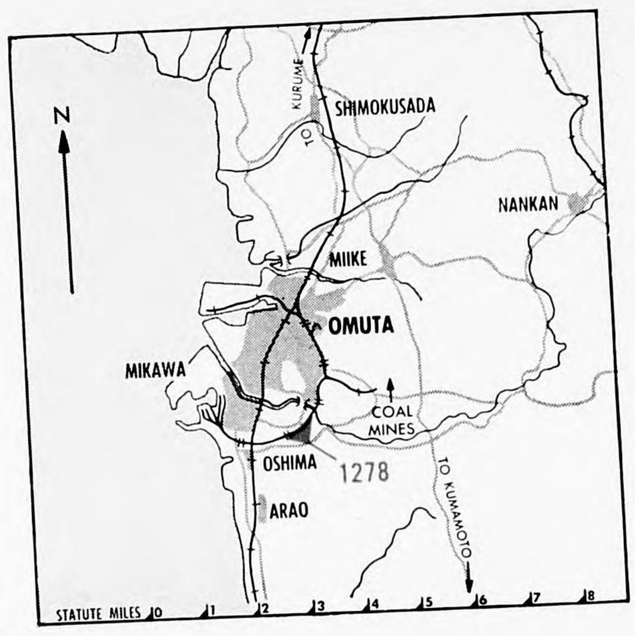


KURUME 90.35 TARGET 1279 (OMUTA REGION)

3649—Kurume—27—First Proof



Omuta—TARGET 1278 Manda Mine. For direction of photo note VIEW CC.



TARGET

90.35—

1278

MANDA MINE

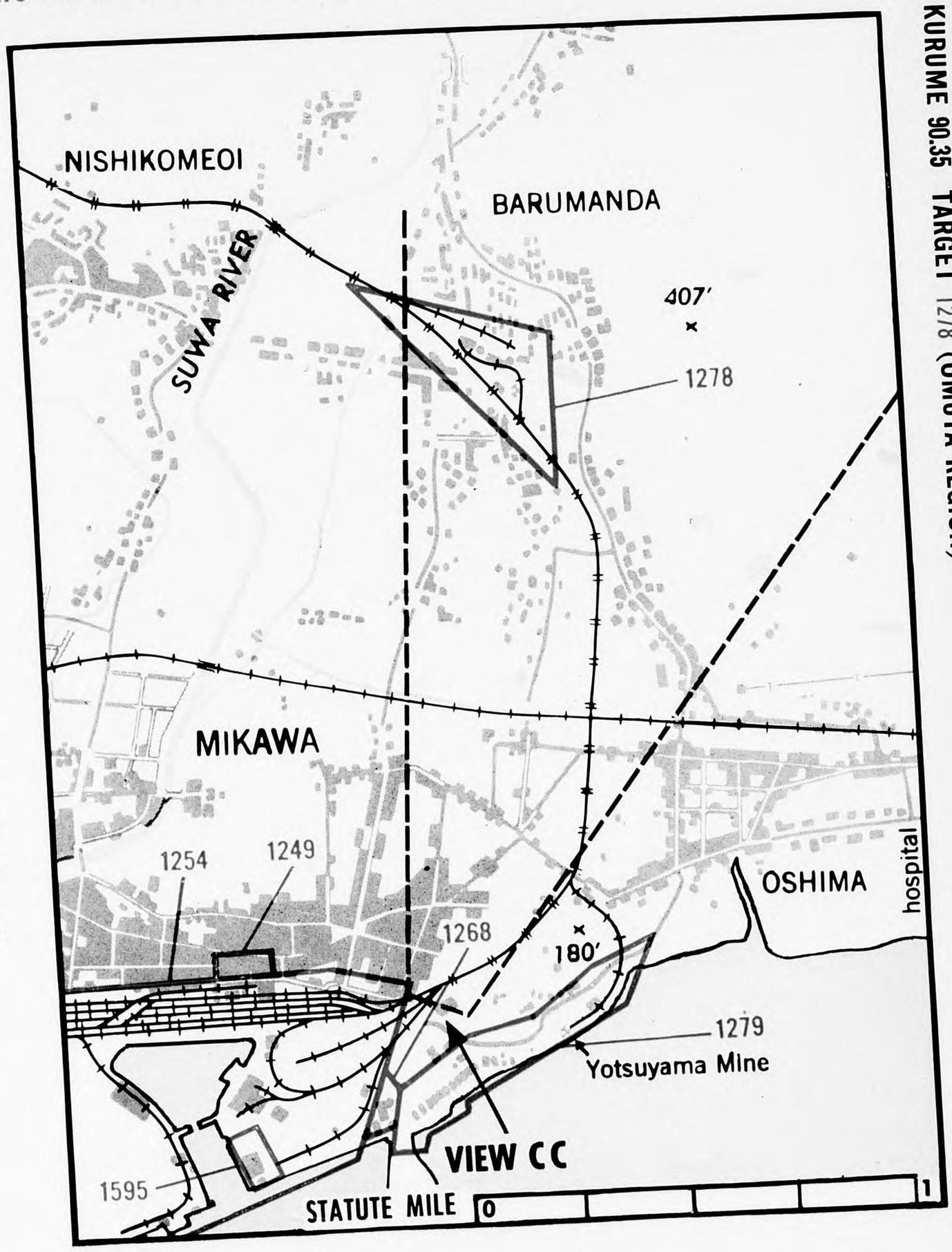
(Miike Colliery)

OMUTA

(COAL)

33° 00′ N 130° 27′ E (Approx) — Large producer. About 2% of Japanese total production. Two pits, each marked by winding tower. Has power station which supplies power to several other mines. Manda is a wet mine requiring continuous pumping of large volume of water. Located 1.6 mi ESE of Miike Harbor on the Mitsui Mines RR. Four tall stacks. Bldgs brick, concrete and ferro-concrete.

(See photos on pages 28 and 29; maps on pages M-5 and M-6.)



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KURUME 90.35 TARGET 1278 (OMUTA REGION)

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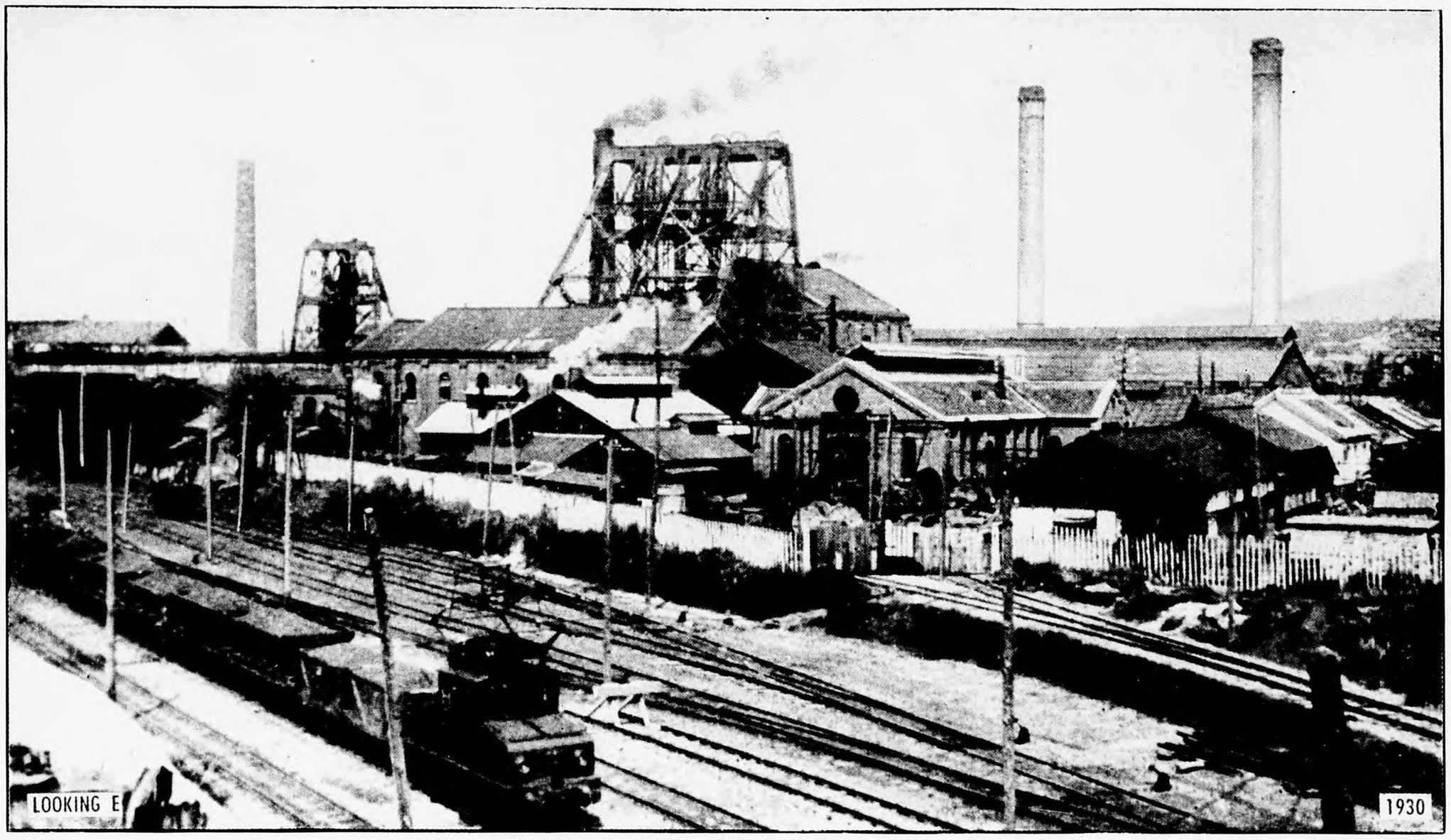
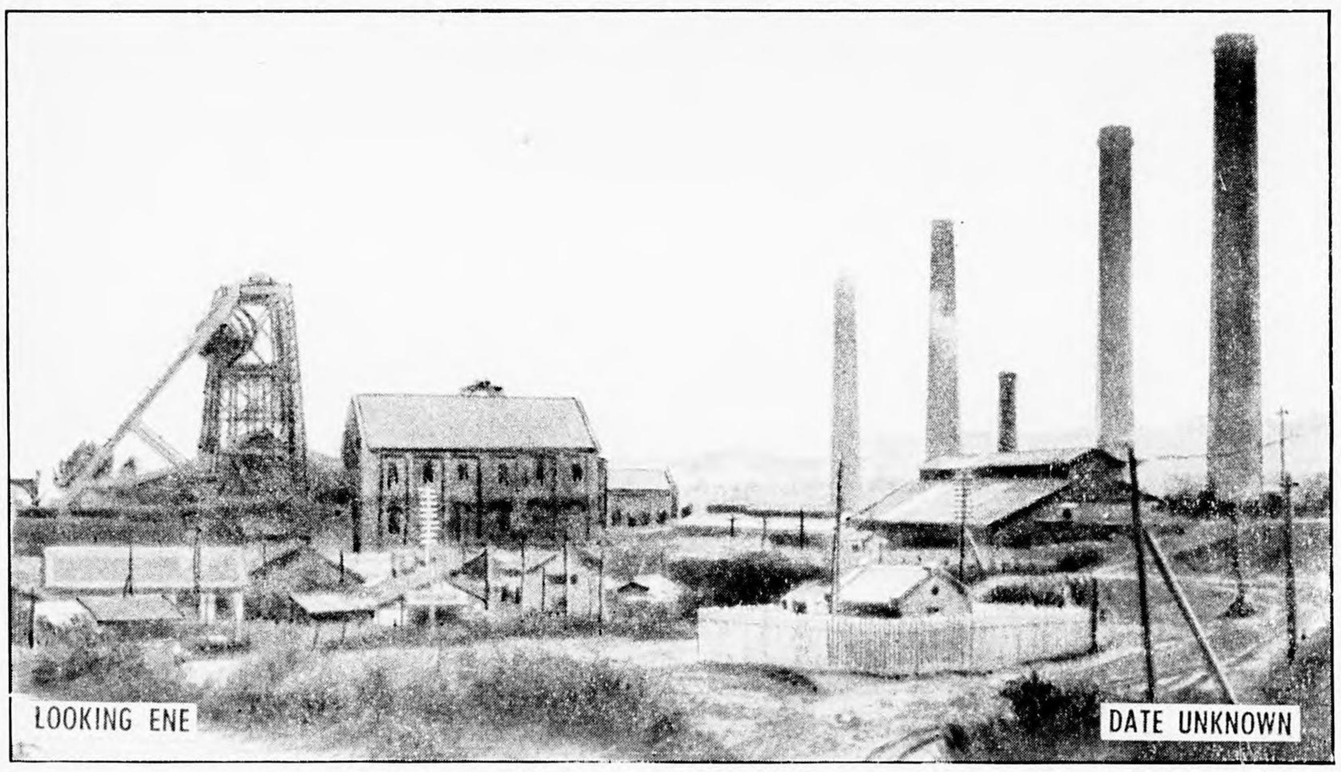
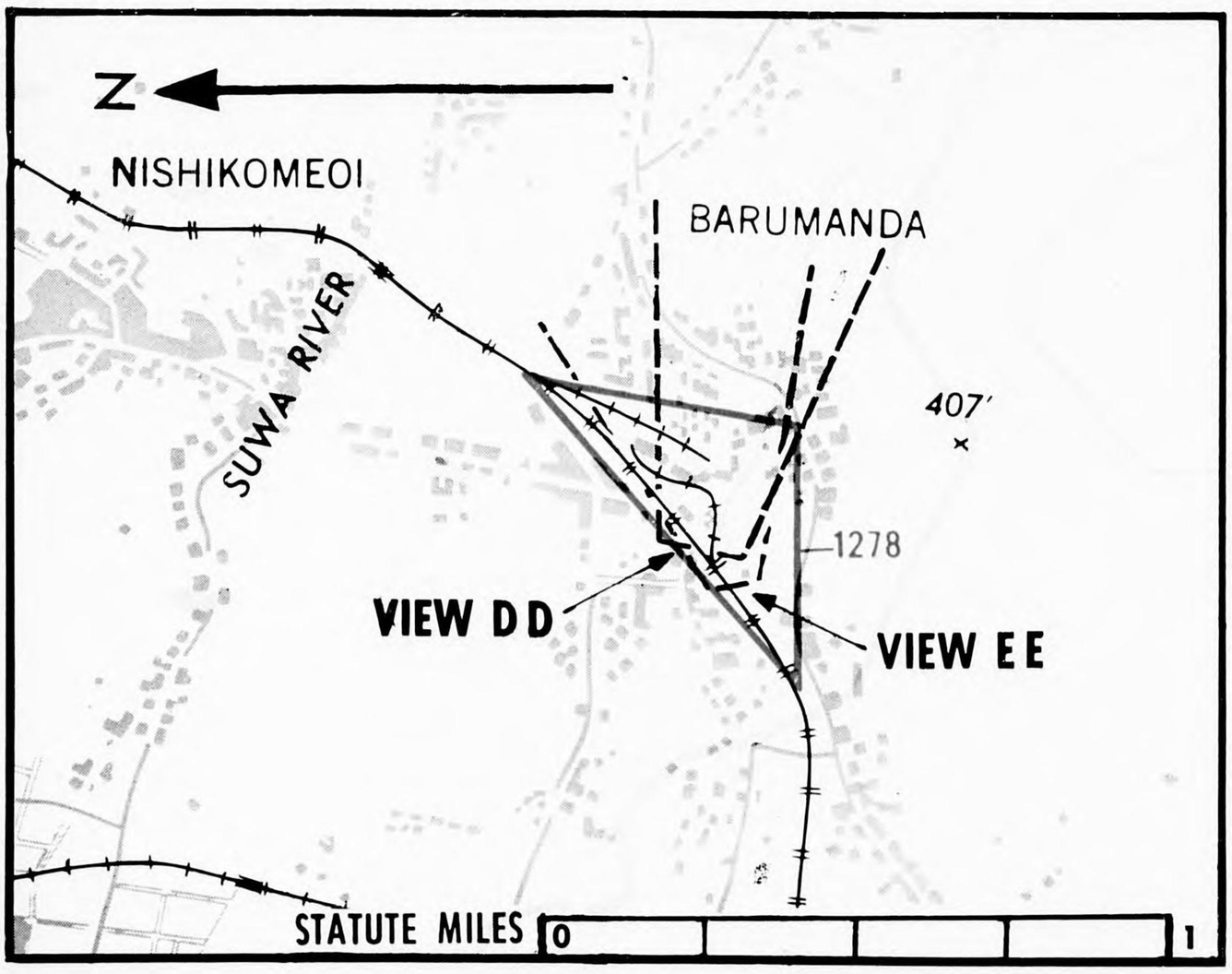


Omuta—TARGET 1278 Manda Mine. For direction of photo note VIEW DD.



Omuta—TARGET 1278 Manda Mine.
For direction of photo note VIEW EE.



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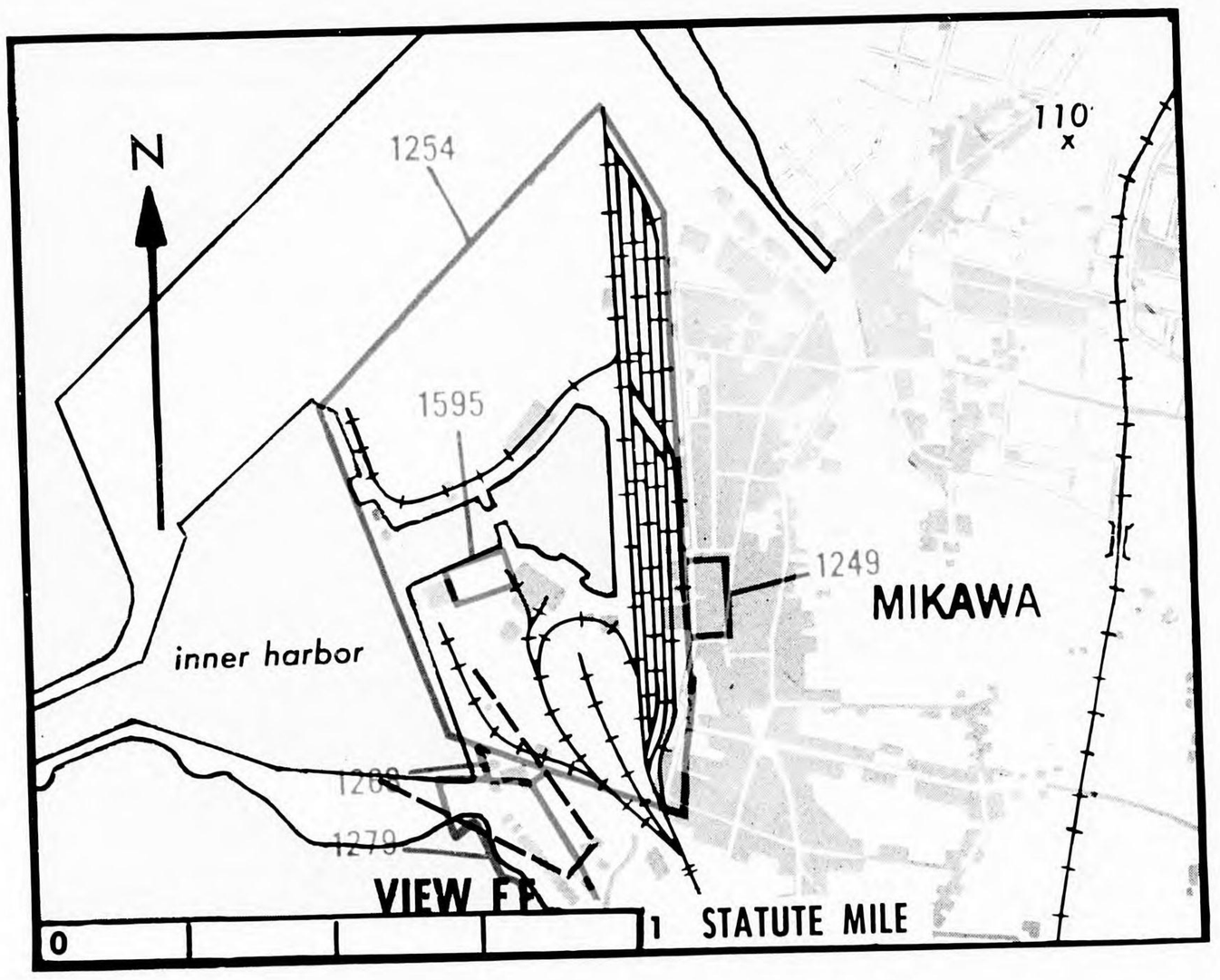
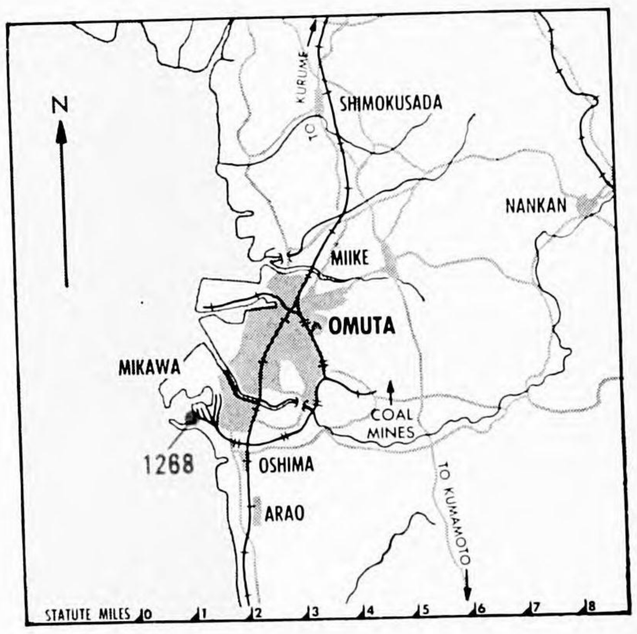
KURUME 90.35 TARGET 1278 (OMUTA REGION)

KURUME 90.35 TARGET 1278 (OMUTA REGION)

3649—Kurume—29—First Proof

Omuta—TARGET 1279 Yotsuyama Mine Workers' Houses. TARGET 1268 Mitsui RR Workshops. TARGET 1254 Miike Harbor. For direction of photo note VIEW FF.





TARGET 90.35—
1268 **MITSUI RR WORKSHOPS**
OMUTA
(TRANSPORTATION)

33° 00′ N 130° 25′ E (Approx)—Shops for repair and maintenance of Mitsui Mines RR equipment; well equipped. Located between Miike Harbor (TARGET 1254) and Yotsuyama Mine (TARGET 1279).

(See photo on page 30, maps on pages M-5, M-7 and 7-9.)

3649—Kurume—30—First Proof

KURUME 90.35 TARGET 1268 (OMUTA REGION)
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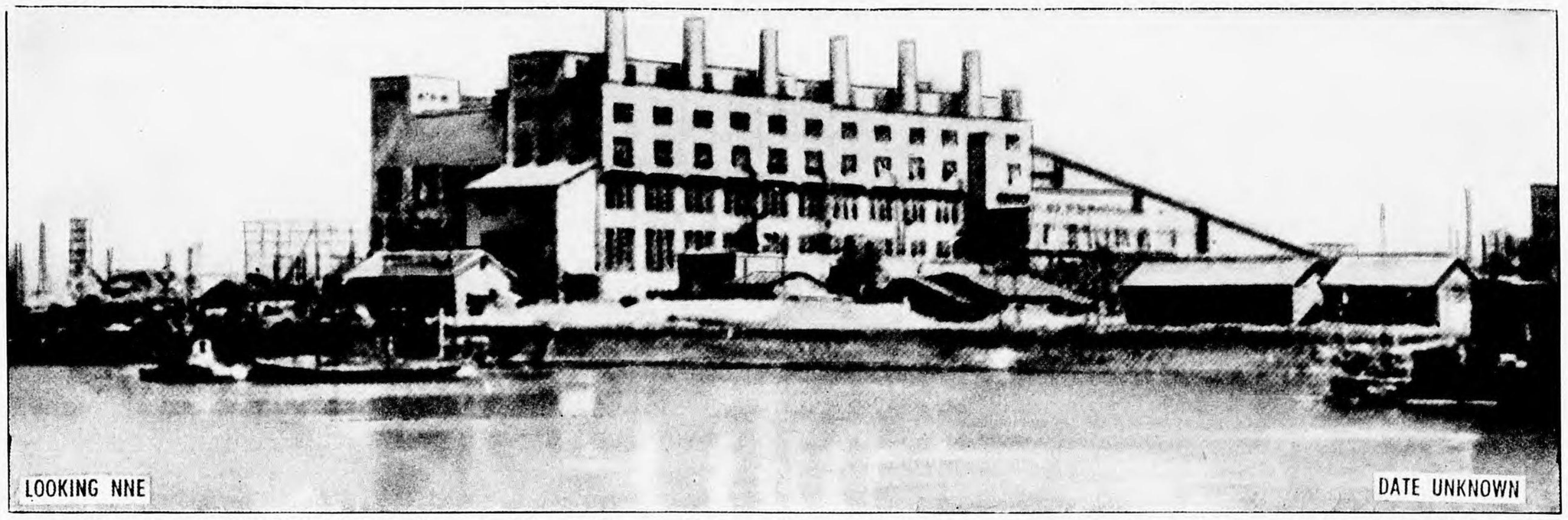
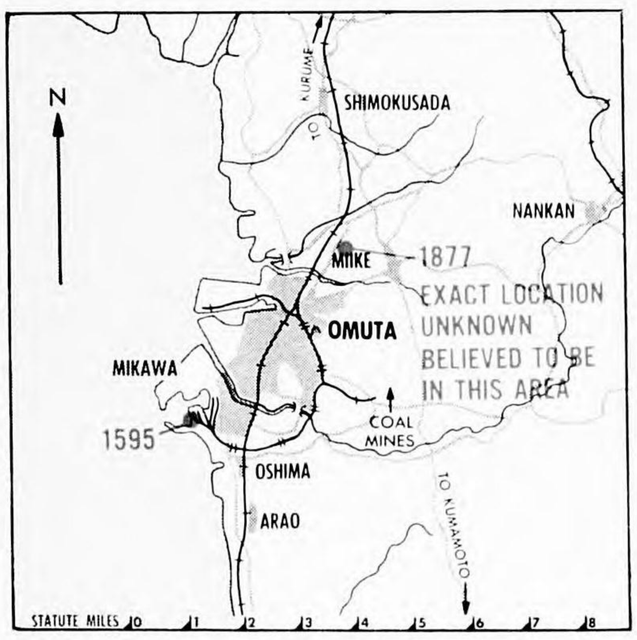
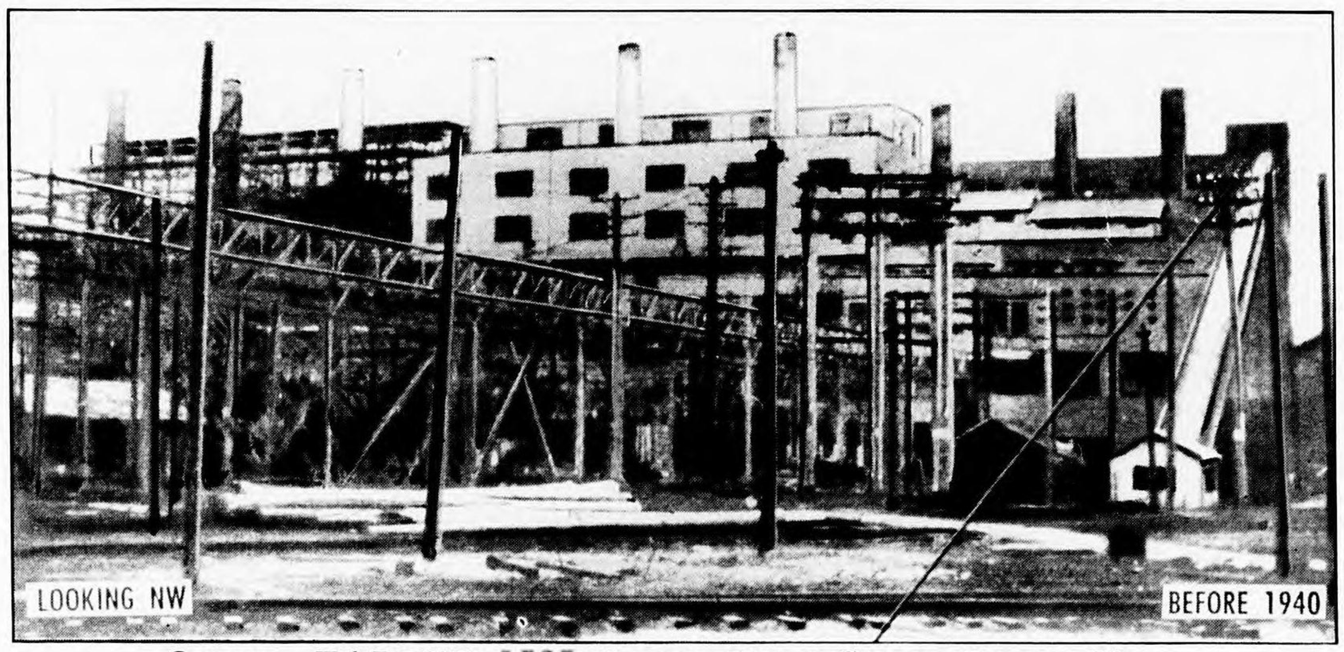
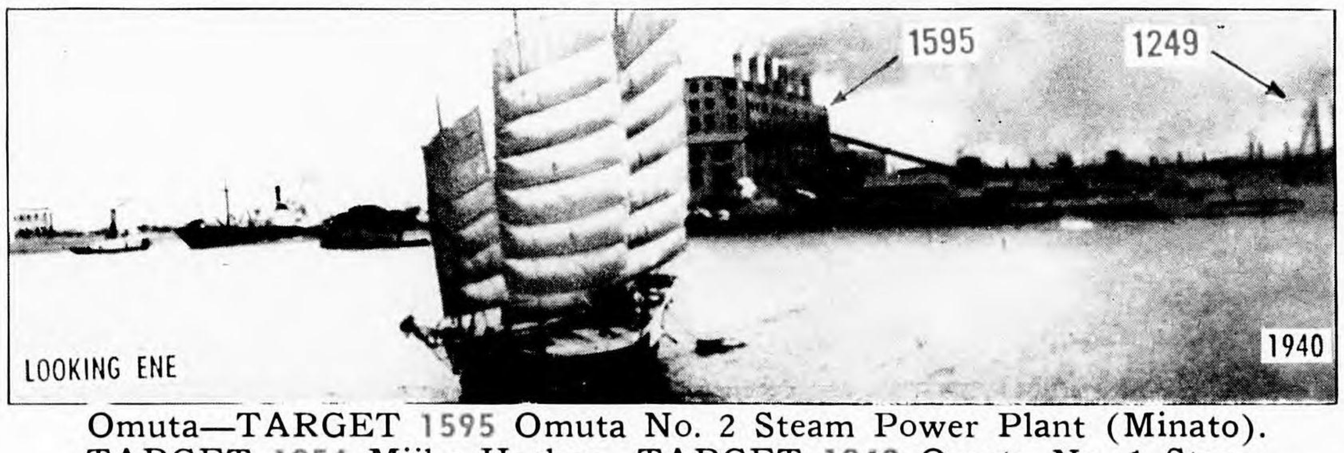


Omuta—TARGET 1595 Omuta No. 2 Steam Power Plant (Minato). For direction of photo note VIEW Z.





Omuta—TARGET 1595 Omuta No. 2 Steam Power Plant. For direction of photo note VIEW BB.



Omuta—TARGET 1595 Omuta No. 2 Steam Power Plant (Minato). TARGET 1254 Miike Harbor. TARGET 1249 Omuta No. 1 Steam Power Plant. For direction of photo note VIEW AA.

TARGET 90.35—1595

OMUTA No. 2 STEAM POWER PLANT

(Minato)

OMUTA

(ELECTRIC POWER)

33° 00′ N 130° 25′ E (Approx)—A 162,000 KW plant, steel frame and ferro-concrete with nine stacks (sets of six and three). Serves Wet Dock lock gate, electric railway and loading equipment, and industries in the Omuta region. Also feeds electricity to the areas around Fukuoka and Sasebo. Located S side of gate locks and between Wet Dock and Miike Inner Harbor. Whses and RR sidings around the plant; a long conveyor runs at about a 40 degree angle to the top of the NE corner of the bldg.

(See photos on pages 24 and 31; maps on pages M-5, M-7 and M-9.)

TARGET 90.35—1877

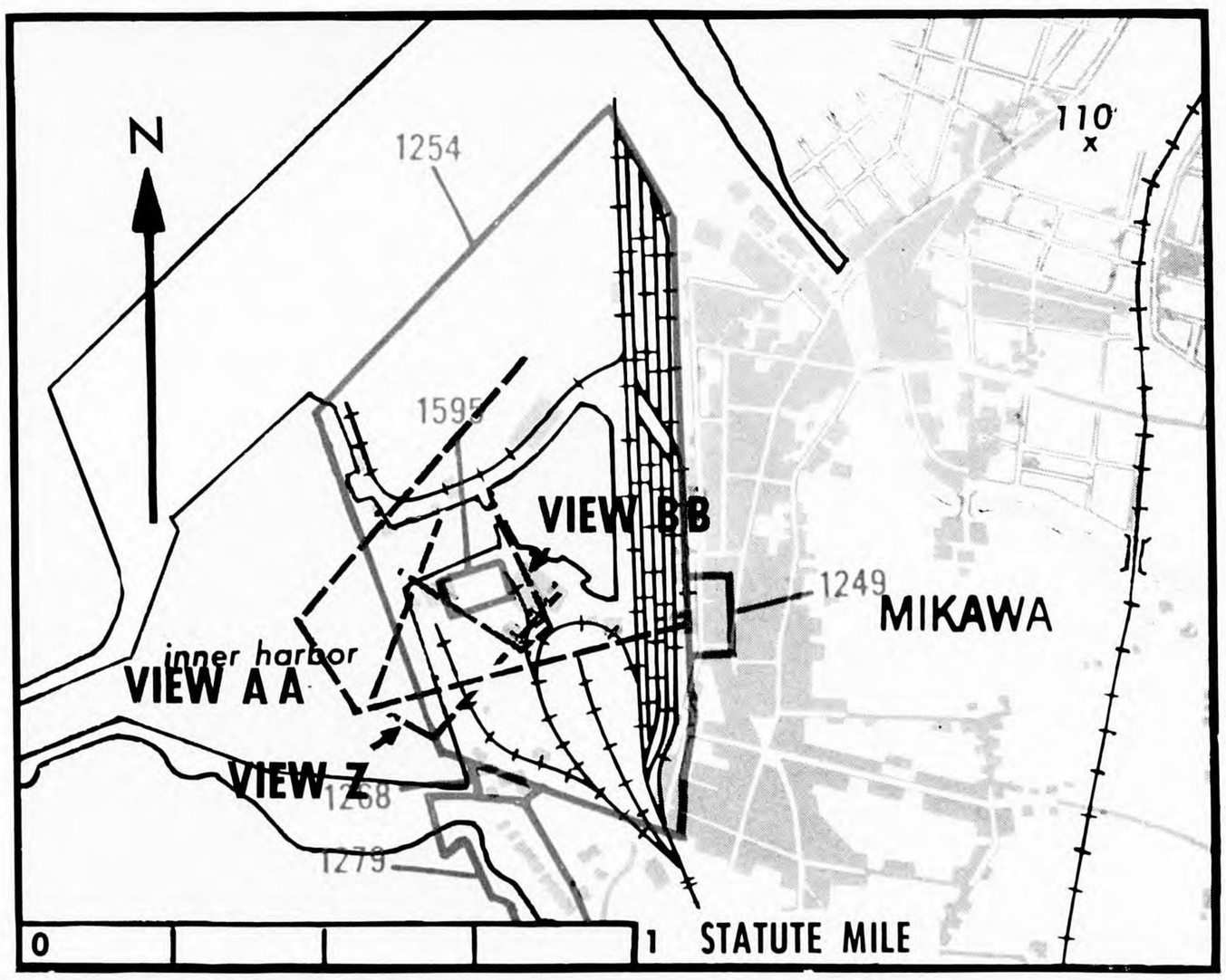
TOYO ALUMINUM CO.

MIIKE

(NON-FERROUS METALS)

33° 03′ N 130° 28′ E (Approx)—Prewar Bayer process alumina plant of moderate size. Fragmentary reports indicate expansion recently. Possibly now second or third largest alumina producer in main Japanese Islands. Uses bauxite from N.E.I. Located 1.5 mi NNE of Miike Machinery Works (TARGET 1256).

(See map on page M-5.)



KURUME 90.35 TARGETS 1595, 1877 (OMUTA REGION)

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Air Objective Folder

FUKUOKA REGION

KURUME AREA, No. 90.35

INDEX OF TARGETS BY NUMBER, CLASSIFICATION AND NAME

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Summary and Evaluation of Fukuoka Region

The industrial development of the Fukuoka Region centers on the city of Fukuoka. The city has long been a leading port for trade between the Japanese Islands and Korea, and a new ferry between these points has recently been established.

The most important industries lie south of Kyushu University—a landmark on the Bay. The most southerly target is Nippon Rubber Co. **TARGET 1265** producing footwear and a few tires. Large buildings in this area which are not considered targets include the Tofu Flour Co., Dai Nippon Beer Co., and Kanegafuchi Spinning Mill. Fukuoka Harbor **TARGET 1255** has been enlarged by a filled extension which is capable of taking ocean-going ships. This made land is now covered with warehouses and has railroad connections with the Kyushu RR network. The new extension is the only known wharf on the Fukuoka side of the bay capable of taking deep-draft vessels. Ships also lighter.

Southeast of the wharf is the old town of Hakata containing many small industries. The only large plant is Watanabe Iron Works, Plant No. 1 **TARGET 1238** which produces ordnance and heavy machinery for the Navy. The Saibu Gas Co. tanks adjoining on the NW are landmarks. NE of this plant are the Hakata RR Yards **TARGET 1270.** These have lost much of their former importance since the development of the Tosu Yards **TARGET 1871** but are still used. Further east is the Tatara Machinery Works **TARGET 1873,** producing ordnance and special types of coal loading machinery. Neither the Watanabe or Tatara plants are primary targets.

North of Kyushu University is the Showa Iron Works Plant **TARGET 1872.** The location shown on the Fukuoka map is approximate only. This is a small plant producing ordnance and special machinery. Just north of this plant are two railroad and one highway bridges across the Najima River. Their destruction would hamper but not stop rail and road transport between Fukuoka and the north, since there are other roads and railroads connecting Fukuoka and Yawata. The alternate routes are, however, much longer.

North of the Najima River are the Najima Steam Power Plant **TARGET 664** and the Najima Seaplane Base **TARGET 1237.** The power plant is connected with the same grid as the large Omuta steam plants and must be considered as a potential source of power for both the Omuta Region and the Nagasaki-Sasebo Region, as well as the Fukuoka industries. The seaplane base has declined in importance with the development of the Fukuoka Air Station **TARGET 663** across the bay.

North and east of these installations is a sizable strip of made land on the east side of Hakata Bay. New industrial development is reported in this area.

The Saitozaki Petroleum Center **TARGET 665** and Fukuoka Air Station **TARGET 663** lie on the north side of Hakata Bay, some distance apart. The petroleum center is known to have storage for over 300,000 bbls. of oil, and coal bunkering facilities. Extremely important as a coal and oil bunkering point for merchant ships moving to and from the Shimonoseki Straits. The Fukuoka Air Station was the principal civil airport in Kyushu prior to the War, but is now believed to be an important link in the air defense of the Island and a naval air training station.

KURUME 90.35 INDEX OF TARGETS AND SUMMARY (FUKUOKA REGION)

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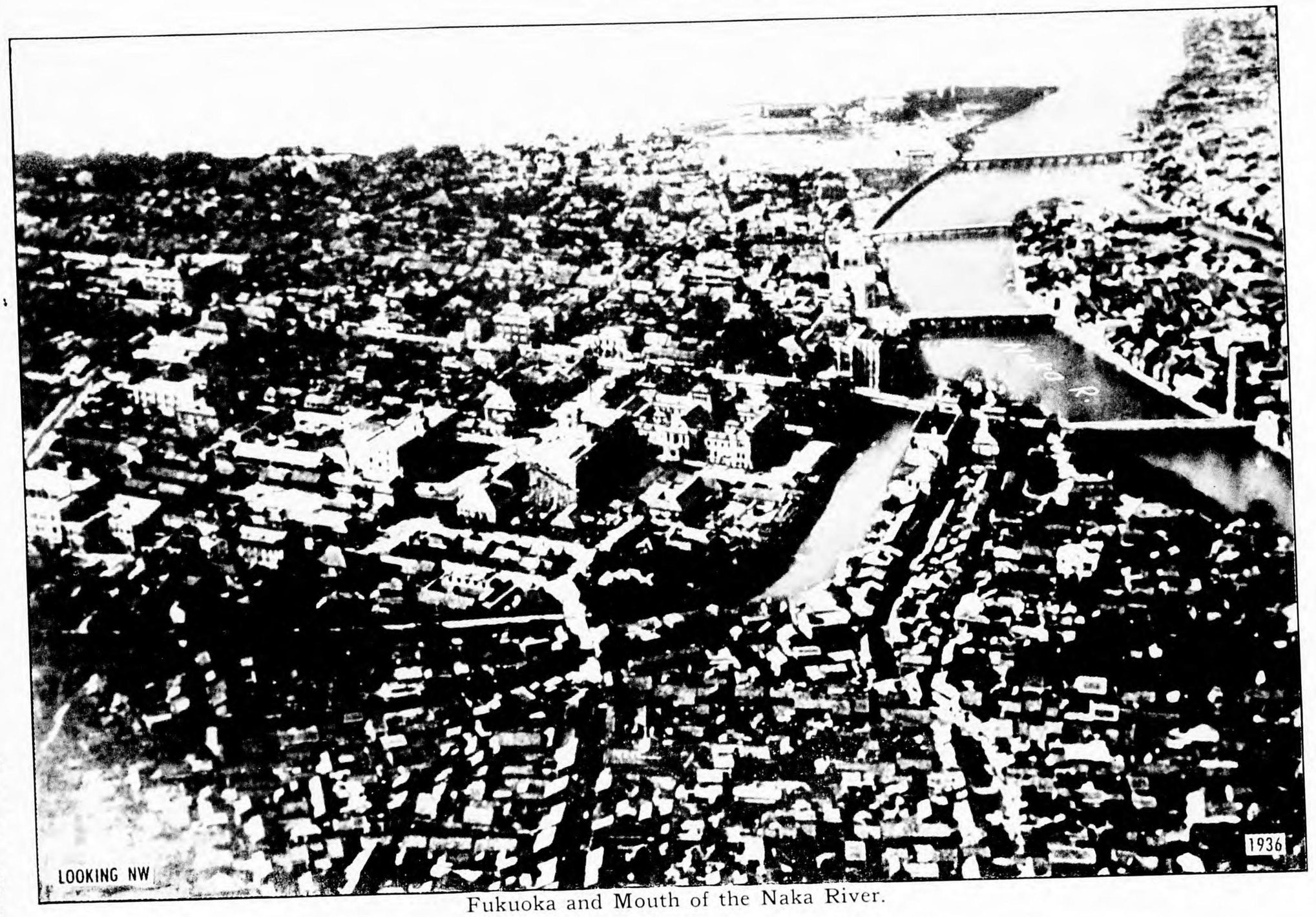
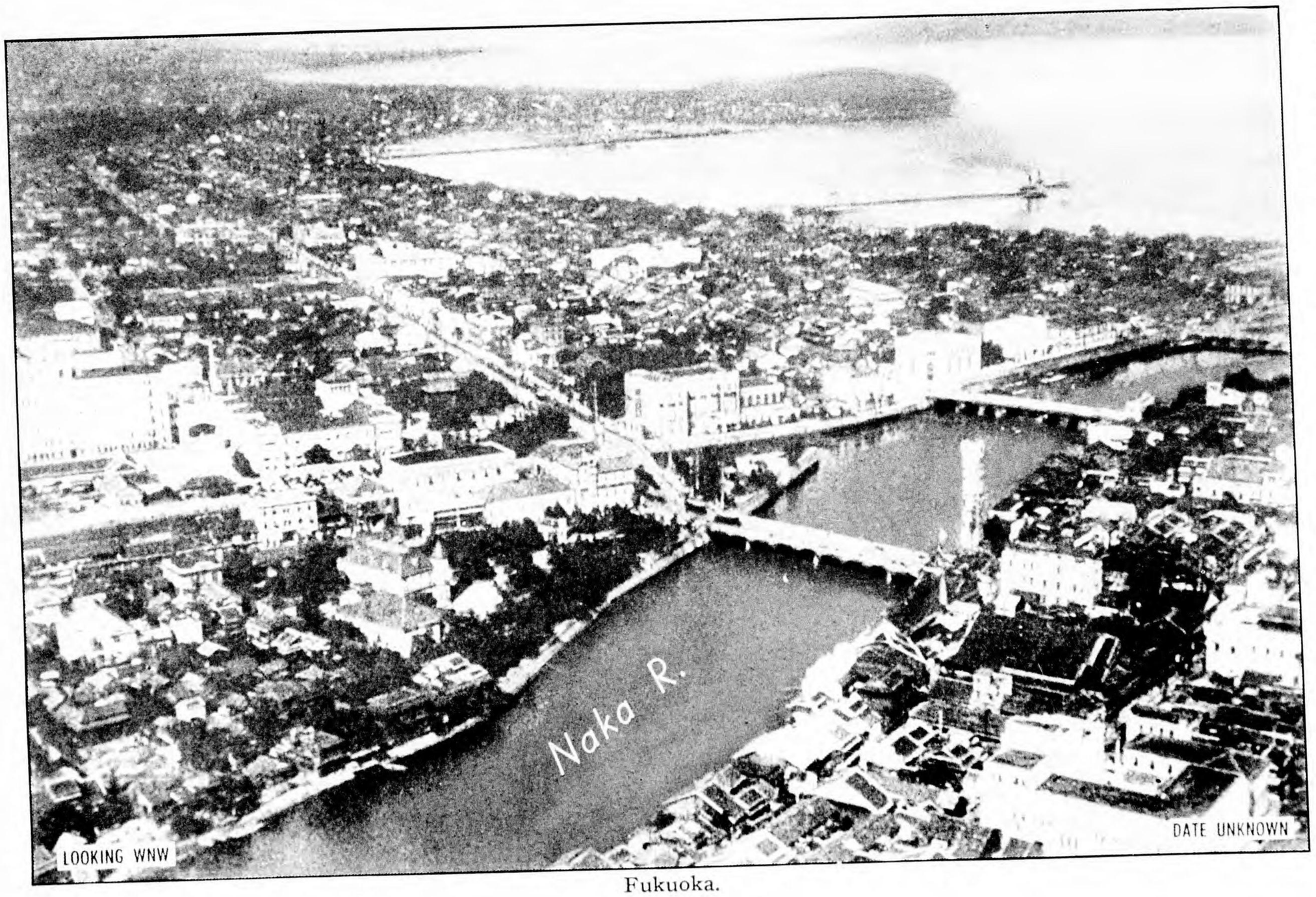


Fukuoka and Mouth of the Naka River.



Fukuoka.

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KURUME 90.35 SUMMARY (FUKUOKA REGION)

KURUME 90.35 SUMMARY (FUKUOKA REGION)

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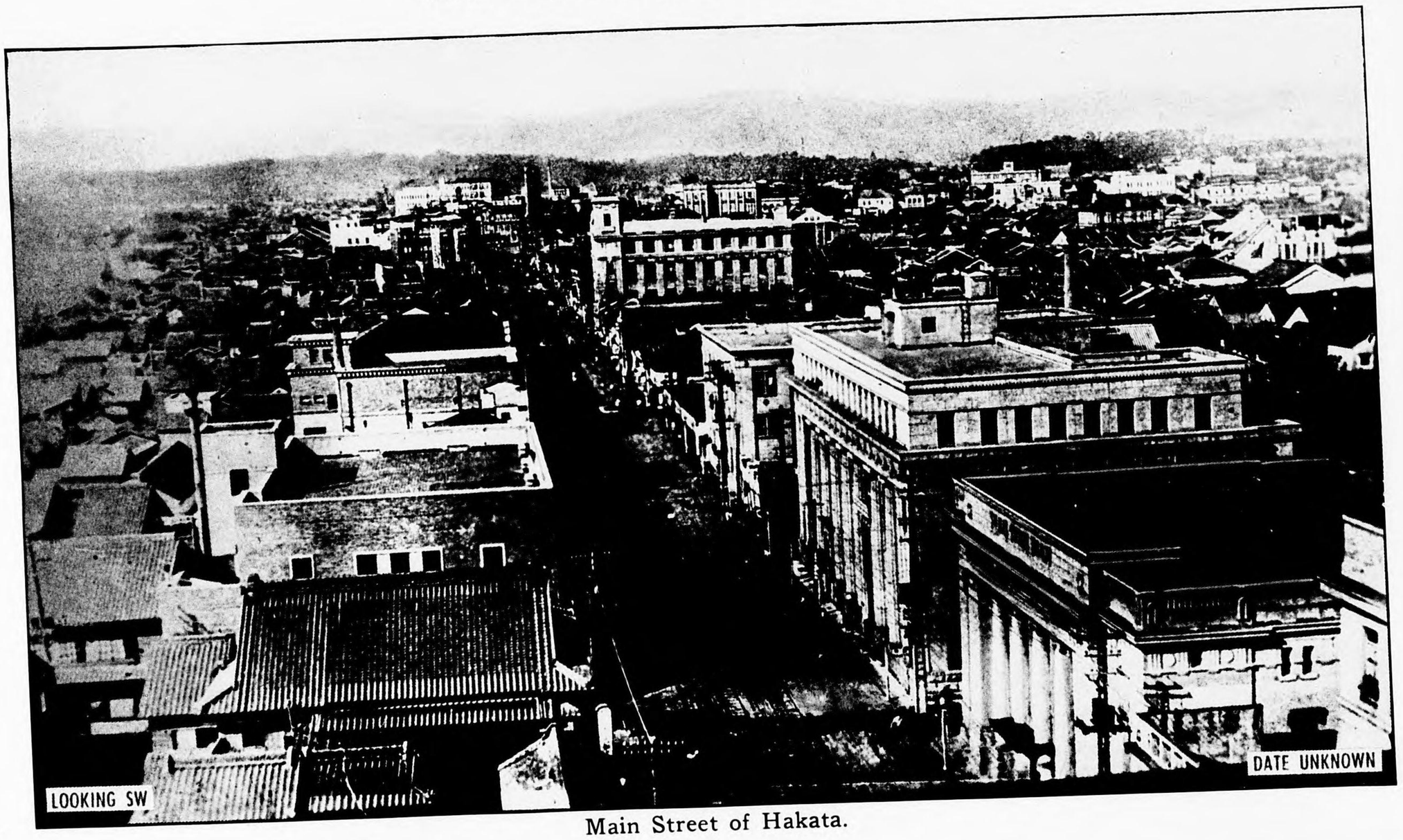
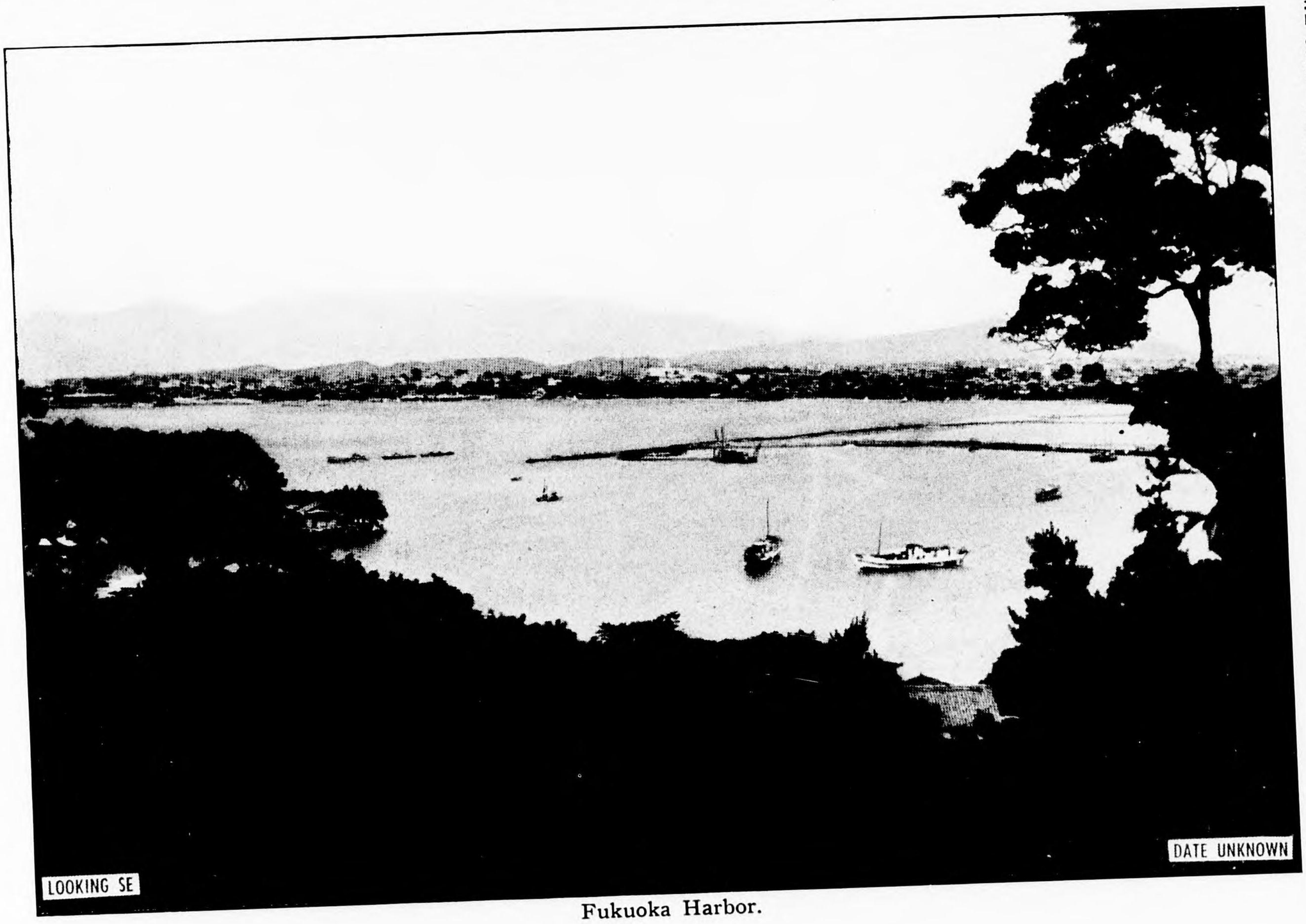


Main Street of Hakata.



Fukuoka Harbor.

KURUME 90.35 SUMMARY (FUKUOKA REGION)

3649—Kurume—34—First Proof

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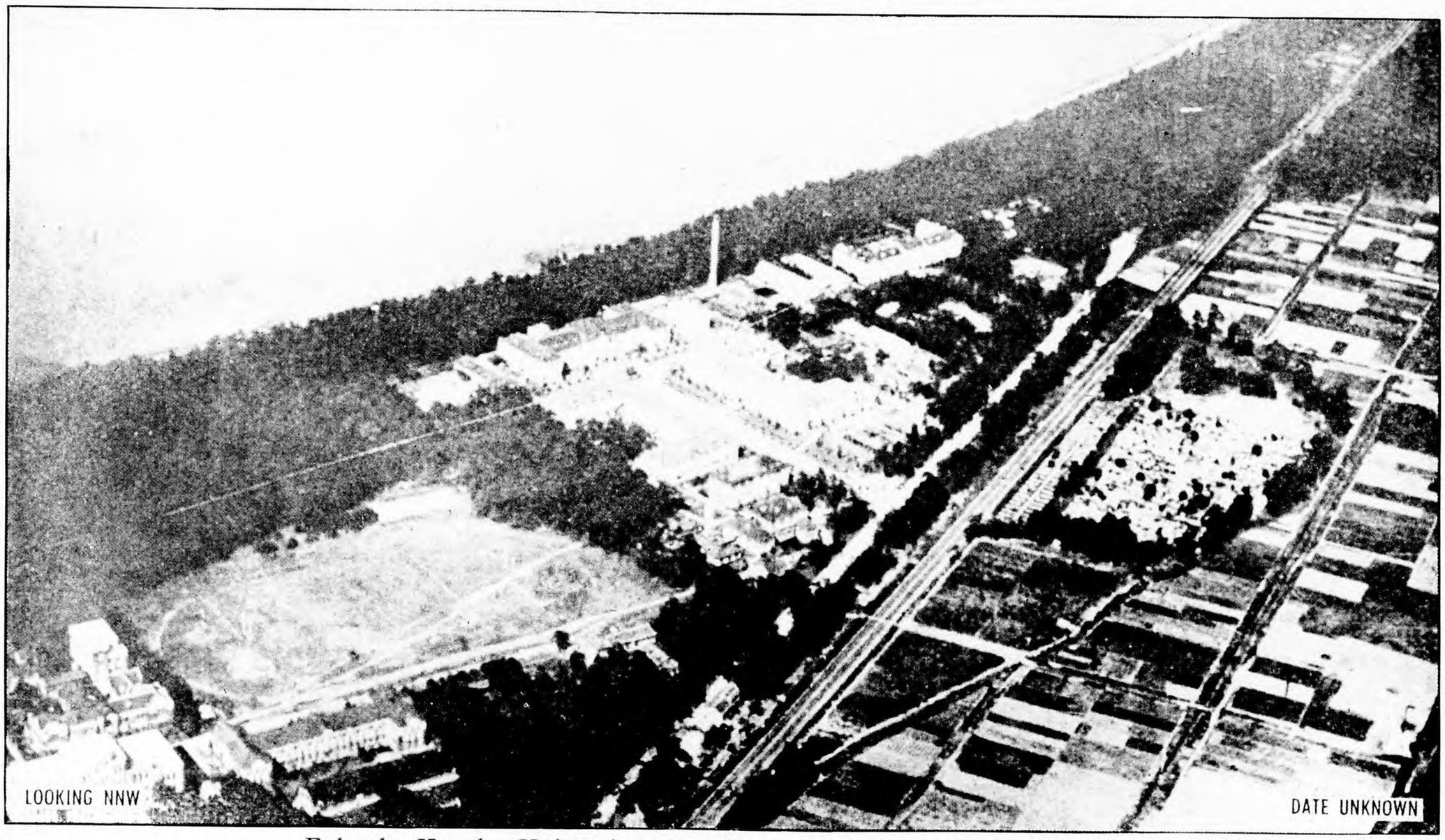
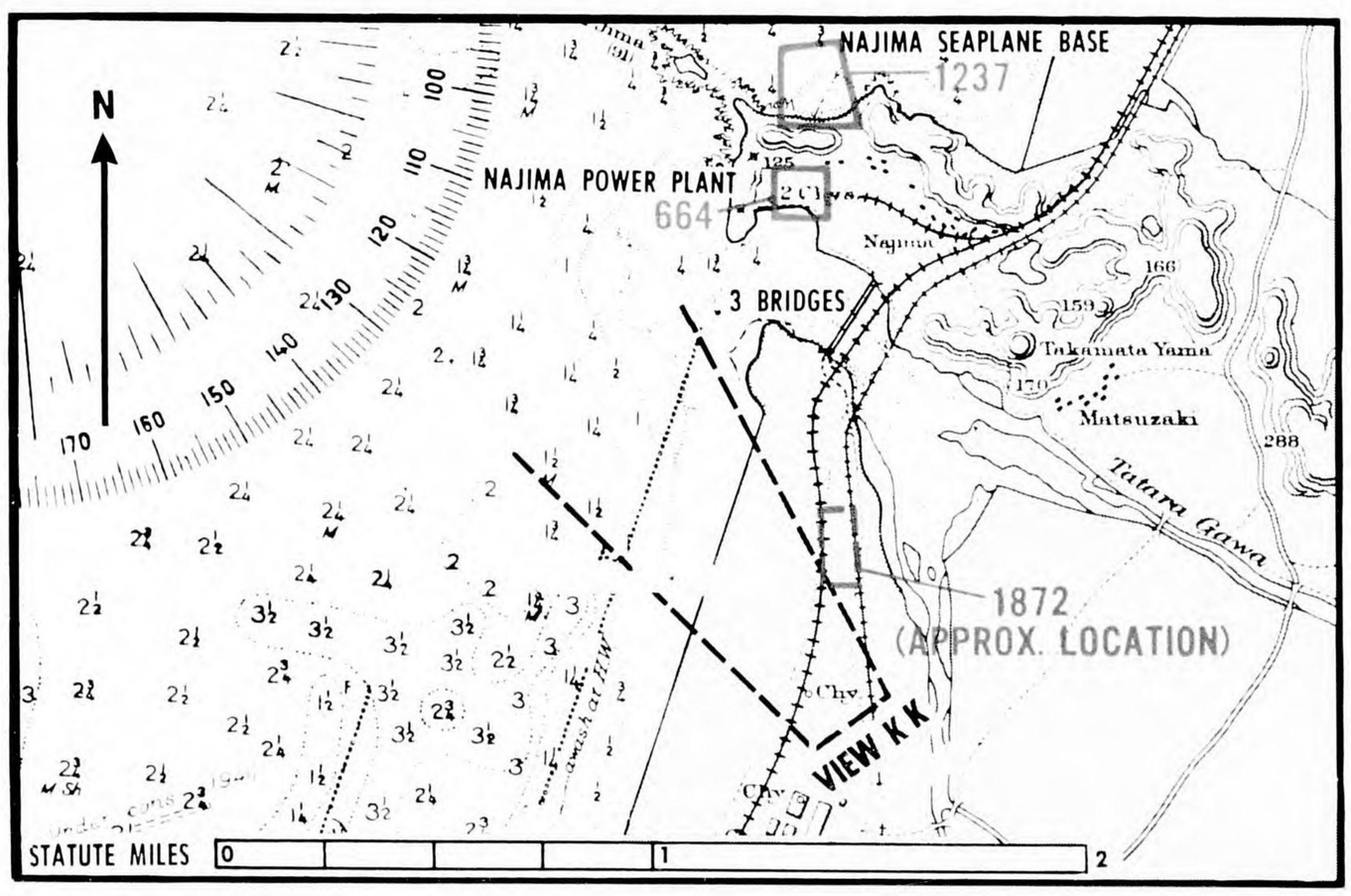
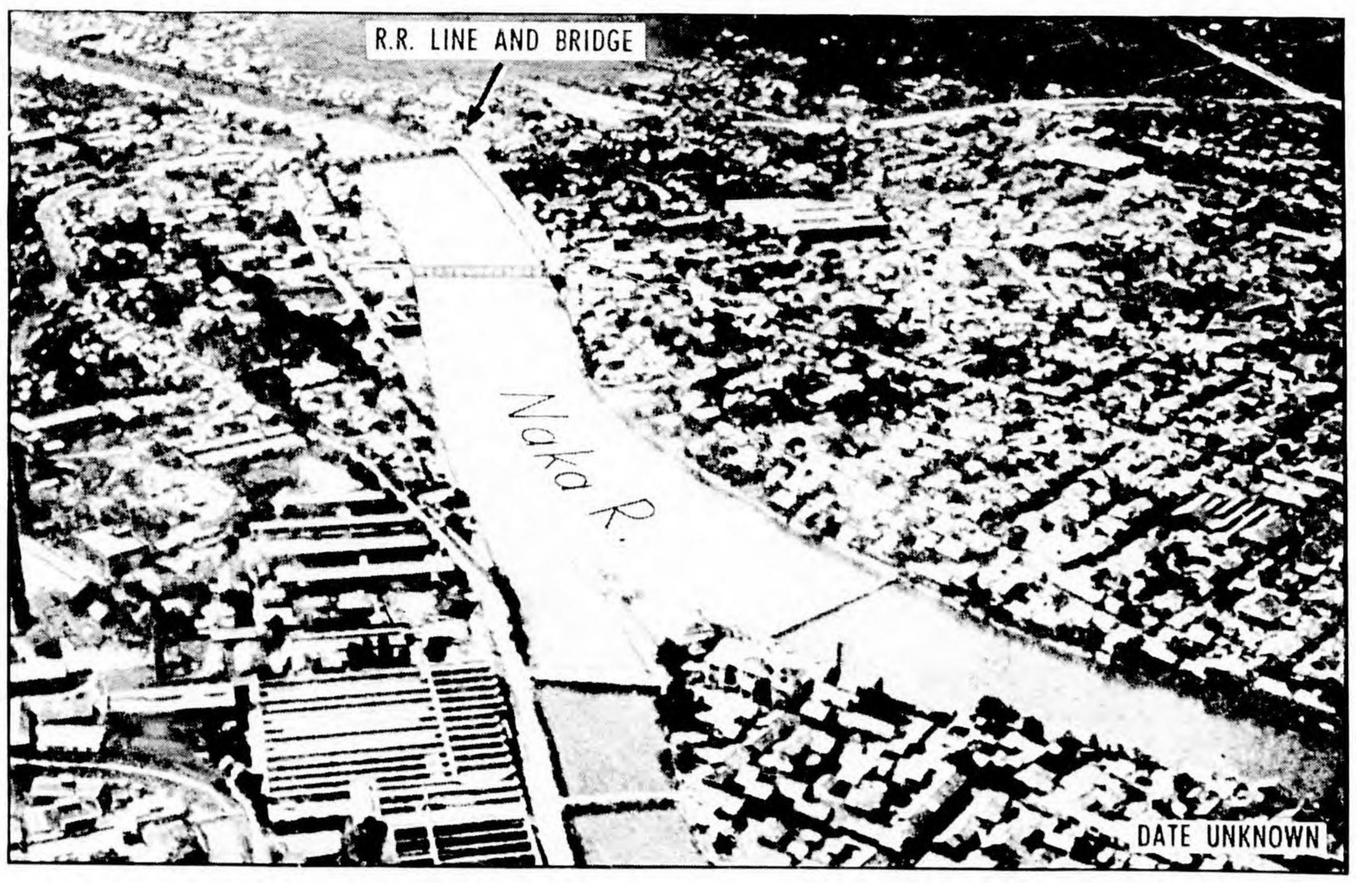


Fukuoka-Kyushu University. For direction of photo note VIEW KK.





Fukuoka—Large Kanegafuchi Spinning Mill (not a target) in foreground.

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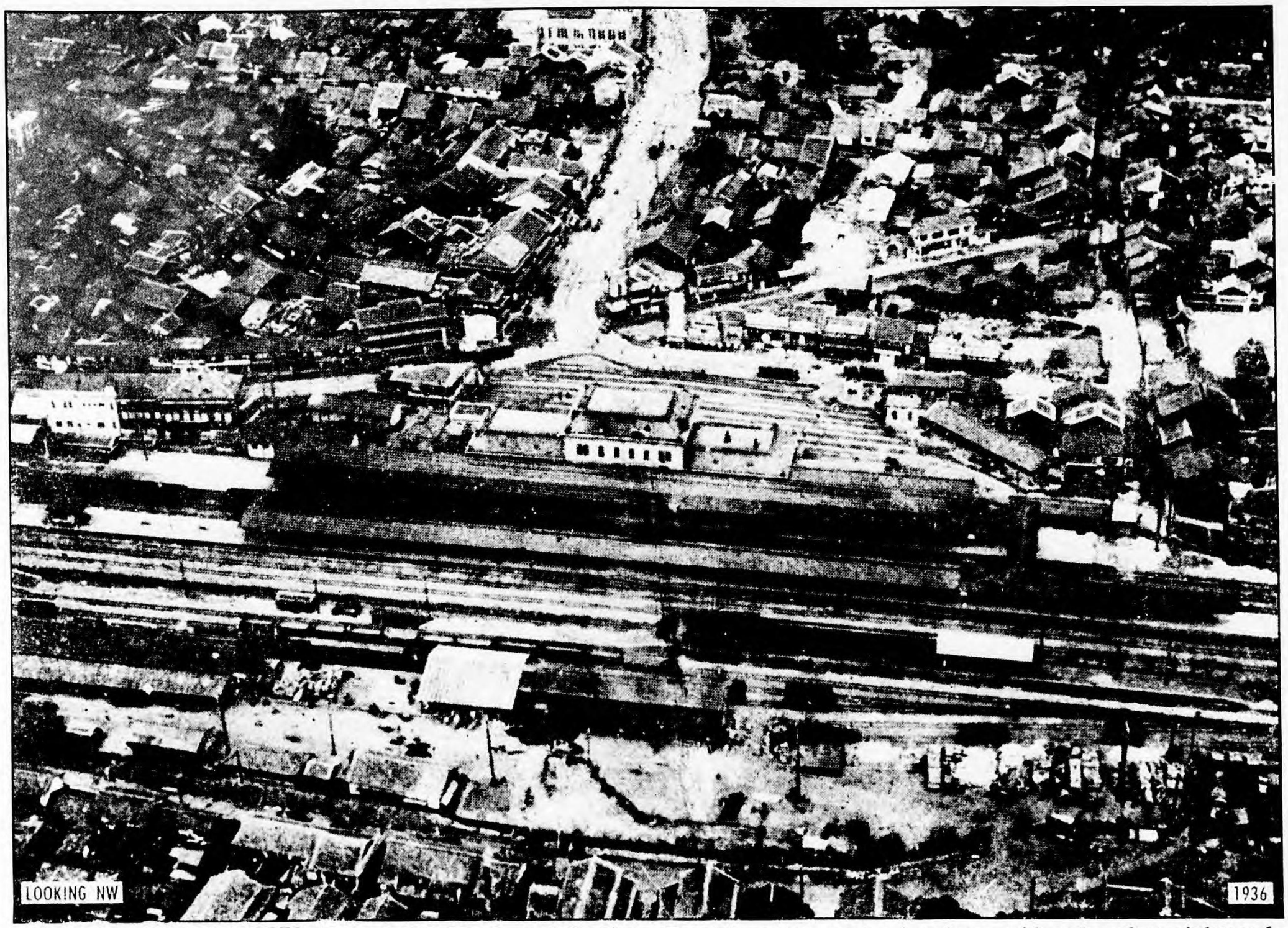
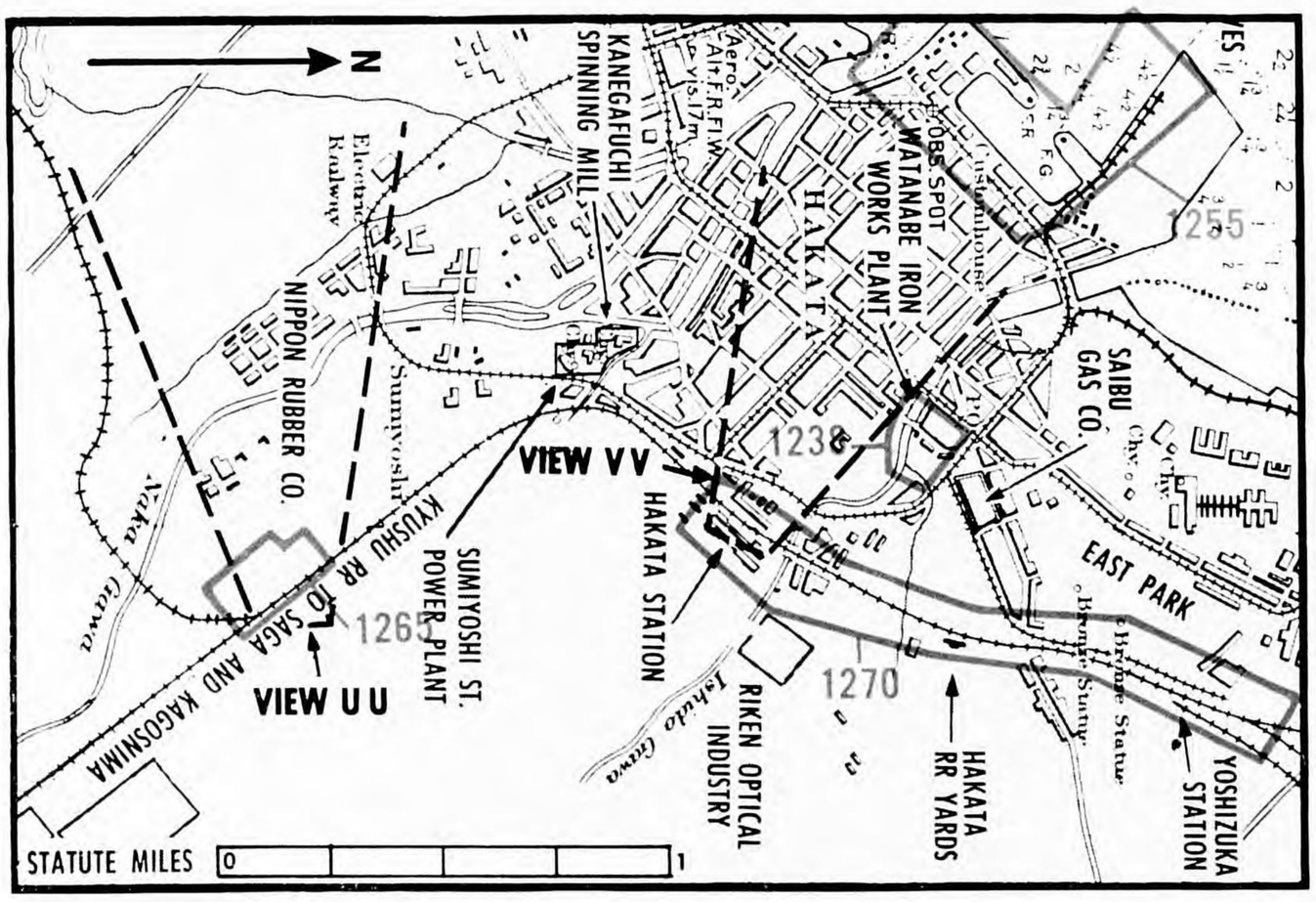
KURUME 90.35 SUMMARY (FUKUOKA REGION)

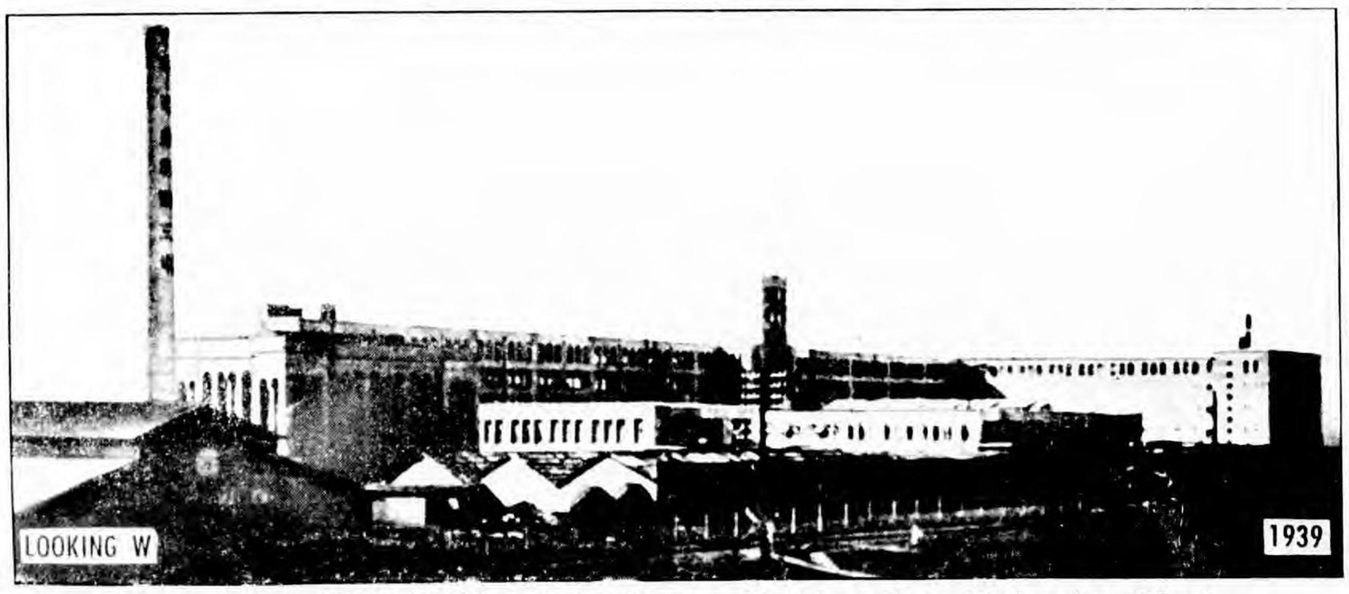
3640 - Kurume—35—First Proof

CONFIDENTIAL equals British Confidential



Fukuoka—TARGET 1270 Hakata RR Yards and Station. Road in upper center has been widened and straightened. For direction of photo note VIEW VV.





Fukuoka—TARGET 1265 Nippon Rubber Co., Fukuoka Plant. For direction of photo note VIEW UU.

TARGET 90.35—1270

HAKATA RR YARDS & STATION

FUKUOKA

(TRANSPORTATION)

33° 36′ N 130° 25′ E (Approx) — Principal RR station in Fukuoka. Urban rail lines converge at the station. Many sidings, covered platforms, whses and passenger station at S end of yards. Marshalling tracks in center. Roundhouse and coal storage at N end of yards. Less important than Tosu yards (TARGET 1871). Located along SE edge of Hakata.

(See photo on page 36; map on page M-13.)

TARGET 90.35—1265

NIPPON RUBBER CO.

(Nippon Gomu KK)

FUKUOKA

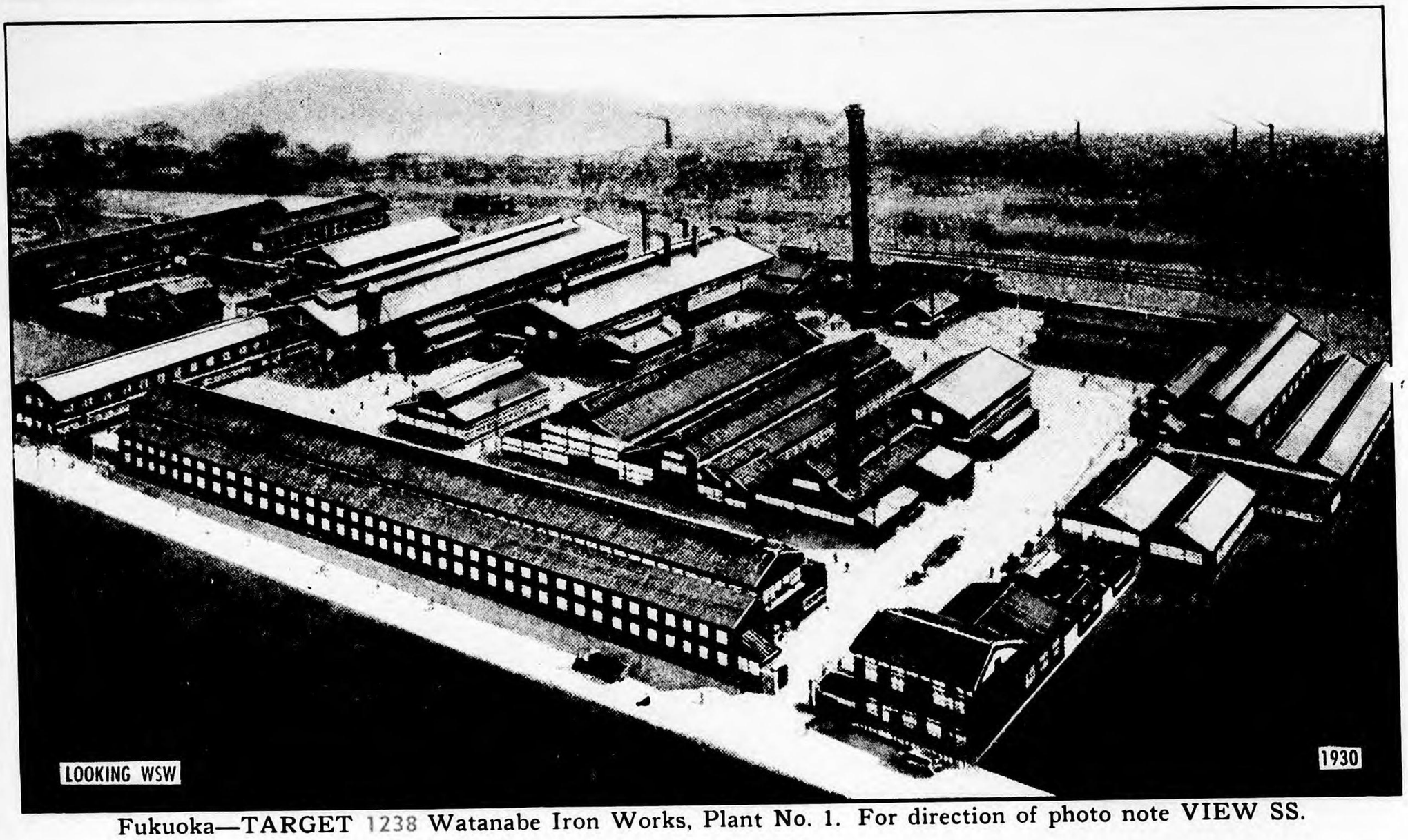
(RUBBER)

33° 35′ N 130° 25′ E (Approx) — Cap 45,000 pairs rubber boots and shoes daily. 700 tires (1940 est.) per day. Bldgs modern, ferro-concrete and flat roofed. Main bldg five stories U-shaped, other bldgs two stories. Boiler house with stack at SW corner. Located 1.5 mi SE of Fukuoka on the Kyushu Main Line RR and 3 mi NW of the Watanabe Aircraft Plant (TARGET 662). Nippon Rubber Co also makes chemicals used in curing rubber at this location. The rubber factory should not be mistaken for Hakata Brewery, a very large compound 2000 ft SE on the NE side of the RR.

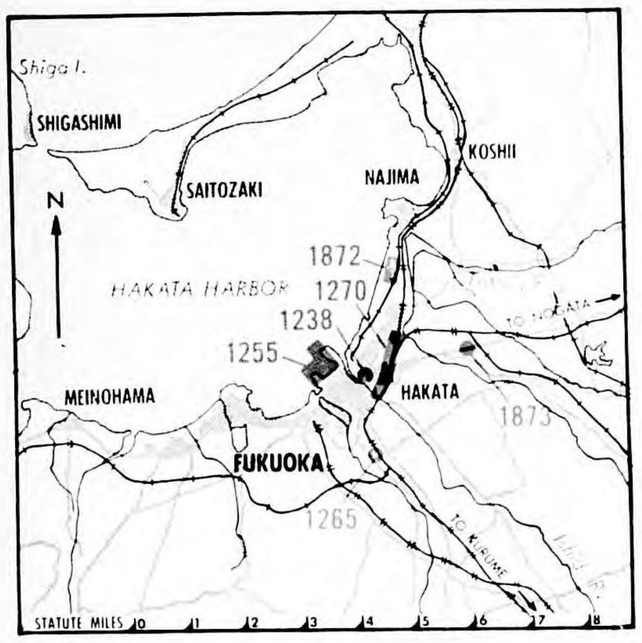
(See photo on page 36 and map on page M-13.)

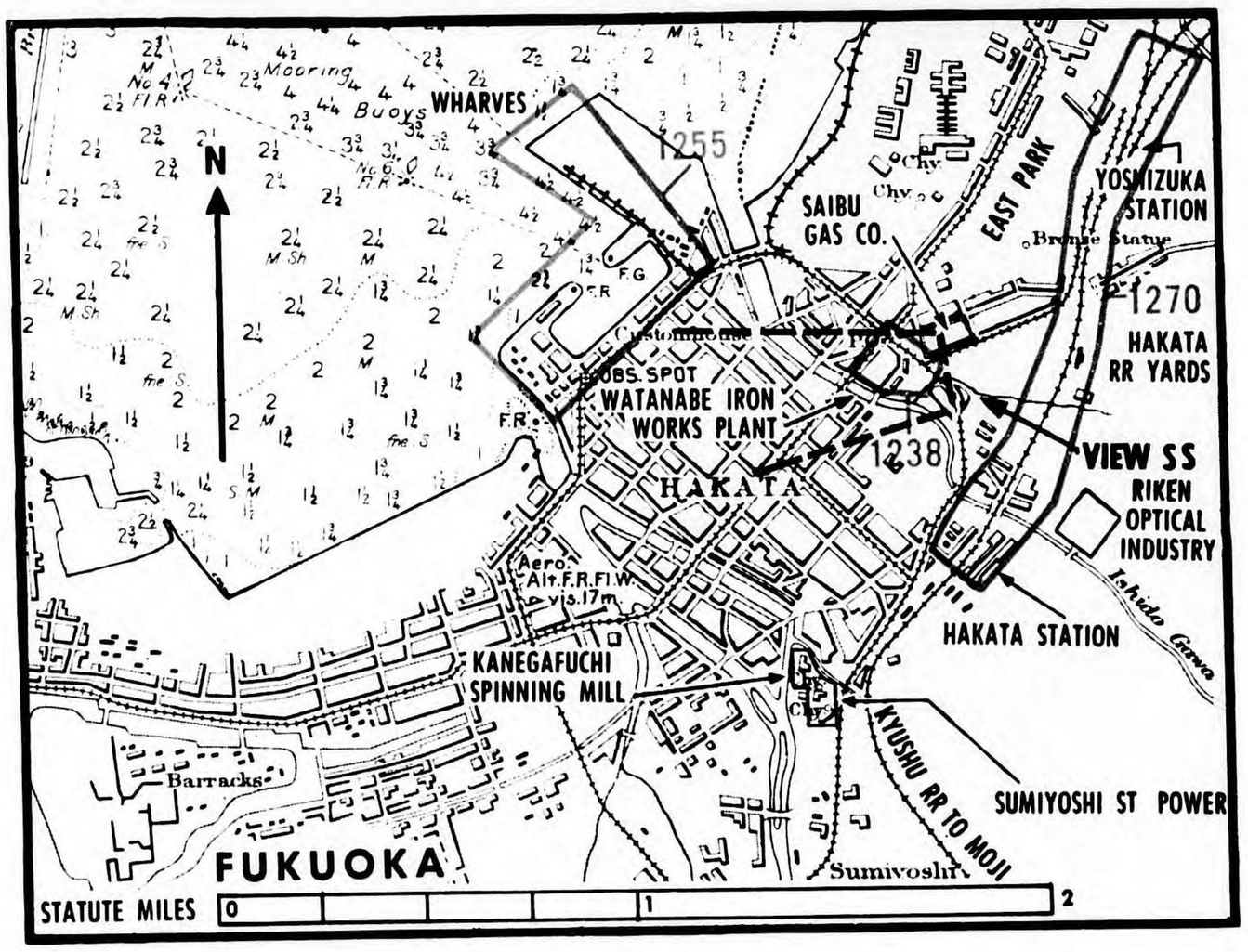
CONFIDENTIAL equals British Confidential

3649—Kurume—36—First Proof



Fukuoka—TARGET 1238 Watanabe Iron Works, Plant No. 1. For direction of photo note VIEW SS.





TARGET 90.35—1238

WATANABE IRON WORKS PLANT No. 1

FUKUOKA

(ARMS MANUFACTURE)

33° 36′ N 130° 25′ E (Approx)—Office and main plant of Watanabe Iron Works; produces heavy munitions and machinery. Known to be under contract for naval ordnance, but importance can not be determined. Located on Ishida River .6 mi from Hakata Bay just NW of Hakata RR Station. Tanks of the Saibu Gas Co. on the E side of plant are a fine landmark. This plant is low and made of slate and wood.

(See photo on page 37; map on page M-13.)

TARGET 90.35—1872

SHOWA IRON WORKS

(KK Showa Tekkosho)

FUKUOKA

(ARMS MANUFACTURE)

33° 38′ N 130° 25′ E (Approx)—Boiler works, reported producing ordnance for the navy. Rapidly expanding since 1938. Wartime importance unknown. Location: reported N of Kyushu University along the RR to Najima; spotting approximate.

(See maps on pages 38 and M-13.)

TARGET 90.35—1255

HAKATA HARBOR

FUKUOKA

(HARBOR FACILITIES)

33° 36′ N 130° 24′ E (Approx)—Exports some coal and handles general cargo for Fukuoka. Repair facilities for small ships up to 150 ft. Wharf along the W and N edges of filled land N of Hakata Basin has 1312 ft of berth space, depth 25.5 ft. Wharf has whses and RR connections. Location along SE shore of Hakata Bay including all of the Hakata waterfront. Rectangular basin does not handle large vessels but contains many lighters for loading coal.

(See map on page M-13.)

TARGET 90.35—1873

TATARA MACHINERY WORKS

FUKUOKA

(MACHINERY)

33° 36′ N 130° 27′ E (Approx)—Producing coal field equipment. Modern plant, is making heavy machinery and coal handling devices. Wartime importance unknown. Located 1 mi E of Hakata RR Yards and Station (TARGET 1270).

(See map on page M-13.)

3649—Kurume—37—First Proof

KURUME 90.35 TARGET 664 (FUKUOKA REGION)

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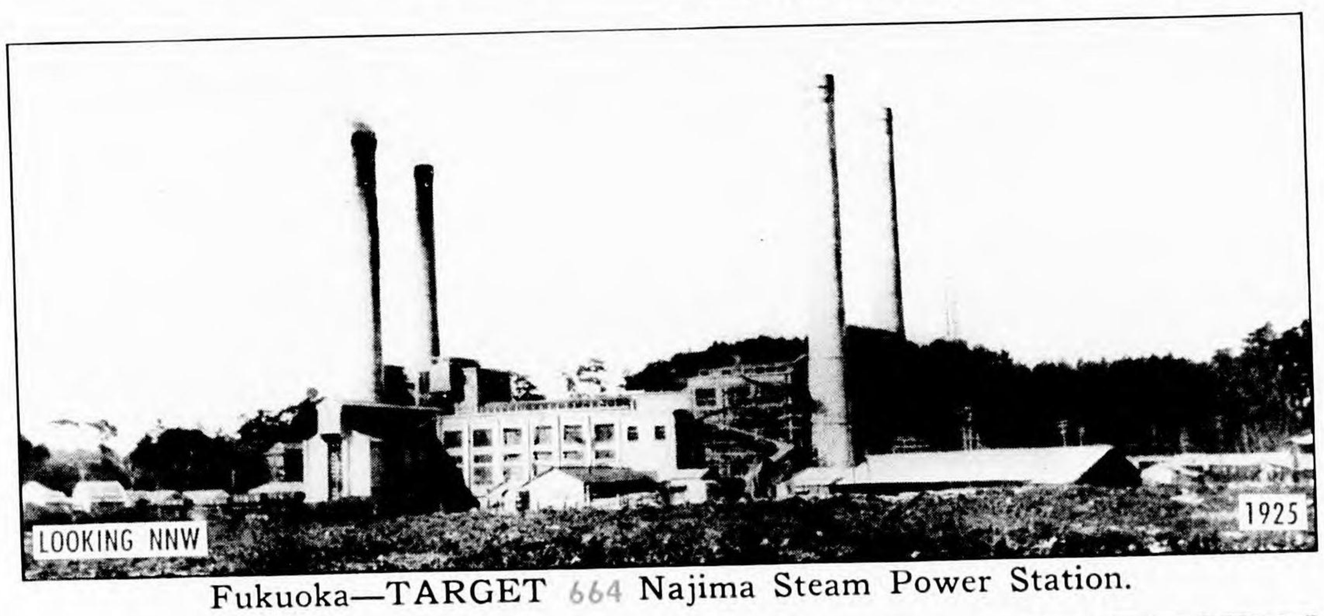
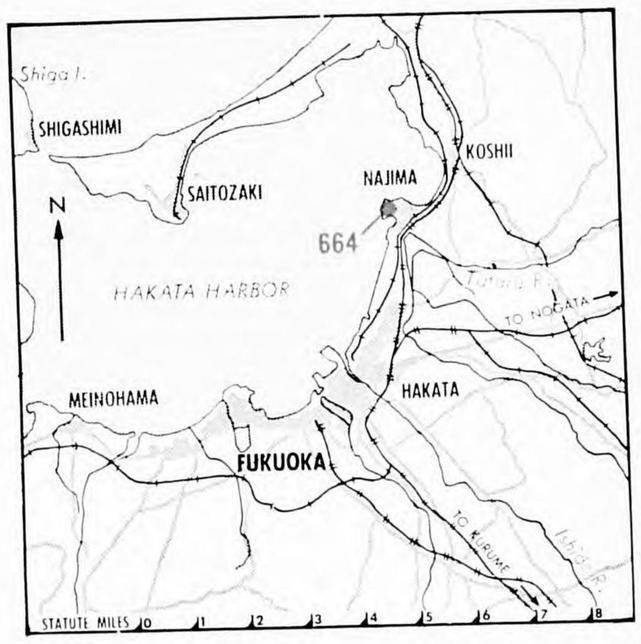
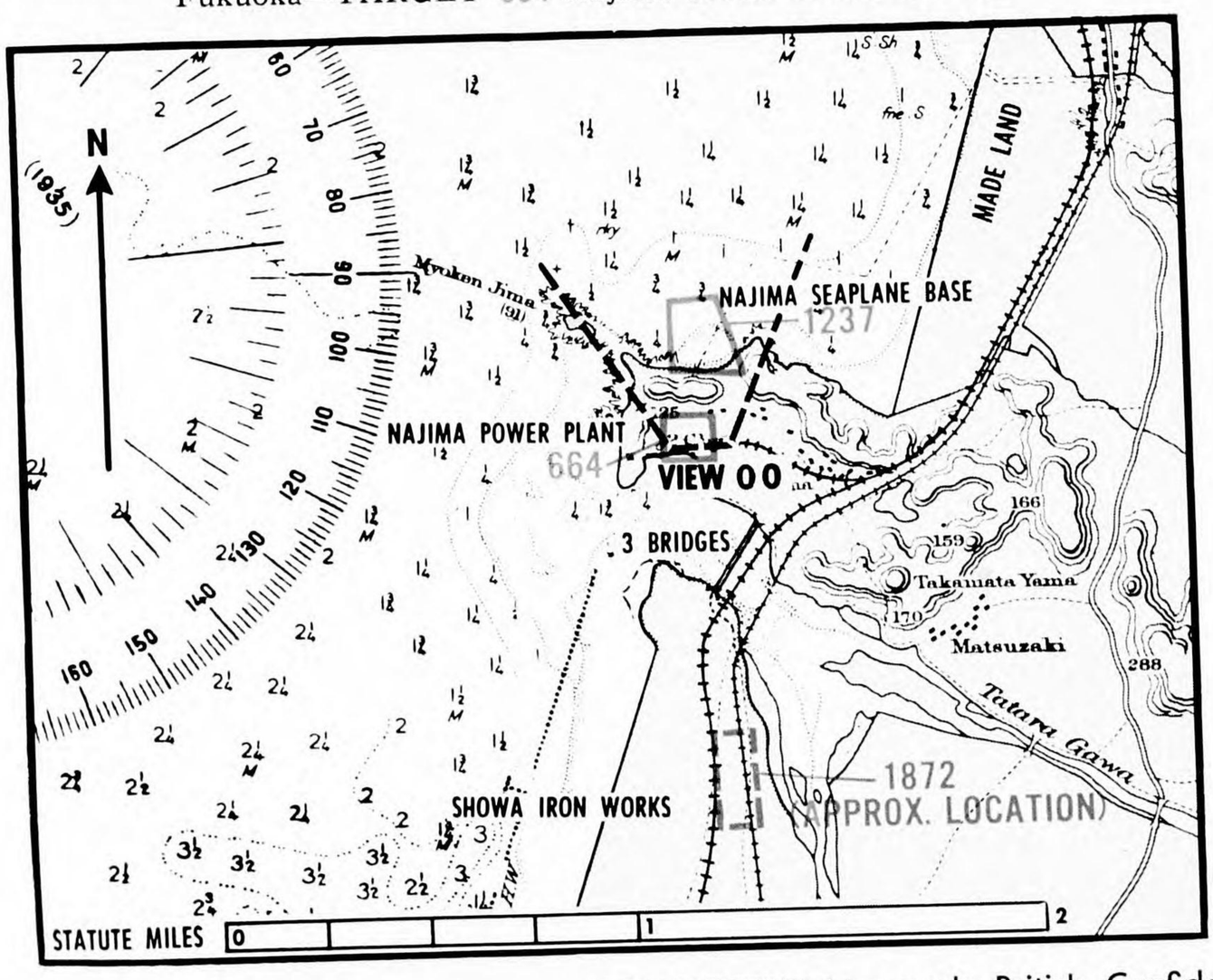
DESCRIPTION OF TARGETS

Fukuoka—TARGET 664 Najima Steam Power Station. TARGET 1237 Najima Seaplane Base.
For direction of photo note VIEW OO.



Fukuoka—TARGET 664 Najima Steam Power Station.





TARGET 90.35—664

NAJIMA STEAM POWER STATION

FUKUOKA

(ELECTRIC POWER)

33° 39′ N 130° 25′ E (Approx)—60,000 KW steam power station. Supplying power to Fukuoka Region on 60-cycle network. Four (or five) 200 ft stacks. Ferro-concrete powerhouse. Located 4 mi NNE of Fukuoka on S side of Najima point—E shore of Hakata Bay. Large coal piles along S side of plant with adjoining RR sidings. (See photos on pages 38 and 39; map on page M-13.)

3649—Kurume—38—First Proof

KURUME 90.35 TARGET 664 (FUKUOKA REGION)

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KURUME 90.35 TARGET 1237 (FUKUOKA REGION)

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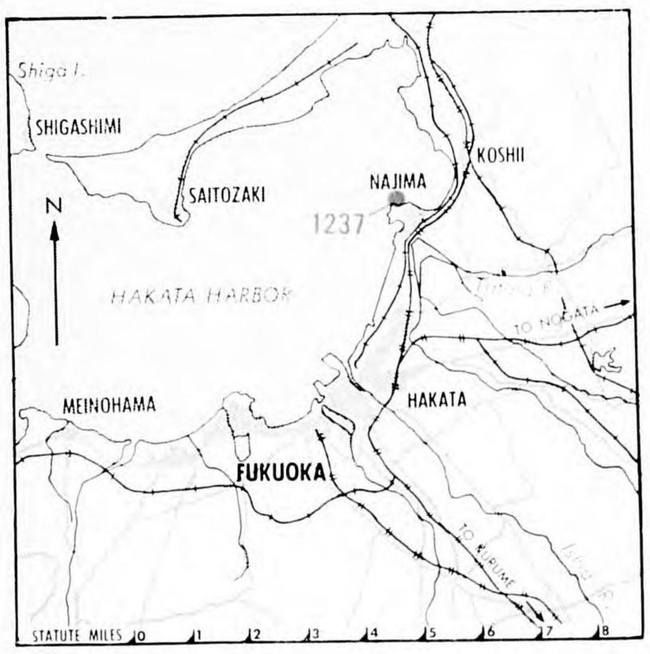
Fukuoka—TARGET 1237 Najima Seaplane Base. TARGET 664 Najima Steam Power Station.
For direction of photo note VIEW QQ.



TARGET 90.35—1237

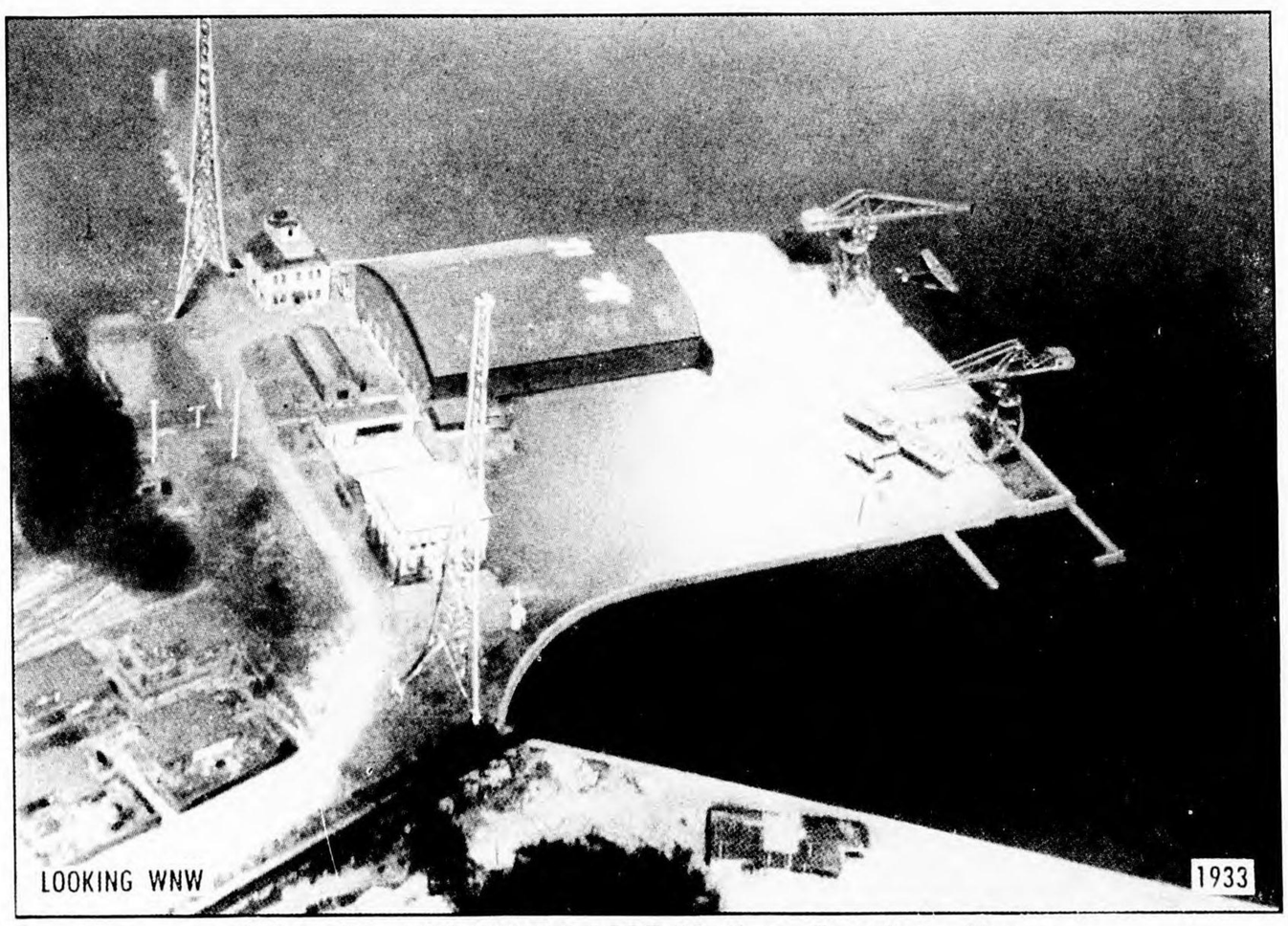
NAJIMA SEAPLANE BASE

FUKUOKA

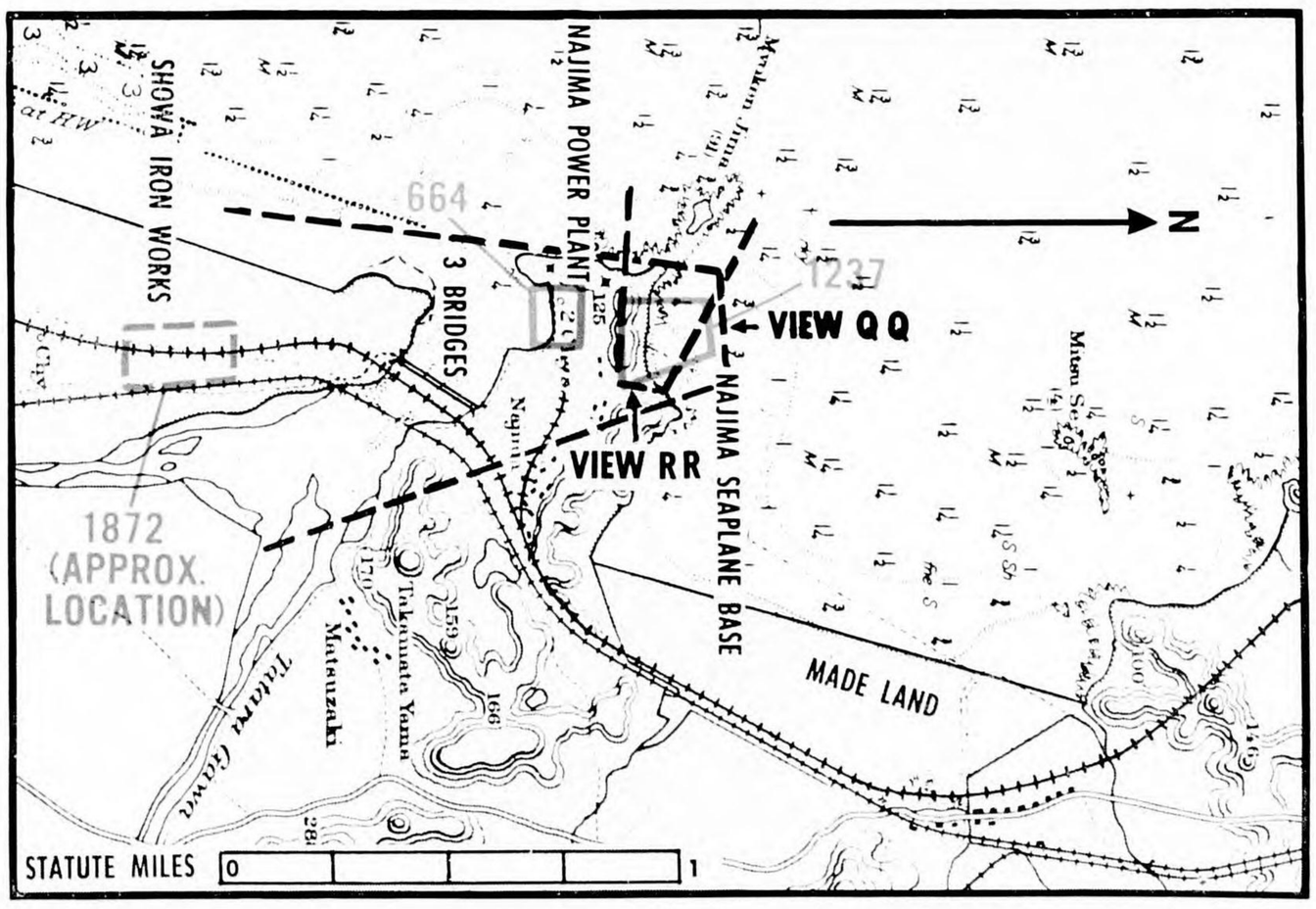
(AIRPORTS)

33° 39′ N 130° 26′ E (Approx)—Seaplane base for civil airlines to Korea and Formosa. Equipment includes one large hangar, two heavy duty cranes, radio, and fuel—all installed on a rectangular concrete platform. Located on Najima Point E shore of Hakata Bay 100 yards N of Najima Steam Power Station (Target No 664) which is on the S side of the Point. Three lace-work radio towers Just S of the platform.

(See photos on pages 38 and 39; maps on pages M-3 and M-13.)



Fukuoka—TARGET 1237 Najima Seaplane Base.
For direction of photo note VIEW RR.



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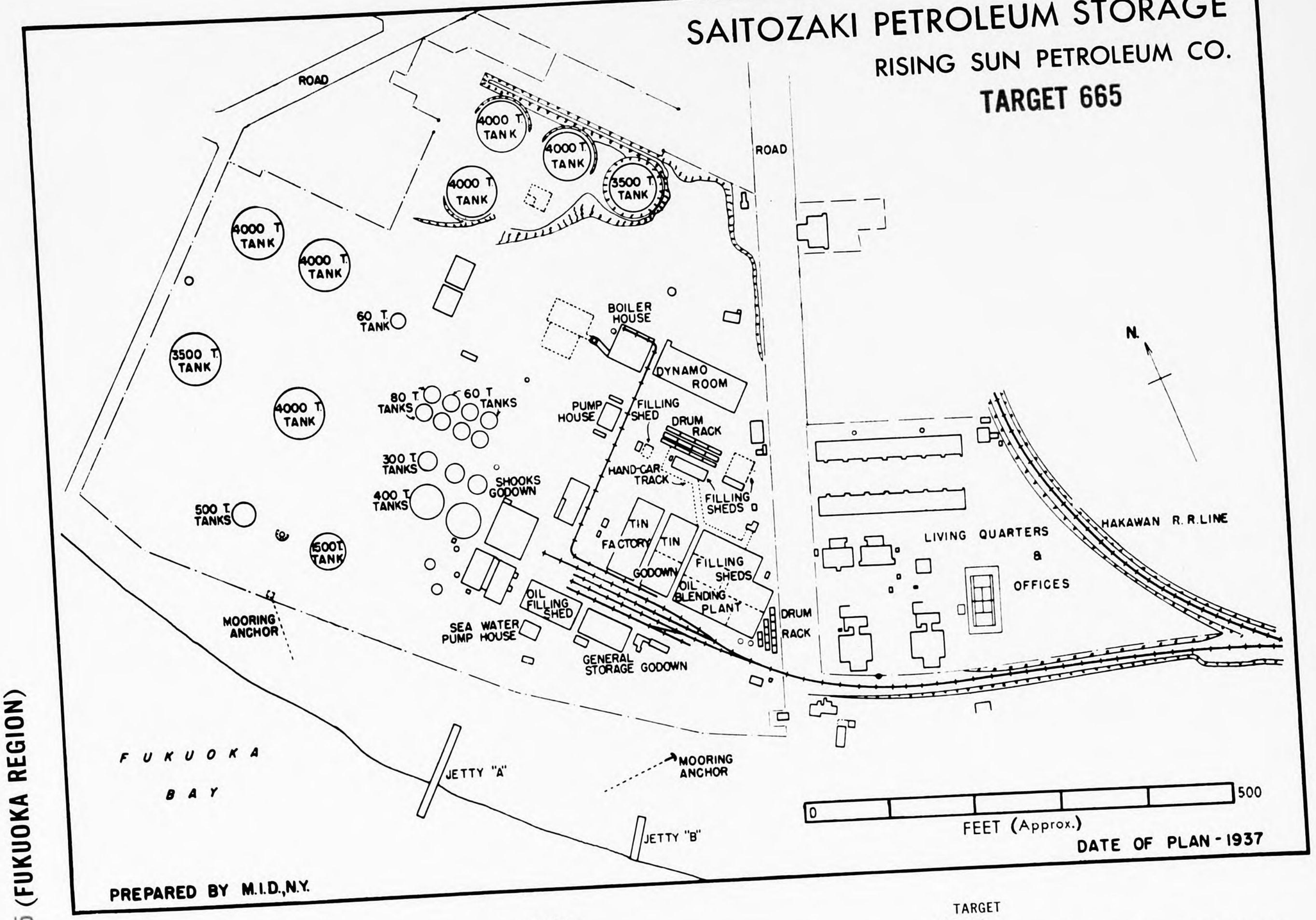
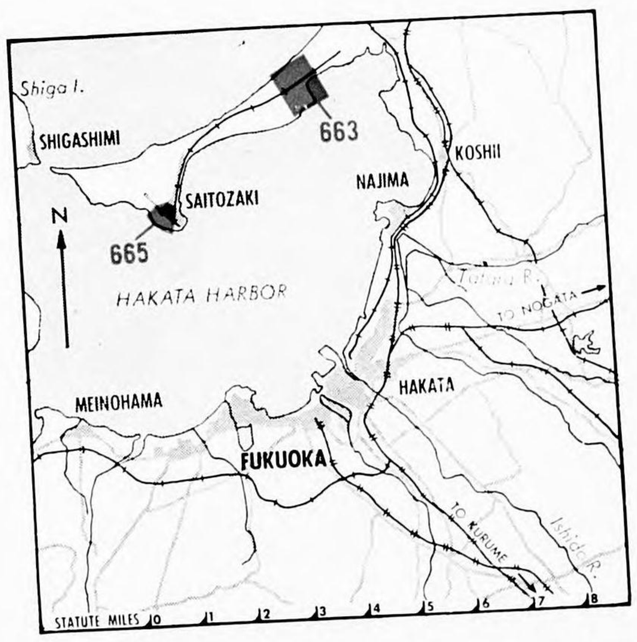
KURUME 90.35 TARGET 1237 (FUKUOKA REGION)

3649—Kurume—39—First Proof





TARGET 90.35—663

FUKUOKA AIR STATION

FUKUOKA

(AIRPORTS)

33° 41′ N 130° 24′ E (Approx) — Was formerly principal commercial airport in Kyushu. Now naval training field. There are two crossing runways with approaches from the hangars; the main runway lies NNW/SSE. A concrete apron and ramp on NE side serve seaplanes. Located directly N of Fukuoka across Hakata Bay, on the S shore of the peninsula. Repair shops, fuel storage, reported experimental engine plant.

(See photo on page 40; maps on pages M-3 and M-13.)

TARGET 90.35—665

SAITOZAKI PETROLEUM STORAGE

FUKUOKA

(PETROLEUM)

33° 39′ N 130° 22′ E (Approx) — Important bunkering point. Reported storage cap: 300,000 bbls. Also many small tanks. Located 4 mi NNW of Fukuoka and 3.4 mi SW of Fukuoka Air Station (TARGET 663). Installations include three eight inch pipelines and bunkering piers equipped with belt conveyors for loading coal, tin plant, large whses for drummed oil. The oil storage tanks are the significant targets.

(See map on page M-13.)

Fukuoka—TARGET 663 Fukuoka Air Station.

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Air Objective Folder
KURUME REGION
KURUME AREA, No. 90.35

INDEX OF TARGETS BY NUMBER, CLASSIFICATION AND NAME

TARGET NUMBER	NAME	PAGE
	MILITARY INSTALLATIONS	
1247	Kurume Military Zone	45
	RUBBER	
1263	Bridgestone Tire Co.	43
1264	Nippon Rubber Co.	44
1266	Tsuchiya Tabi Co.	45
	TRANSPORTATION (RR)	
1269	Kurume RR Station	46

Summary and Evaluation of Kurume Region

The city of Kurume is important in Japan's rubber industry. The Bridgestone Tire Company **TARGET 1263,** now owned by Nippon Rubber Co., is the outstanding plant in the Region, manufacturing 23% of Japanese tires and tubes. Adjoining this plant and on the same compound is the Nippon Rubber Co.'s Kurume plant **TARGET 1264.** Although it produces only rubber footwear, it should be considered with Bridgestone, since their sources of labor, raw materials, and some equipment are interchangeable. Tsuchiya Tabi Co. **TARGET 1266,** now owned by Nikka Rubber Co., is one of Japan's largest producers of rubber footwear. Additional small rubber plants are also in the city.

The military zones in Kurume City **TARGET 1247** are centrally disposed for the defense of Kyushu and include divisional HQ and an army arsenal. There is an army airfield and air arsenal at Tachiarai.

The bridges NE of Kurume and N of Kurume RR Station **TARGET 1269** are points at which the transportation of finished products and coal from the highly industrialized region around Omuta to N Kyushu can be interrupted. Neither are targets. Warehouses in vicinity of Kurume RR Station store oil and probably military supplies. These buildings are mostly old wood structures and are intermingled with wooden dwellings making the area around the RR station susceptible to incendiary attack.

3649—3624—Kurume—41—FirstProof

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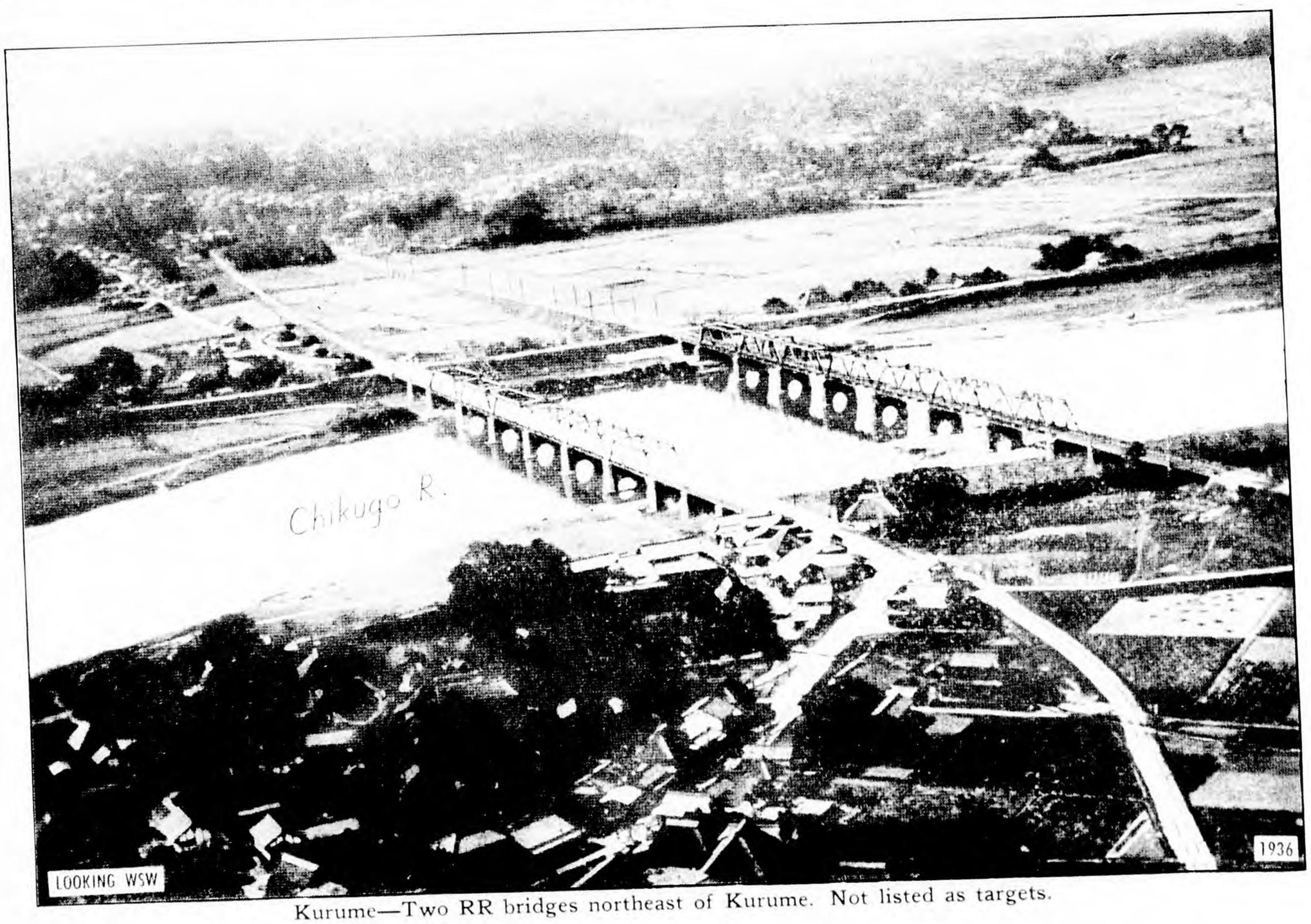
Kurume.



Kurume—Two RR bridges northeast of Kurume. Not listed as targets.

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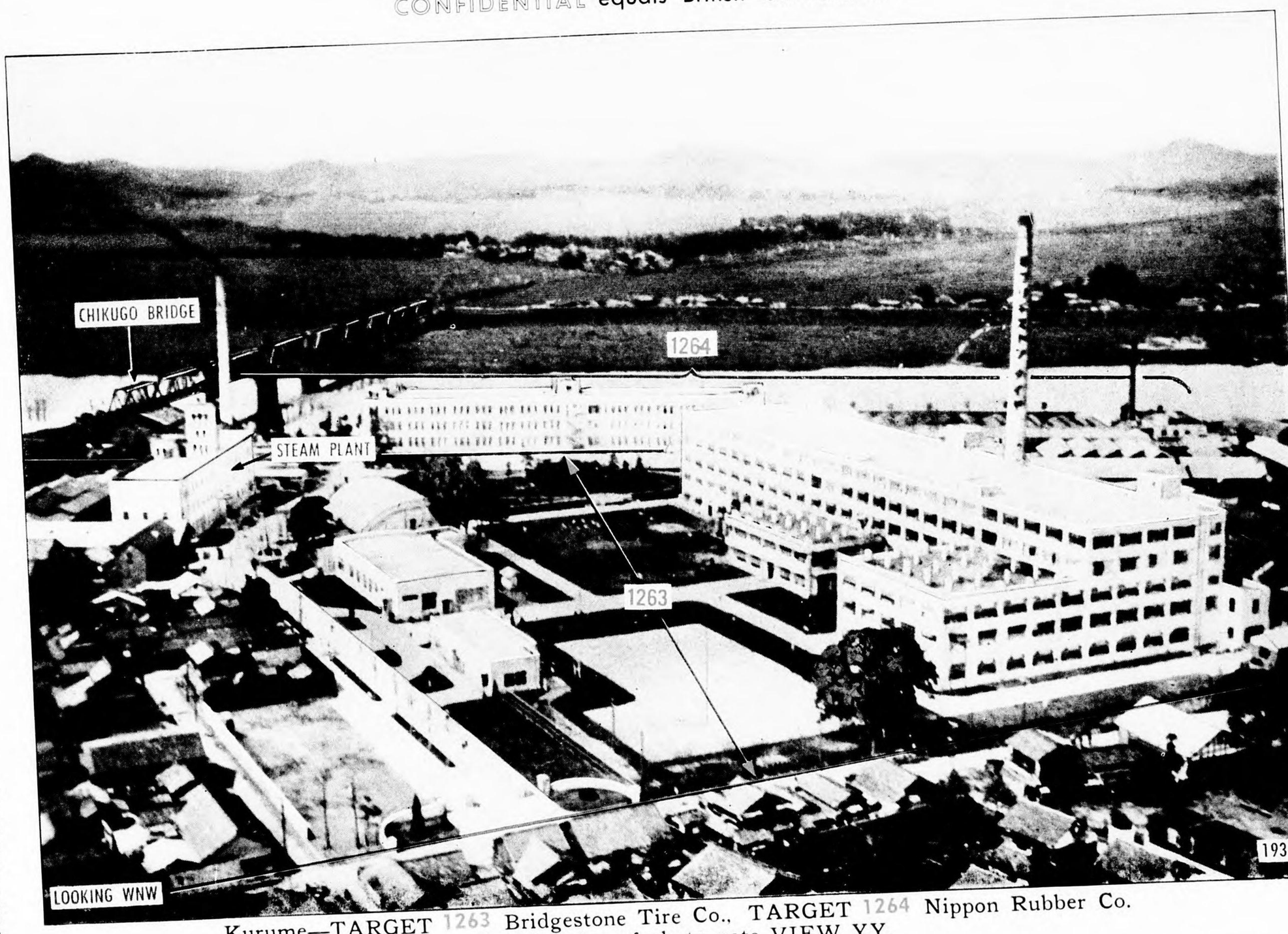
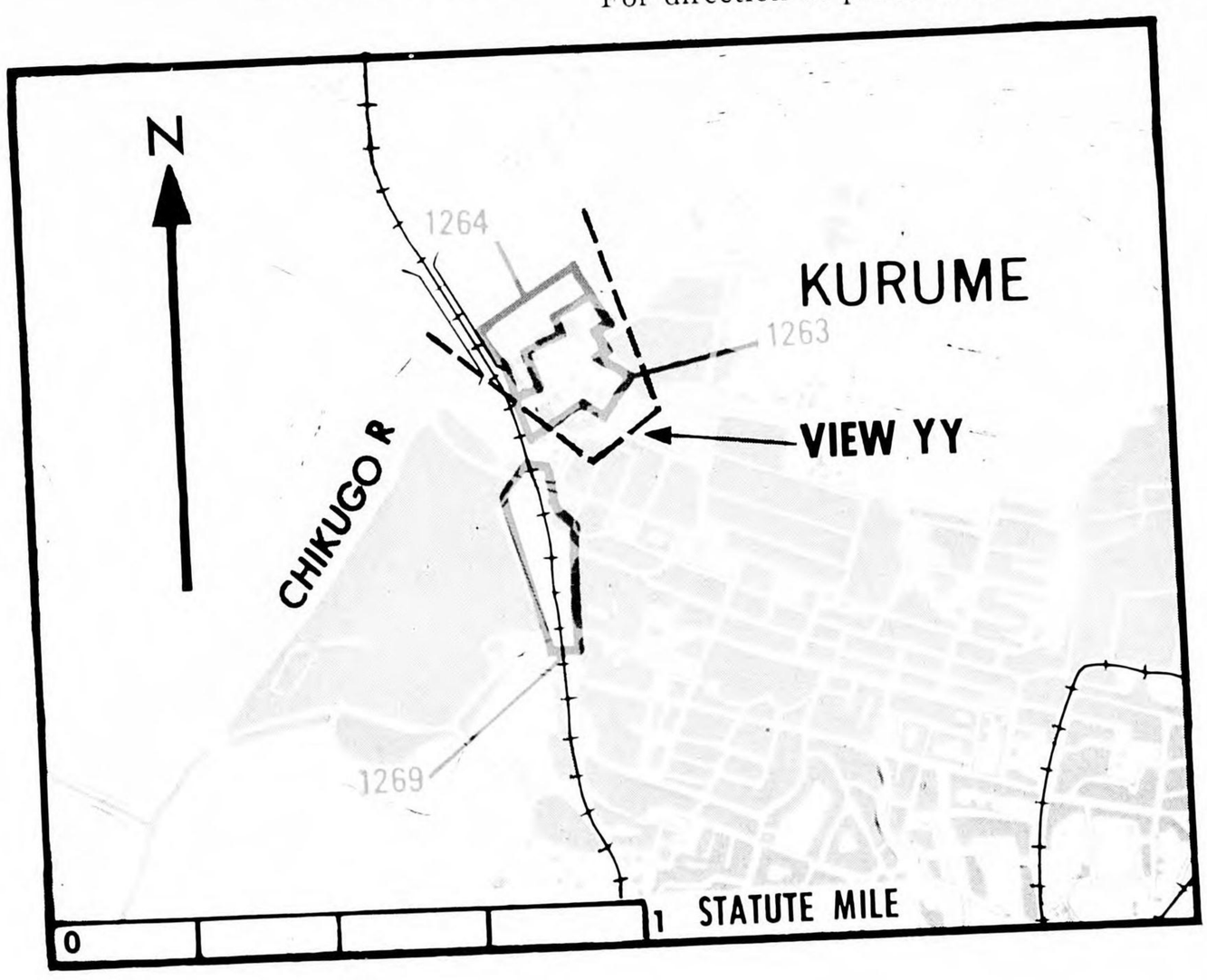
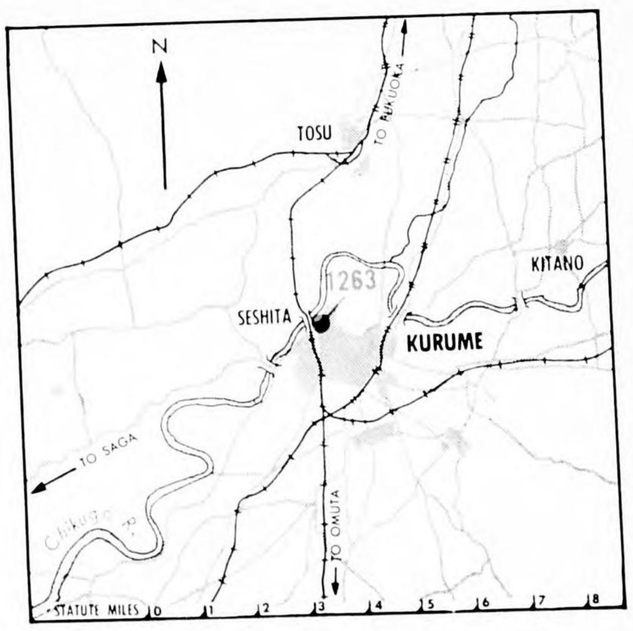
KURUME 90.25 SUMMARY (KURUME REGION)

3649—Kurume—42—First Proof



Kurume—TARGET 1263 Bridgestone Tire Co., TARGET 1264 Nippon Rubber Co.
For direction of photo note VIEW YY.





TARGET 90.35—1263

BRIDGESTONE TIRE CO.

(Now Nippon Gomu K.K.)

KURUME

(RUBBER)

33° 19′ N 130° 30′ E (Approx)

This very large tire plant produces about 2100 automobile and truck tires daily, 23% of Japan's total. Plant located on five acre compound jointly occupied by Kurume plant of Nippon Rubber Co (TARGET 1264) which lies between Bridgestone and the Chikugo River. Located in NW section of Kurume City, E of the RR and along the S bank of the Chikugo River. Bldgs are modern, flat-roofed, ferro-concrete and three to five stories high; two large factory bldgs, a boiler house furnishing steam for the process with a 200 ft stack. NOTE: just North of these rubber plants is Kurume Mill of Kanegafuchi Spinning Co.

(See photos on pages 43, 44 and 46; maps on pages M-10 and M-11.)

KURUME 90.35 TARGET 1263 (KURUME REGION)

3649—Kurume • 43—First Proof

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KURUME 90.35 TARGET 1264 (KURUME REGION)

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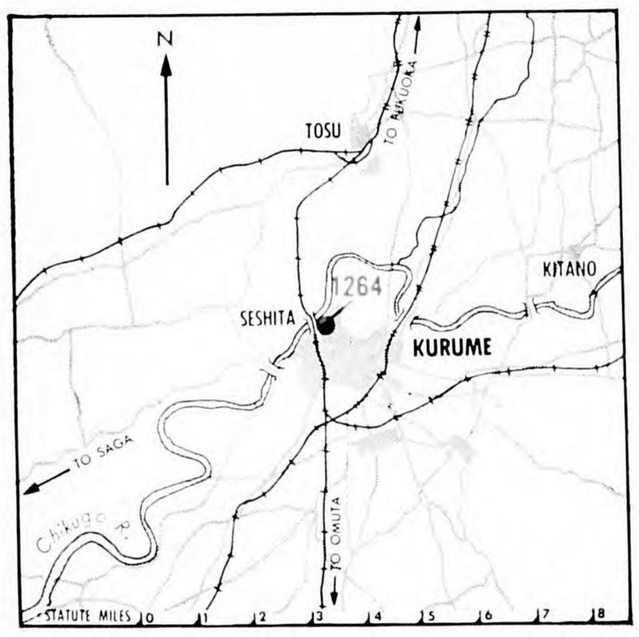
Kurume—TARGET 1264 Nippon Rubber Co. TARGET 1263 Bridgestone Tire Co.
For direction of photo note VIEW ZZ.

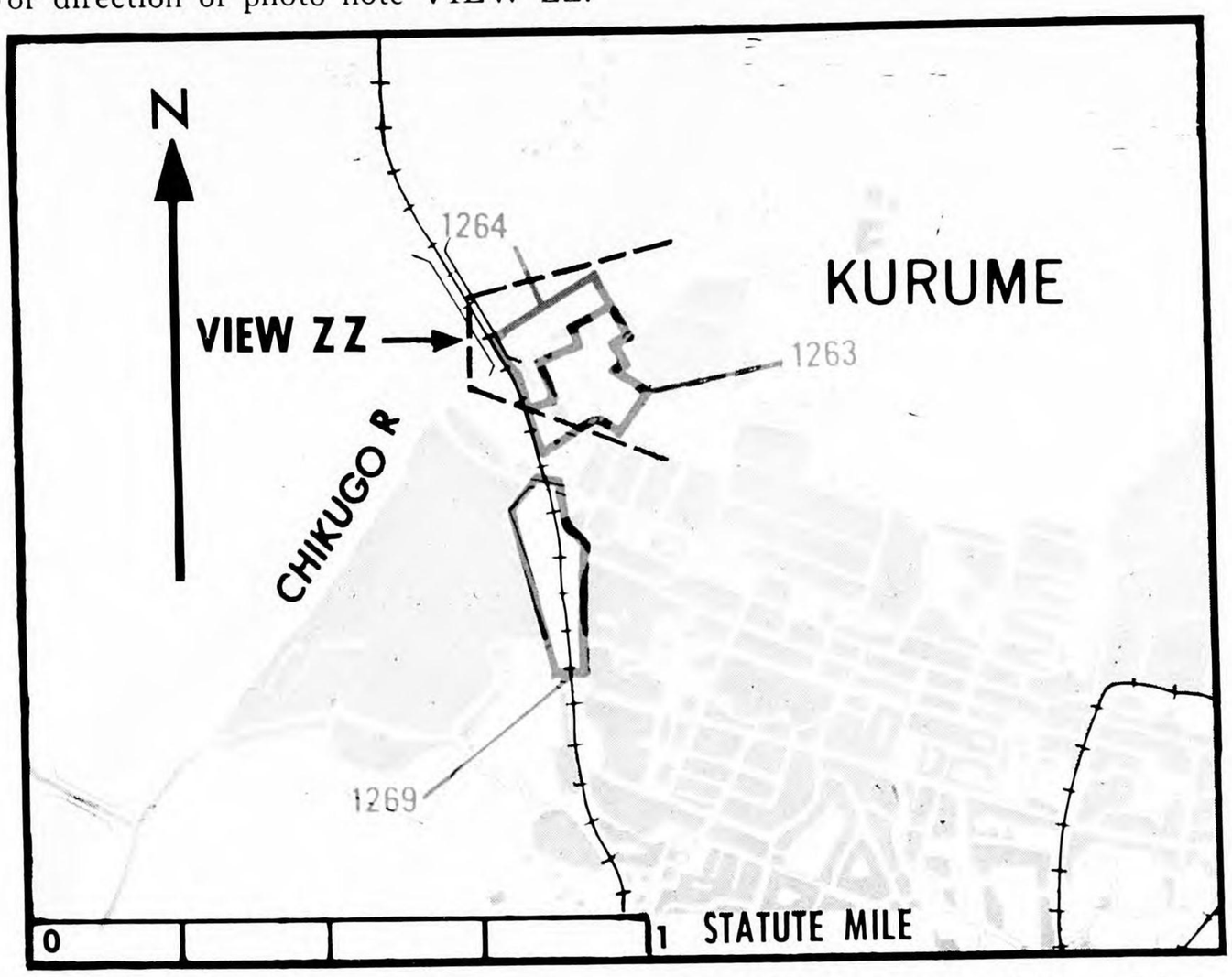


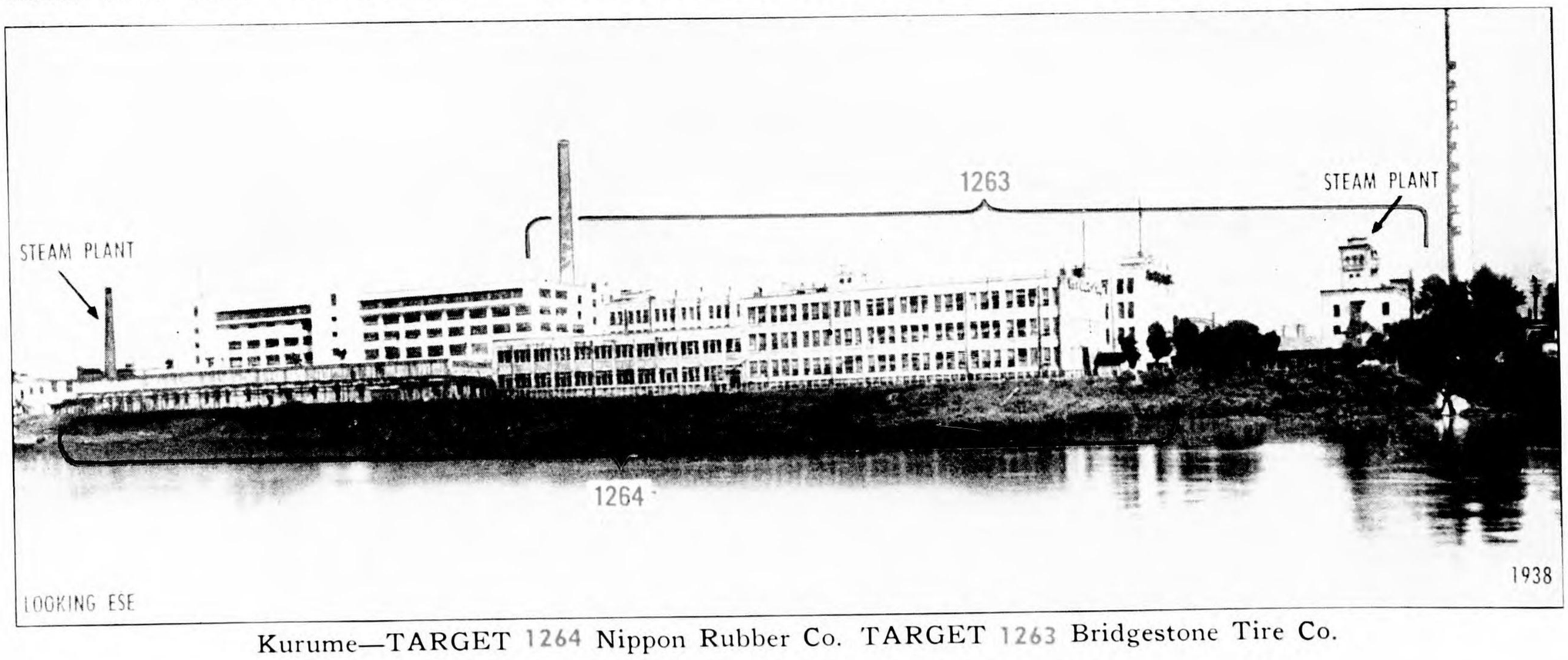
TARGET
90.35—
1264

NIPPON RUBBER CO.

(Nippon Gomu KK)
Kurume City Plant
KURUME
(RUBBER)

33° 19′ N 130° 30′ E (Approx)
Rubber factory producing about 80,000 pairs of rubber soled shoes and rubber boots daily. Boiler house by Chikugo River RR Bridge furnishes necessary steam. It is linked with the Bridgestone Tire Co's steam plant. The power supply is interchangeable. Located E side of RR between Bridgestone Tire Co (TARGET 1263) and the Chikugo River. (See photos on pages 43, 44 and 46; maps on pages M-10 and M-11.)





Kurume—TARGET 1264 Nippon Rubber Co. TARGET 1263 Bridgestone Tire Co.

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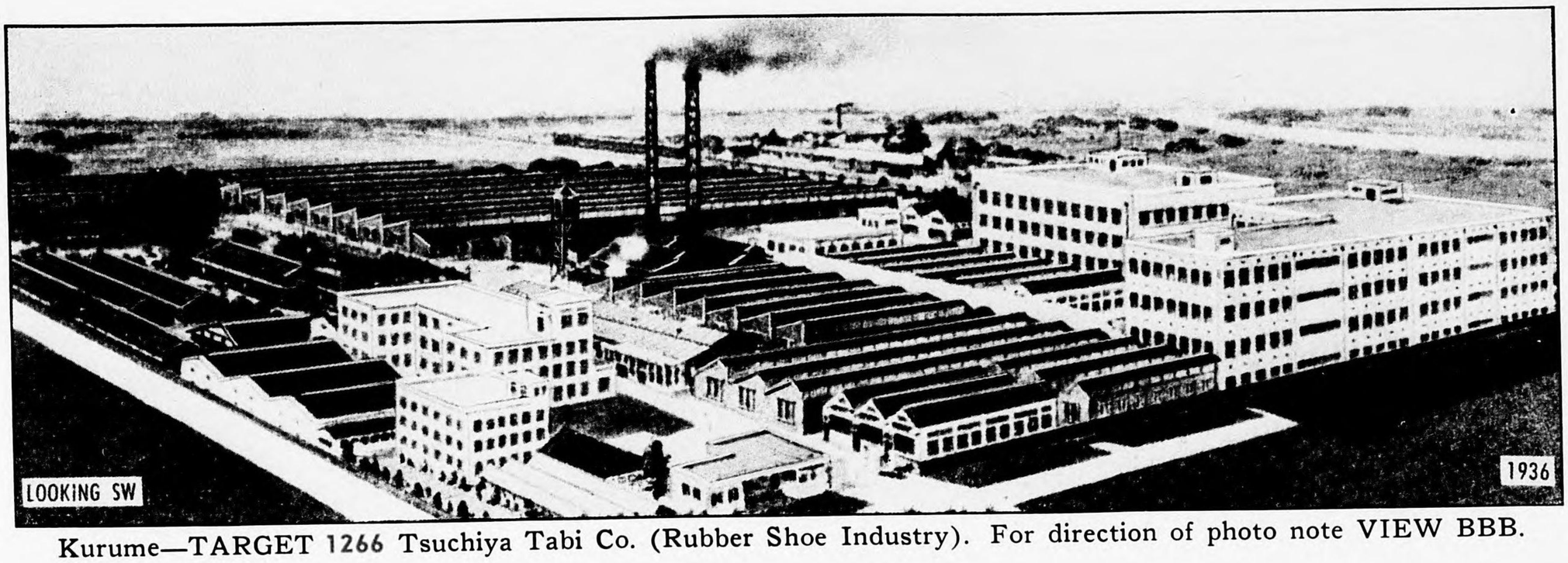
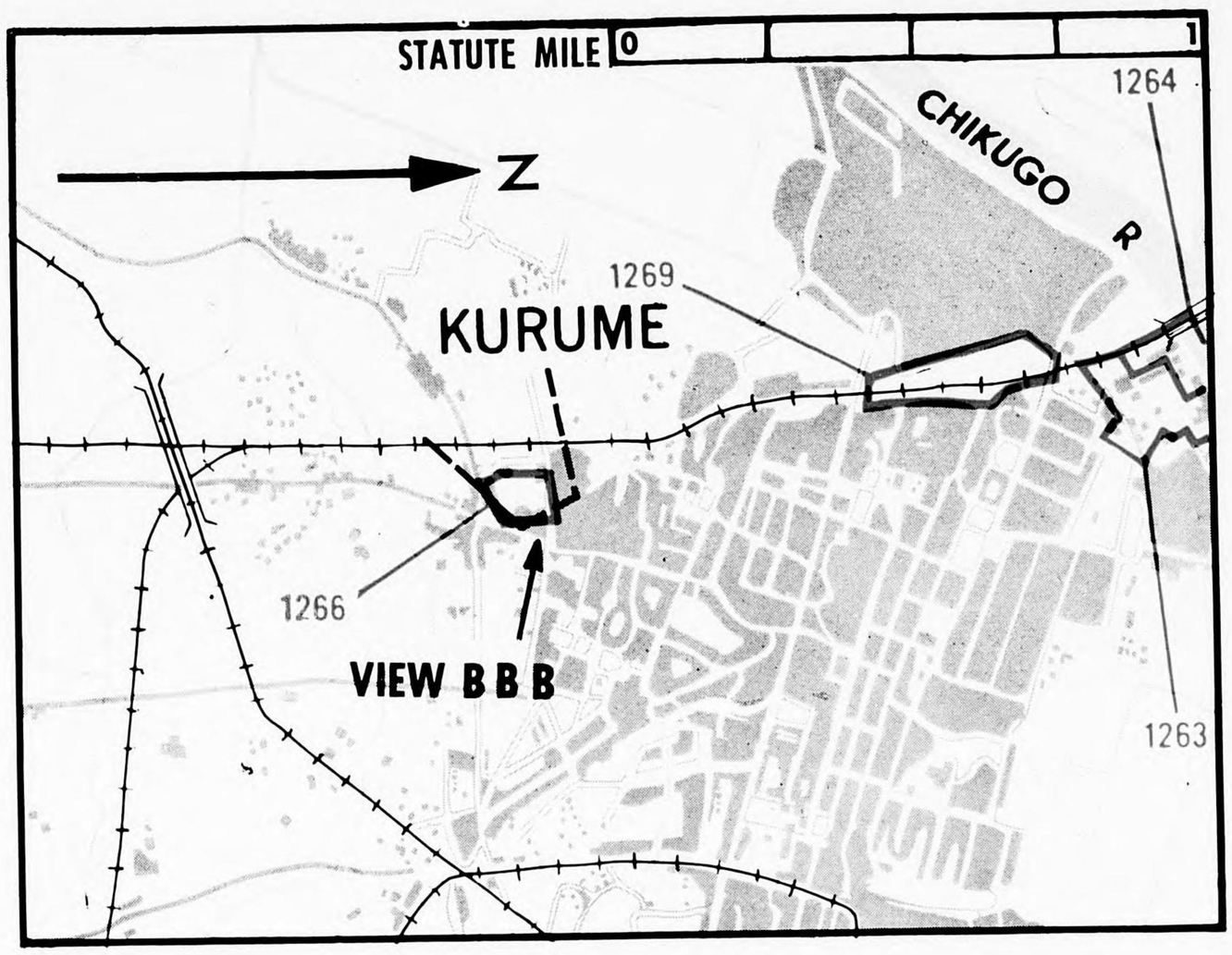
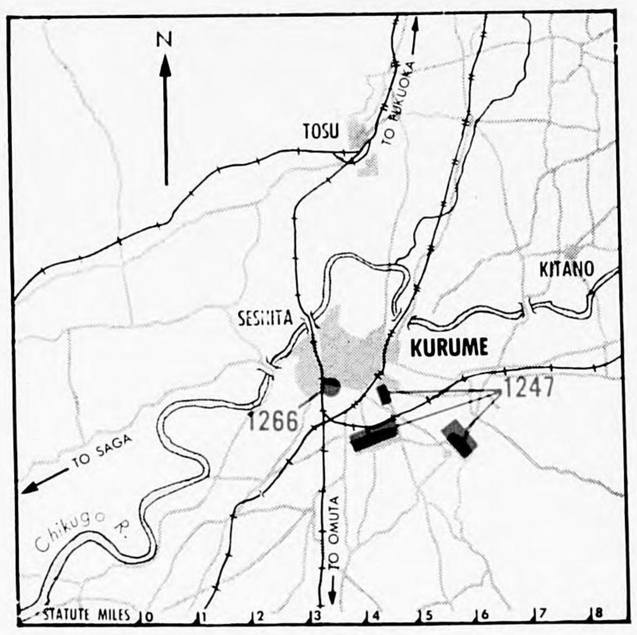
KURUME 90.35 TARGET 1264 (KURUME REGION)

DESCRIPTION OF TARGETS



Kurume—TARGET 1266 Tsuchiya Tabi Co. (Rubber Shoe Industry). For direction of photo note VIEW BBB.





TARGET 90.35— 1266

TSUCHIYA TABI CO.

(Now Nikka Gomu Kogyo KK)

KURUME

(RUBBER)

33° 18′ N 130° 30′ E (Approx)— Recently taken over by Nikka Rubber Industry this plant is being expanded. A large producer of rubber soled shoes and rubber boots. Bldgs mixed: brick walls reinforced with saw-tooth roofs, and modern, ferro-concrete four storied bldgs. Steam power plant in the center of the compound; two stacks. Location 1.2 mi S of Bridgestone Tire Co on the E side of the RR; .8 mi S of Kurume RR Station (TARGET 1269).

(See photo on page 45; maps on pages M-10 and M-11.)

TARGET 90.35— 1247

KURUME MILITARY ZONE

KURUME

(MILITARY INSTALLATIONS)

33° 18′ N 130° 32′ E (Approx)— HQ and barracks of 12th Division. Three separate groups of bldgs; HQ and arsenal are in N group. Arsenal primarily an ordnance depot. SW and SE groups are barracks which have in the past quartered all branches of the army. Located in S section of Kurume City.

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

3649—Kurume-45—First Proof

KURUME 90.35 TARGET 1269 (KURUME REGION)

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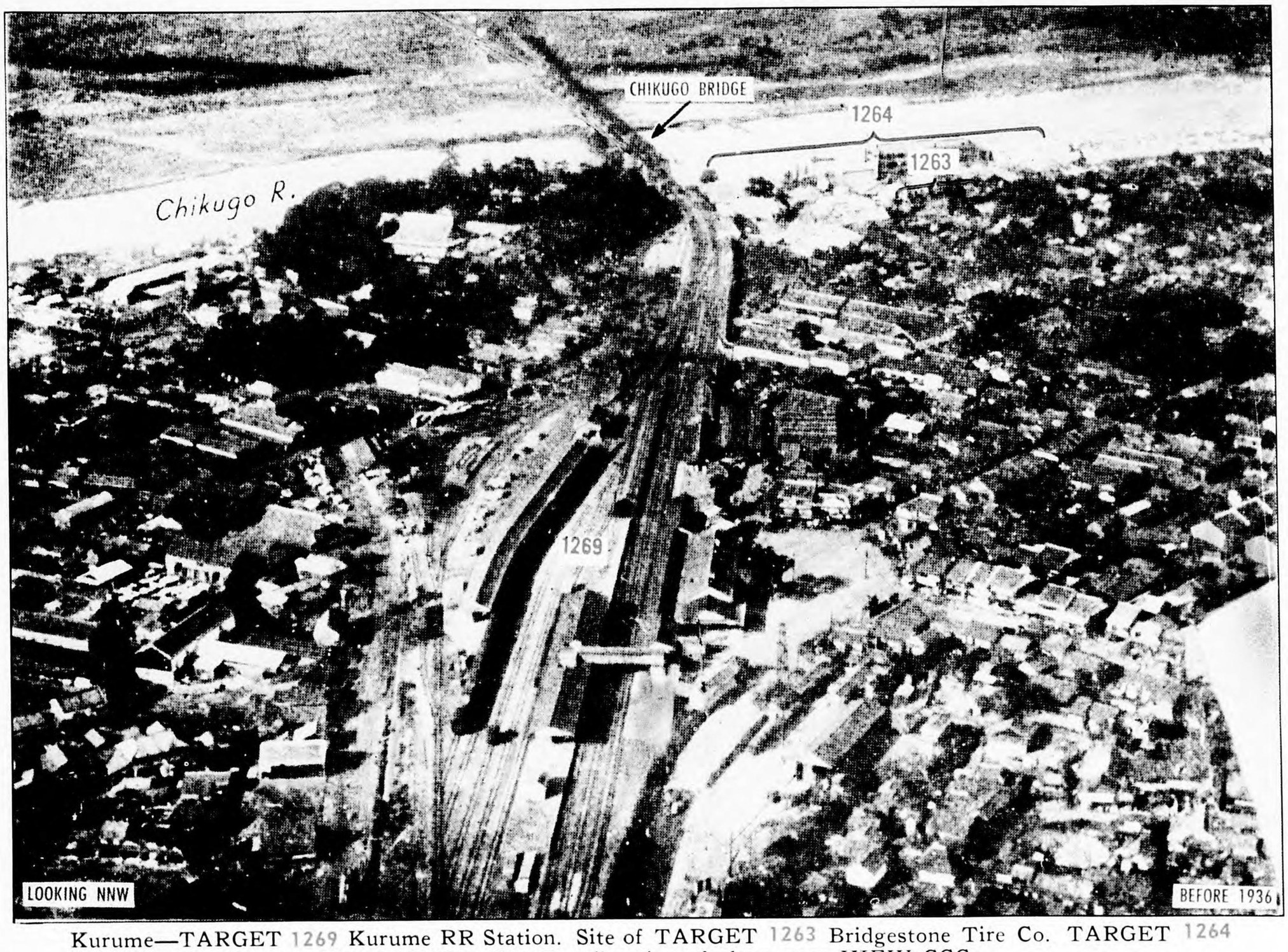
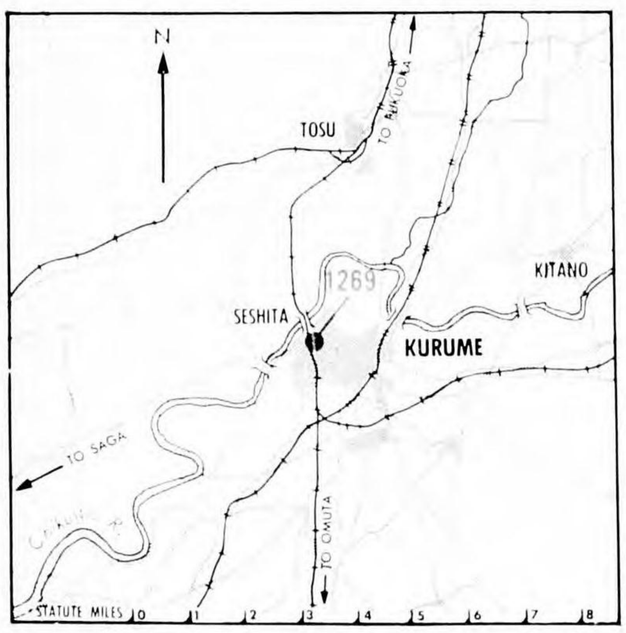


Kurume—TARGET 1269 Kurume RR Station. Site of TARGET 1263 Bridgestone Tire Co. TARGET 1264 Nippon Rubber Co. For direction of photo note VIEW CCC.



TARGET 90.35— 1269

KURUME RR STATION

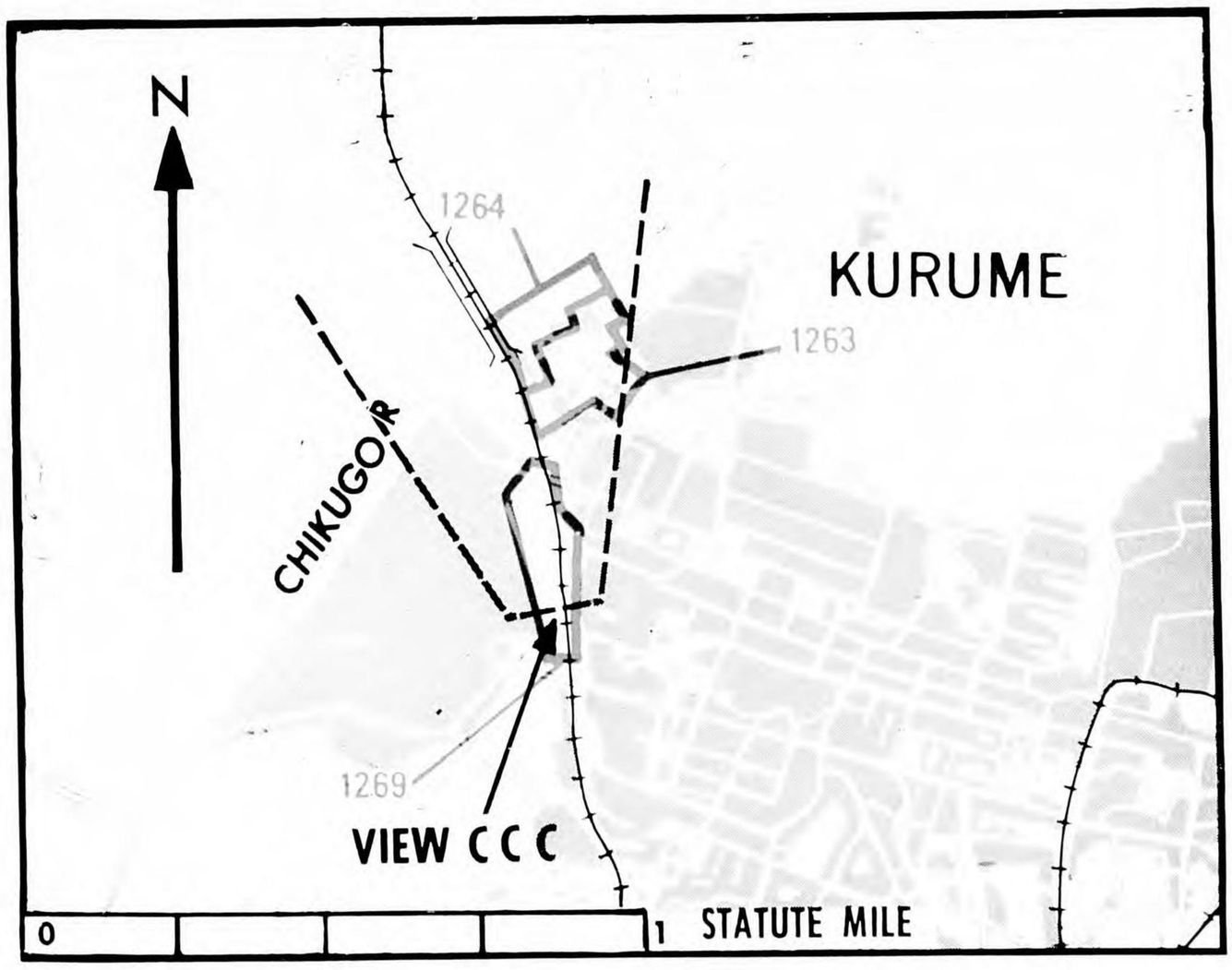
KURUME

(TRANSPORTATION)

33° 19′ N 130° 30′ E (Approx)

Passenger and freight stations, sidings but very little marshalling, a large number of whses for military ordnance, oil, and civilian materials. Located .3 mi S of Bridgestone Tire Co (Target No 1263).

(See photo on page 46; maps on pages M-10 and M-11.)



KURUME 90.35 TARGET 1269 (KURUME REGION)

3649—Kurume•46—First Proof

Air Objective Folder
NOGATA REGION
KURUME AREA, No. 90.35

INDEX OF TARGETS BY NUMBER, CLASSIFICATION AND NAME

TARGET NUMBER	NAME	PAGE
	BUILDING MATERIALS	
1242	Sangyo Cement Co.	49
	MACHINERY	
1257	Kobukuro Machinery Works	50
	COAL	
1274	Dainoura Mine	49
1275	Tagawa Mines	48
1276	Futase Mines	50
	BUILDING MATERIALS	
1874	Ansano Cement Co.	48
	CHEMICALS	
1875	Japan Explosives Mfg. Co.	49

Summary and Evaluation of Nogata Region

The Nogata Region lies in the heart of the Chikuho Coal Field, the largest in Kyushu. Major mines of the Region are Dainoura **TARGET 1274**, Tagawa Mines **TARGET 1275**, and Futase Mines **TARGET 1276**.

Many small manufacturing companies have been established in the towns and cities of the Region. The town of Nogata has more than 125 small shops and factories which in the aggregate produce a substantial number of parts for heavy machinery and mechanical equipment of various kinds. No individual plants in the town can be selected as targets, but general attack on the area either by HE or incendiary bombs would slow down production in many larger plants. Since there are no known large plants in the town, no targets have been indicated.

The only sizable machinery works in the Nogata Region is at Kobukuro **TARGET 1257**. This plant produces ship equipment under Navy supervision, according to reports.

A reported recent development is the small iron and special steel production of the Kawara plant of the Asano Cement Co. **TARGET 1874**. Electric steel is reported as being produced in an extension of the plant, and rotary kiln space which had never been put to use may be now turning out iron. The Portland Cement production of this plant and the Sangyo Cement Co. plant near Gotoji has been increased recently.

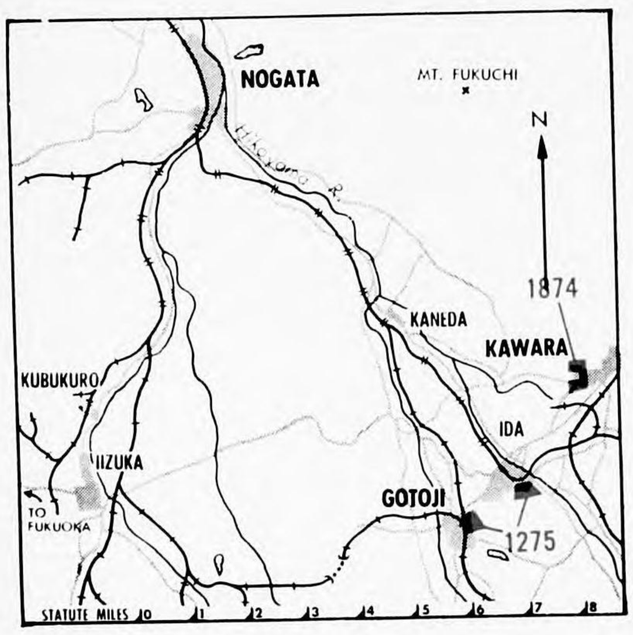
The small towns and cities of the Nogata Region have extensive old mining quarters built of wood.

KURUME 90.35 INDEX OF TARGETS AND SUMMARY (NOGATA REGION)

3649 3604 Kurume #7 FirstProof

KURUME 90.35 INDEX OF TARGETS AND SUMMARY (NOGATA REGION)

Nogata—TARGET 1874 Asano Cement Co. (Kawara) Mt. in background—1650 ft.



TARGET 90.35—1874

ASANO CEMENT CO.

(Kawara Plant)

NOGATA

(BUILDING MATERIALS)

33° 40′ N 130° 51′ E (Approx)—Large cement plant. Cap 1200 tons daily. Limestone obtained from precipitous mt directly N. Plant also produces special steel from three-ton electric furnace. Produces own electricity for both cement and steel. Reported part of rotary kiln cap has been put to iron production. Located in Kawara city at S foot of towering limestone mt. Eight mi SE of Nogata.

(See photo on page 48; map on page M-14.)

TARGET 90.35—1275

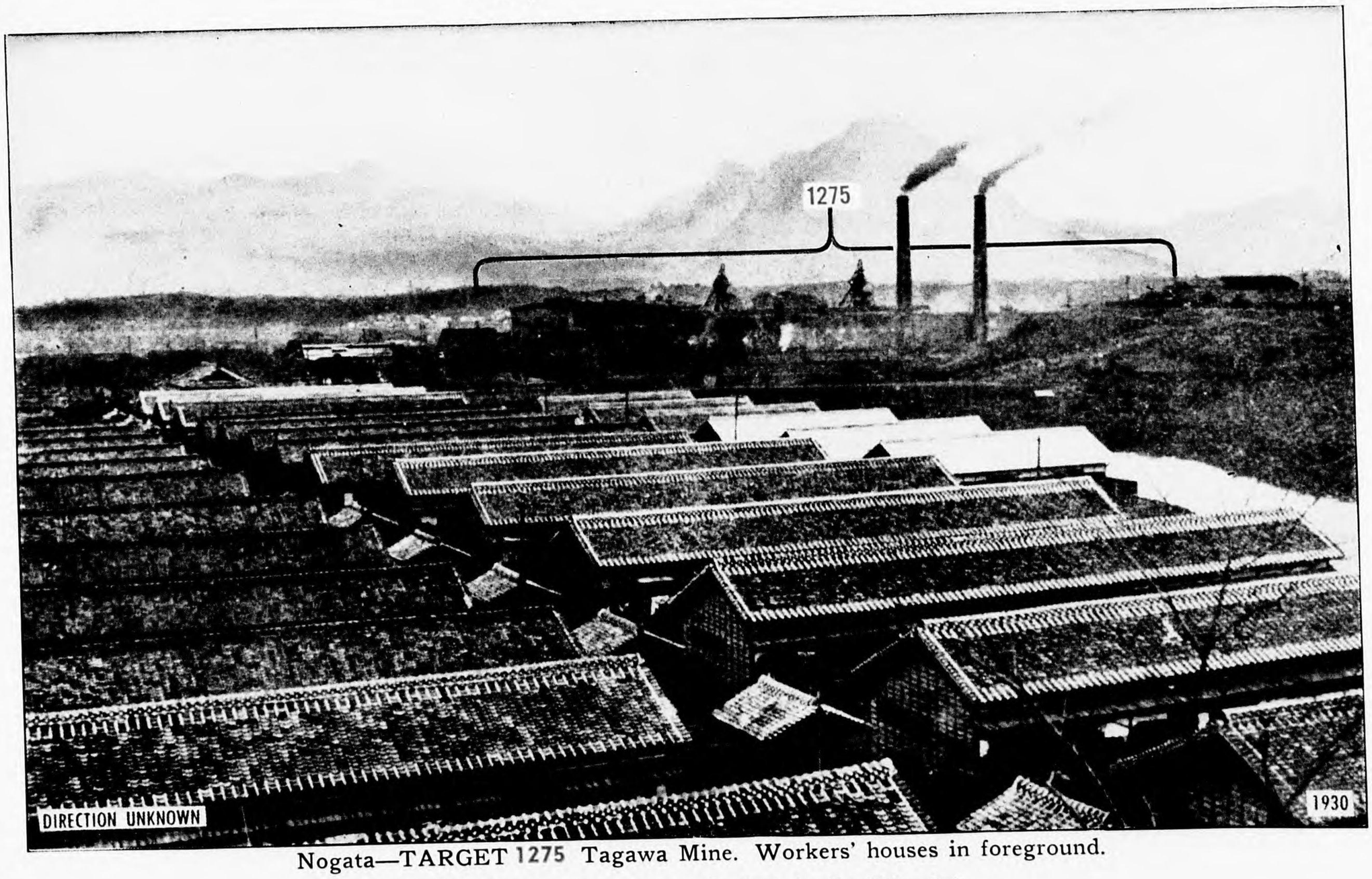
TAGAWA MINES

NOGATA

(COAL)

33° 38′ N 130° 49′ E (Approx)—Two mines, about 1.2 mi apart, production in 1937 amounted to 1,690,503 tons (3.4% of total Japanese production). RR spurs, winding towers, conspicuous conveyor lines are landmarks. Located in NE outskirts of Gotoji.

(See photo on page 48; map on page M-14.)



Nogata—TARGET 1275 Tagawa Mine. Workers' houses in foreground.

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KURUME 90.35 TARGETS 1275, 1874 (NOGATA REGION)

KURUME 90.35 TARGETS 1275, 1874 (NOGATA REGION)

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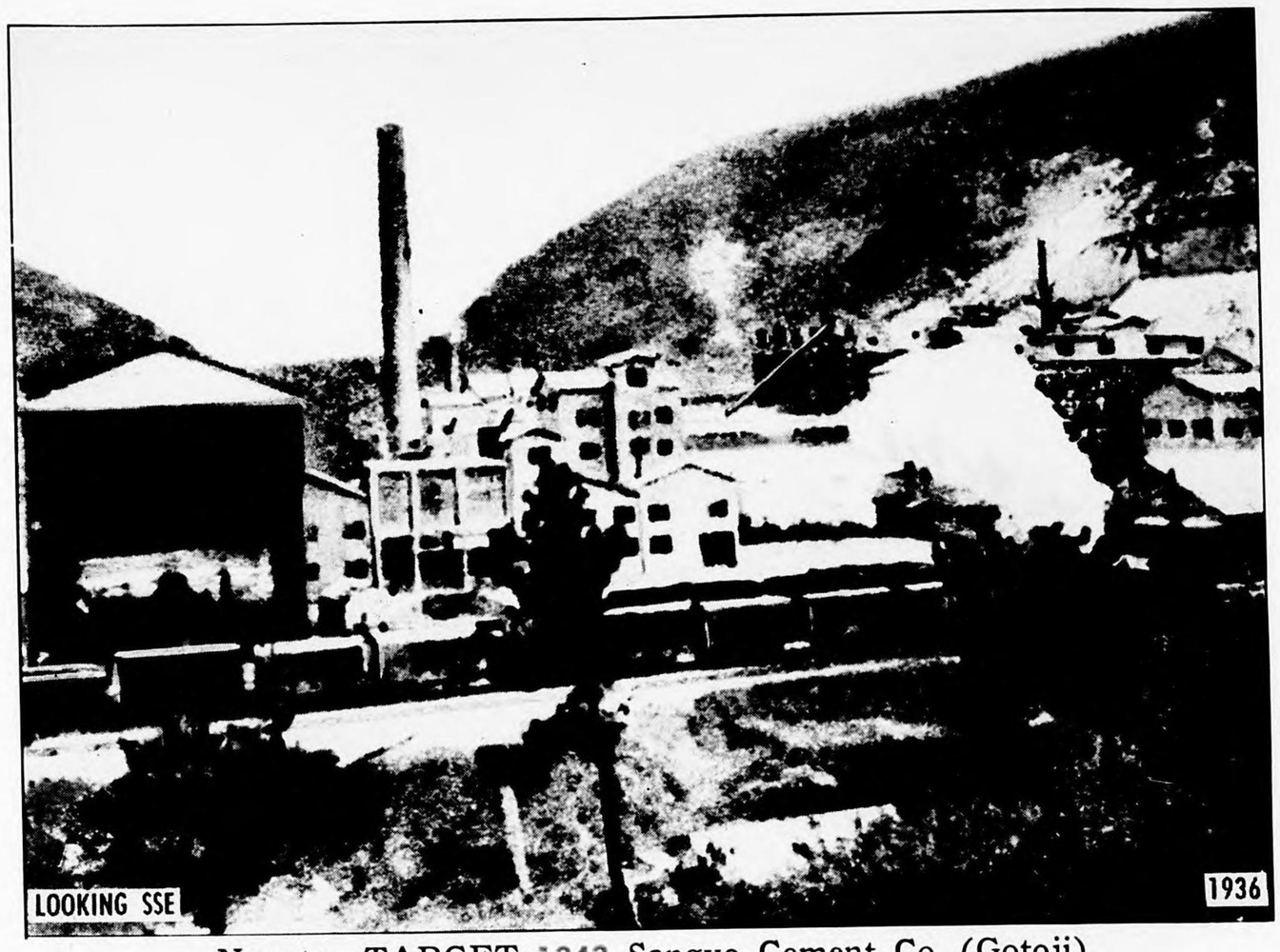
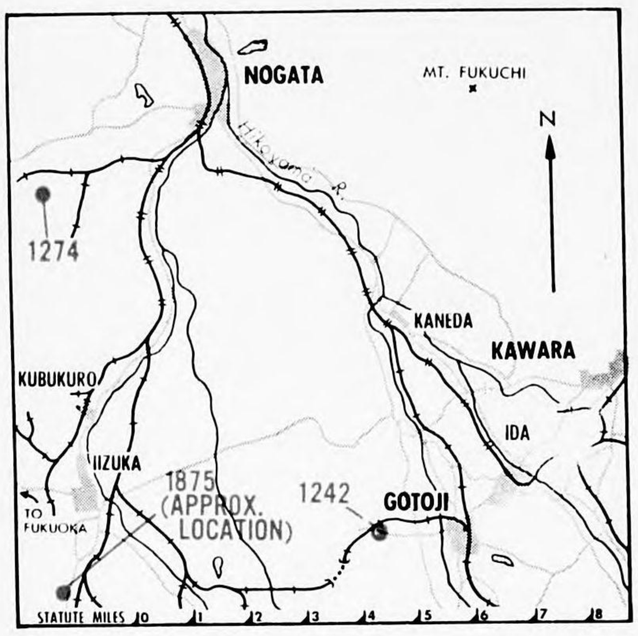


Nogata—TARGET 1242 Sangyo Cement Co. (Gotoji).



TARGET
90.35—
1242

SANGYO CEMENT CO.

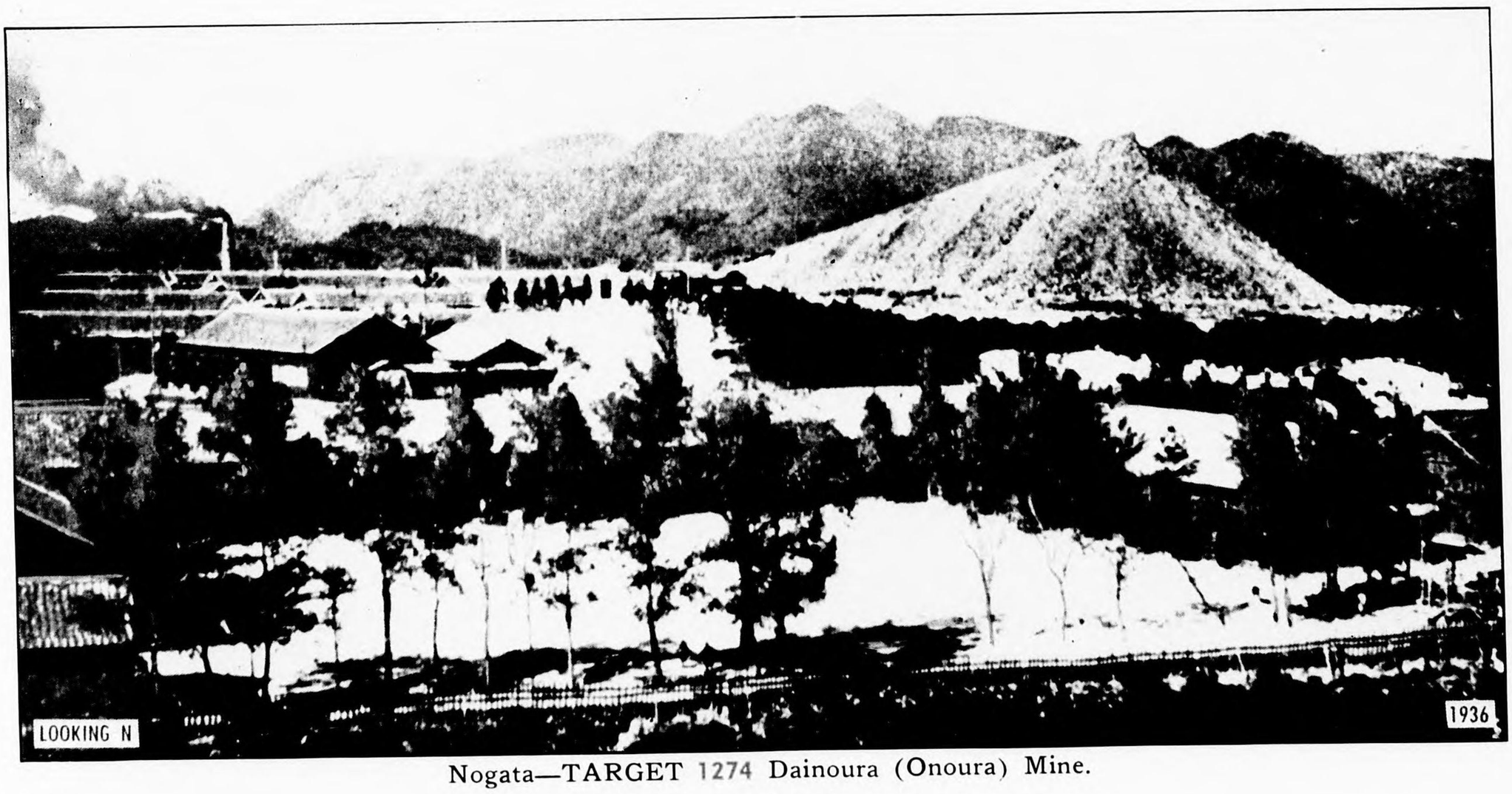
(Sangyo Cement Tetsudo KK)

NOGATA

(BUILDING MATERIALS)

33° 38′ N 130° 46′ E (Approx)—Annual production 100,000 tons cement. Limestone mined from Mt. Funao just S of cement plant. Location 1.5 mi W of Gotoji at the N foot of Mt. Funao. On private RR from Gotoji to Iizuka.

(See photo on page 49; map on page M-14.)



Nogata—TARGET 1274 Dainoura (Onoura) Mine.

TARGET
90.35—
1875

JAPAN EXPLOSIVES MFG. CO.

(Nippon Kayaku Seizo)

NOGATA

(CHEMICALS)

33° 37′ N 130° 40′ E (Approx)—One of several plants of this Co mfg explosives for coal mine operations and military uses under army contract. Military production believed small. Located 1 mi SSW of Iizuka.

(See maps on pages M-14 and M-15.)

TARGET
90.35—
1274

DAINOURA MINE

NOGATA

(COAL)

33° 43′ N 130° 40′ E (Approx)—One of the largest coal mines in Japan; production in 1937 amounted to 1,857,351 tons (3.74% of Japanese total production). Own power plant. RR spurs, winding towers, and large open coal storage are landmarks. Located 4 mi SW of Nogata.

(See photo on page 49; map on page M-14.)

KURUME 90.35 TARGETS 1242, 1274, 1875 (NOGATA REGION)

3649—Kanume—49—First Proof

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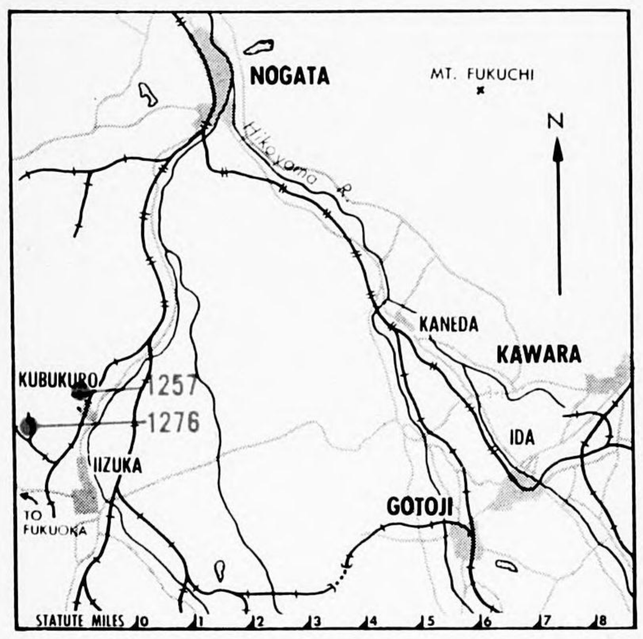
KURUME 90.35 TARGETS 1242, 1274, 1875 (NOGATA REGION)



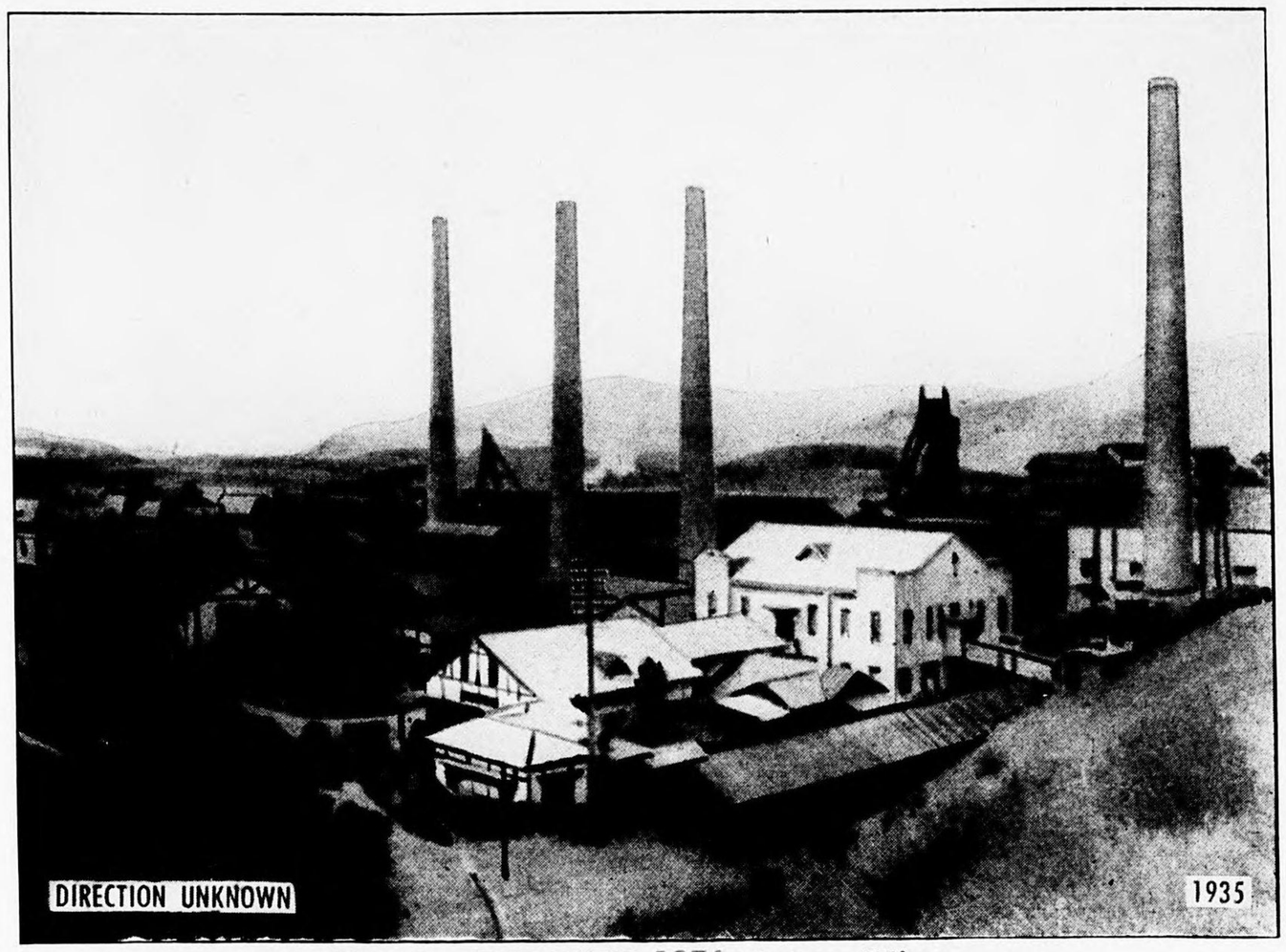
TARGET
90.35—
1276

FUTASE MINES

NOGATA
(COAL)

33° 39′ N 130° 40′ E (Approx)—Several pits. Power plant produces electricity for Futase and other mines. Annual production in 1937 amounted to 1,128,818 tons (2.27% of total Japanese production). Numerous tall stacks and RR spurs. Located 1.2 mi WNW of Iizuka.

(See photo on page 50; map on page M-14.)



Nogata—TARGET 1276 Futase Mines.

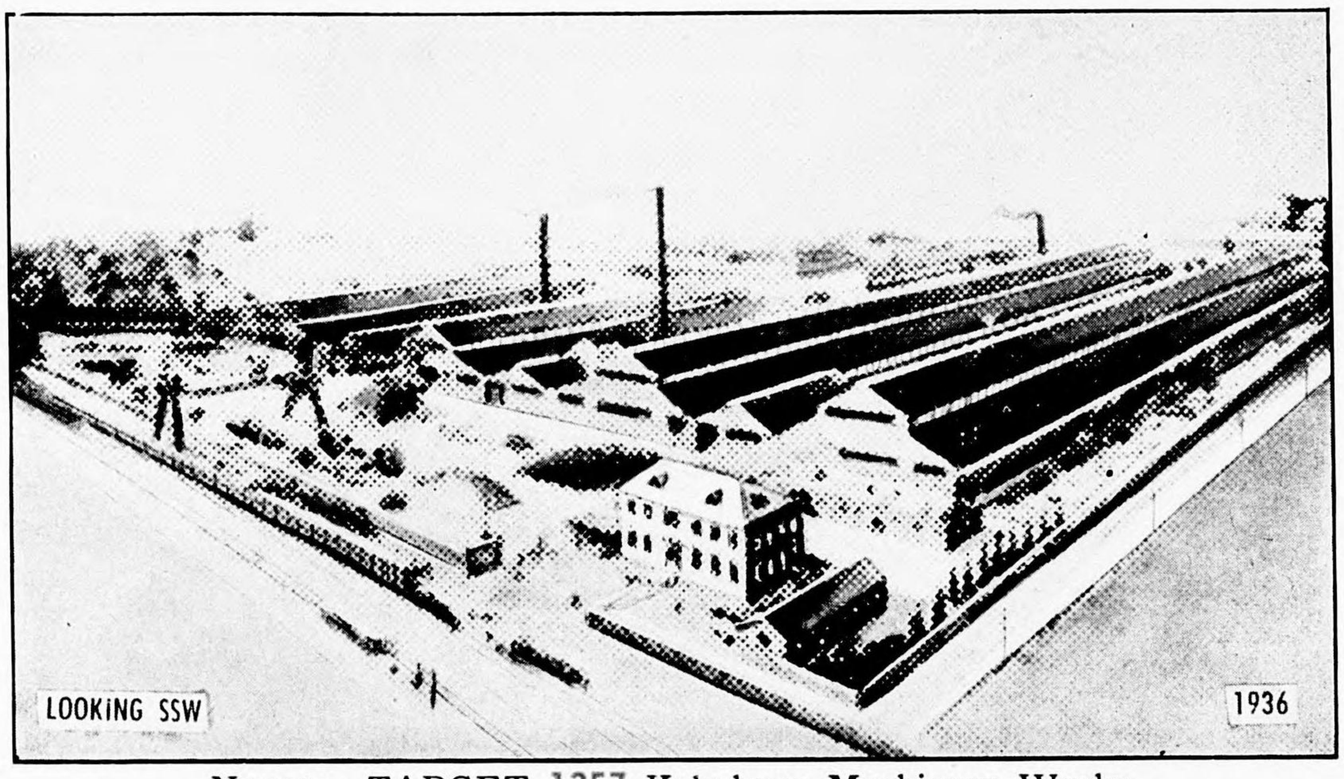
TARGET
90.35—
1257

KOBUKURO MACHINERY WORKS

NOGATA
(MACHINERY)

33° 39′ N 130° 41′ E (Approx)—Under navy supervision. Produces engines, boilers, winches and structural steel, colliery equipment. War time importance not known. Located 1.6 mi N of Iizuka at Kobukoro, and W of RR and Onga River.

(See photo on page 50; map on page M-14.)



Nogata—TARGET 1257 Kobukuro Machinery Works.

KURUME 90.35 TARGETS 1257, 1276 (NOGATA REGION)

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Air Objective Folder
OUTLYING TARGETS
KURUME AREA, No. 90.35

INDEX OF TARGETS BY NUMBER, CLASSIFICATION AND NAME

TARGET NUMBER	NAME	PAGE
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	AIRPORTS	
1236	Tachiarai Army Airfield	52
	ARMS MANUFACTURE	
1239	Kyushu Ordnance Plant	57
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1259	Togami Electric Works	56
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1277	Kineshima (Kishima) Mine	57
	TRANSPORTATION (RR)	
838	Isahaya RR Junctions	53
1871	Tosu RR Yards and Repair Shops	58

Summary and Evaluation of Outlying Regions

The most important targets in the Area outside the fairly well defined clusters discussed above are the Tosu RR Yards **TARGET 1871** and the Tachiarai Army Airfield **TARGET 1236**. Of substantial, but lesser importance, are three sizeable plants engaged in war production, Watanabe Aircraft Plant **TARGET 662**, Kyushu Ordnance Plant **TARGET 1239**, and Miyata Motor Works **TARGET 1241**, near the town of Zasshonoguma SW of Fukuoka.

The Tosu RR Yards just N of Kurume are the largest freight yards on Kyushu and the center of increasingly important rail shipments of coal from the central coal fields to the large consumers in N Kyushu. The yards are believed to be capable of handling 3000 freight cars per day and to have repair shops. The greatest concentration of railroad rolling stock on the Island can be expected here.

The Tachiarai Army Airfield has for years been an army air training center and HQ of the 4th Flying Regiment. It has lately been constituted one of the eight air arsenals in the Japanese Empire and is believed to be a storage depot of importance. The adjoining Tachiarai Machine Works **TARGET 1870** manufacturing airplane parts, furnish very complete repair facilities and may be a modification center.

Kumamoto Military Zone **TARGET 1248**, in the NW and NE sections of Kumamoto contains barracks and warehouses. The city is closely built up and inflammable. At the outer edges are a number of large textile mills and a small RR Yard.

The only large hydro-electric plant in the Area is the Onagohata Plant **TARGET 1250** in the east central portion of the area. The other isolated targets discussed are small and of local importance only.

The factories in Zasshonoguma have expanded greatly during the last few years. The aircraft plant is producing Type O float planes and parts. Kyushu Ordnance Plant produces arms but is considered more important for its precision tool and aircraft machinery output. The Miyata Motor Works plant was closed in 1940-1941, at which time it installed new machinery for airplane parts production in place of some bicycle equipment. None are primary targets.

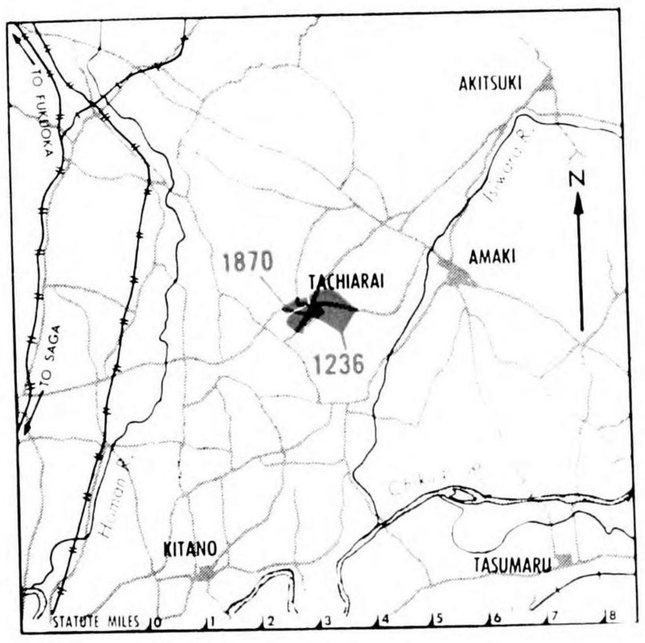
These three targets in the vicinity of Zasshonoguma can be located in relation to the crossing of the Kyushu (Kagoshima) Main Line RR and the Fukuoka-Kurume Electric Tramway. They lie SE of the crossing and are not to be confused with either Nippon Glass Co., .3 mi N of the crossing or the numerous buildings of Mounaga Confectionery Co., .4 mi W of the crossing.

3649 3624—Kurume—5-11—First Proof

KURUME 90.35 INDEX OF TARGETS AND SUMMARY (OUTLYING TARGETS)

KURUME 90.35 INDEX OF TARGETS AND SUMMARY (OUTLYING TARGETS)

TARGET 1236 Tachiarai Army Airfield. TARGET 1870 Tachiarai Machine Works.



TARGET 90.35—1236

TACHIARAI ARMY AIRFIELD

TACHIARAI

(AIRPORTS)

33° 24′ N 130° 38′ E (Approx)—Military airbase of 4th Air Regiment. The most important airport and training station in Kurume Area. It is one of the eight Japanese army air arsenals. Ten hangars along the W side of the L-shaped field and three runways. Clustered at the NW point of the field are repair shops, HQ and barracks, radio, and underground fuel storage. Located at town of Tachiarai, just W of Amagi and 8.5 mi NE of Kurume City.

(See photo on page 52; map on page M-3.)

TARGET 90.35—1870

TACHIARAI MACHINE WORKS, Ltd.

(KK Tachiarai Seisa Kusho)

TACHIARAI

(AIRCRAFT)

33° 24′ N 130° 37′ E (Approx)—Aircraft repair and mfg plant, part of Tachiarai Air Arsenal. Produces wheels, and airframe parts. It also supplies and repairs aircraft at the Tachiarai Army Airfield (TARGET 1236). Located at the W edge of Tachiarai Army Airfield. Co has been expanding and handles both Army and Navy contracts.

(See photo on page 52.)

3649—Kurume—53—First Proof

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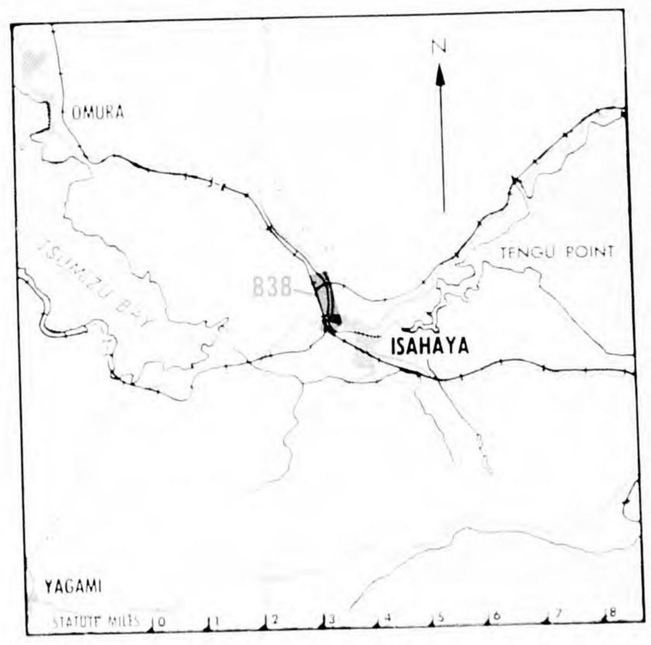
Kumamoto—TARGET 1248 Kumamoto Military Zone.

KURUME 90.35 TARGET 838 (OUTLYING TARGETS)



TARGET 90.35—838

ISAHAYA RR JUNCTIONS

ISAHAYA

TRANSPORTATION

32° 51′ N 130° 03′ E (Approx)
Junction of Nagasaki Main Line RR with Sasebo branch. Extensive switchyard and small tunnel just SW of switchyard. Located at Isahaya on neck of Shimabara peninsula. NOTE: this objective is included in the Sasebo Area Folder 90.36 because of its direct relation to that area's shipping and transportation system.

(See map on page M-4.)

3649—Kobe—33—Blue Proof

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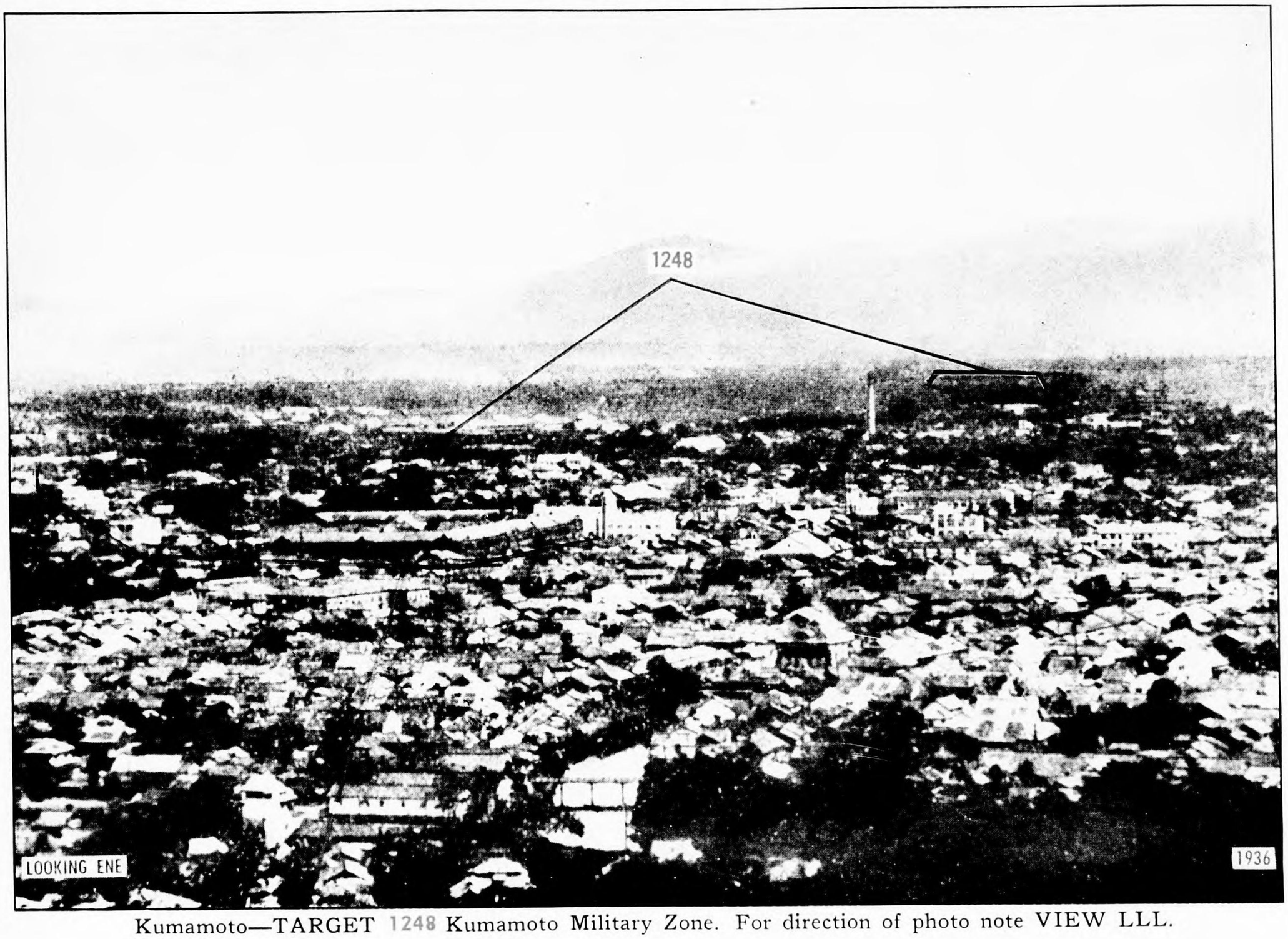
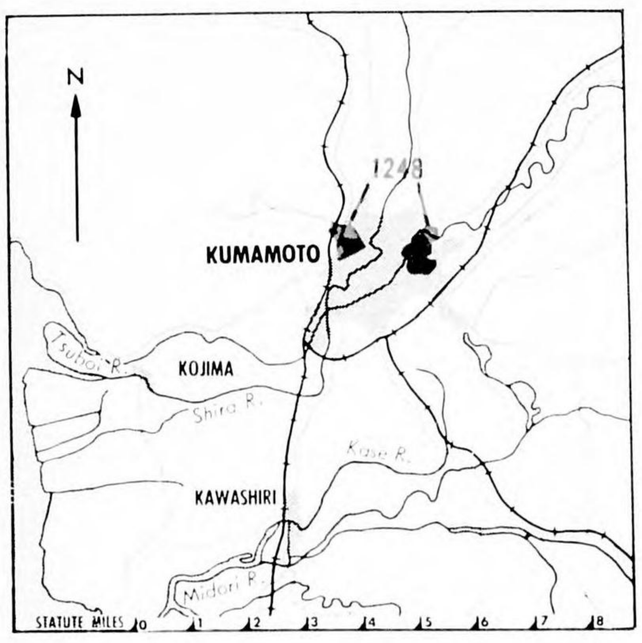
KURUME 90.35 TARGET 838 (OUTLYING TARGETS)



Kumamoto—TARGET 1248 Kumamoto Military Zone. For direction of photo note VIEW LLL.



TARGET
90.35—
1248

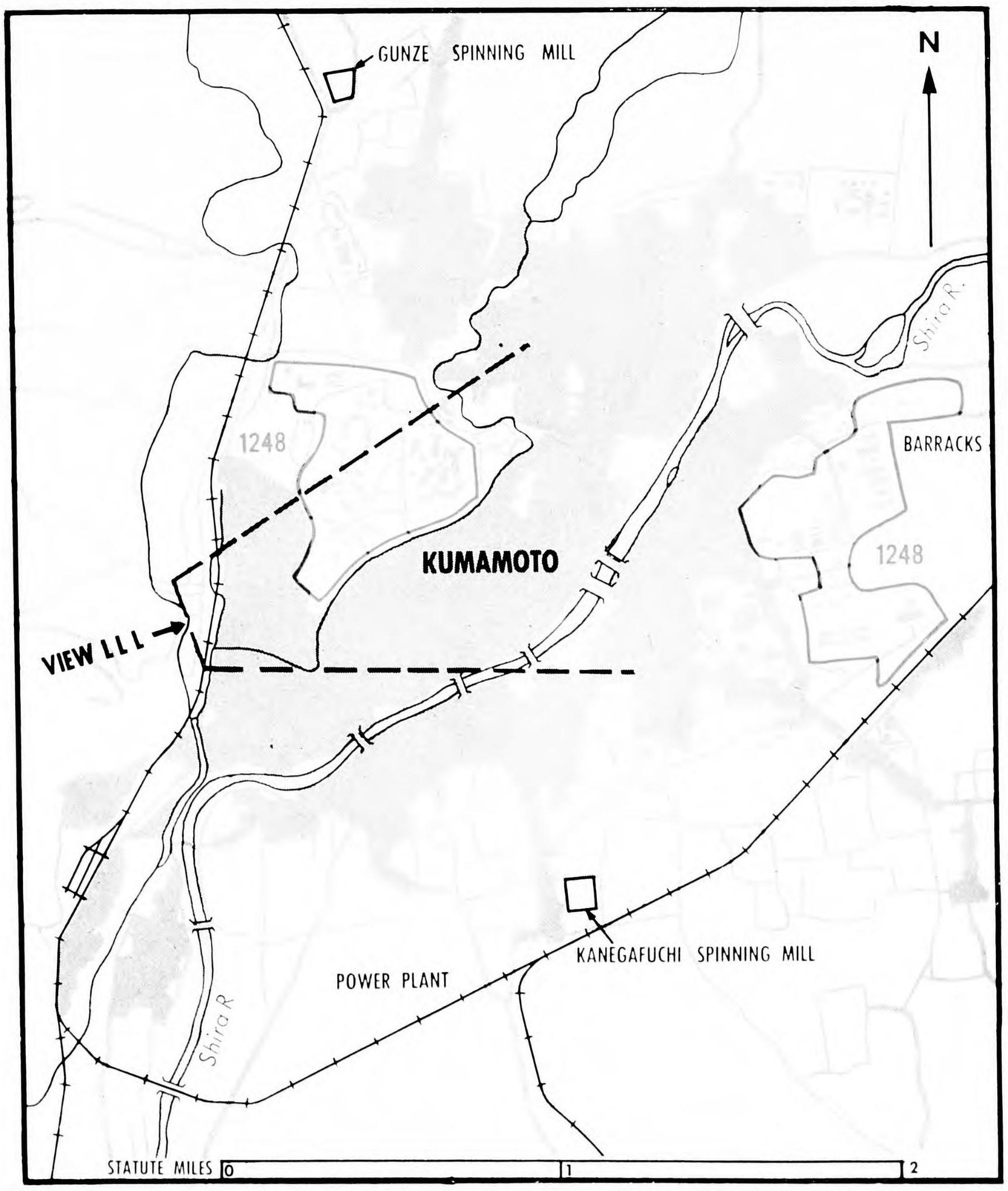
KUMAMOTO MILITARY ZONE

KUMAMOTO

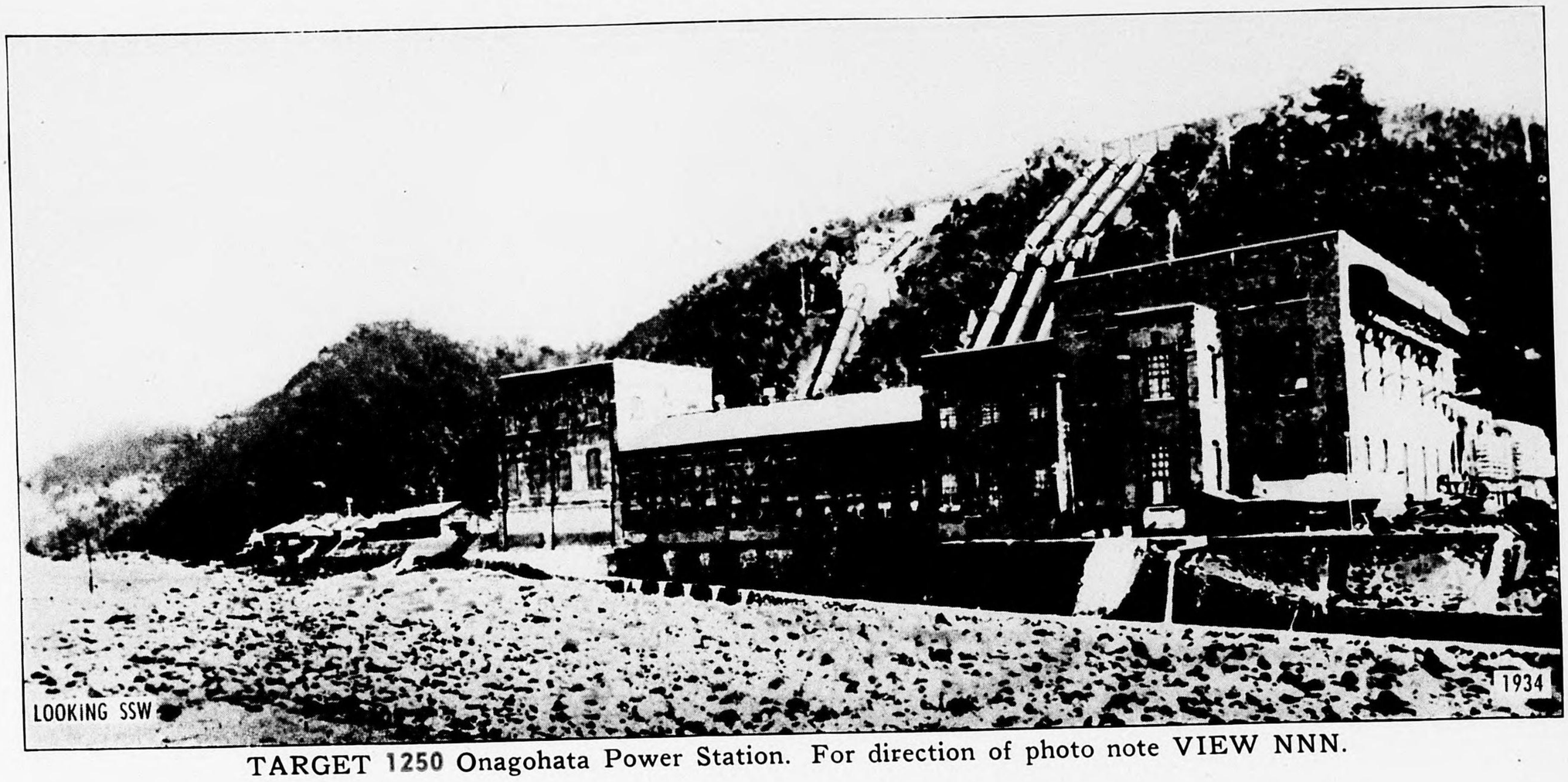
(MILITARY INSTALLATIONS)

32° 48′ N 130° 43′ E (Approx) Two extensive groups of barracks, and storehouses in NW and NE parts of Kumamoto. HQ bldgs in center of Castle grounds in NW group of bldgs. Large parade grounds (used for landing small planes at times) are in middle of NE group of bldgs. Kumamoto quarters infantry, cavalry and artillery. (Home of the 6th Division.) Located at Kumamoto 20 mi SE of Omuta on Kase River.

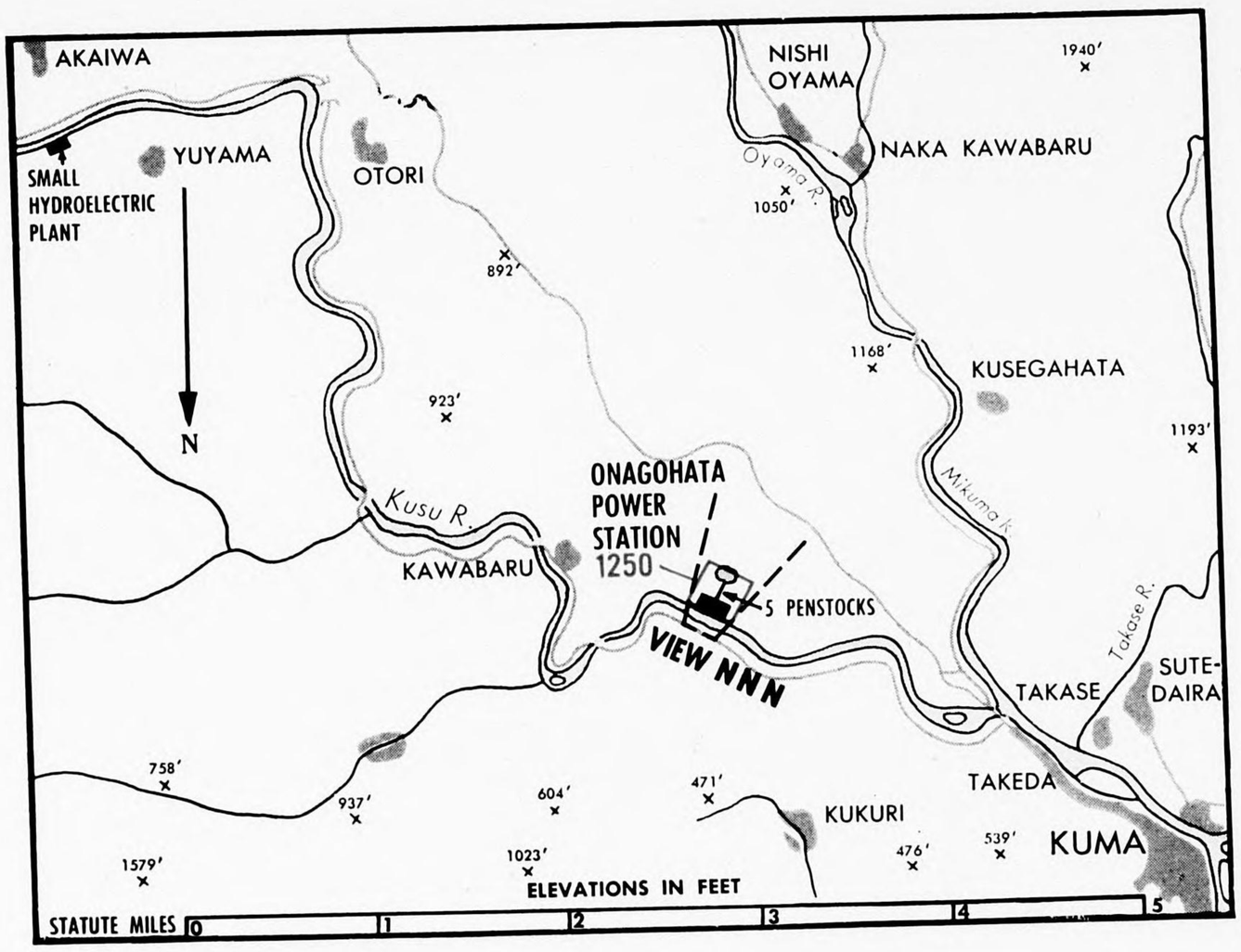
(See photos on pages 53 and 54.)

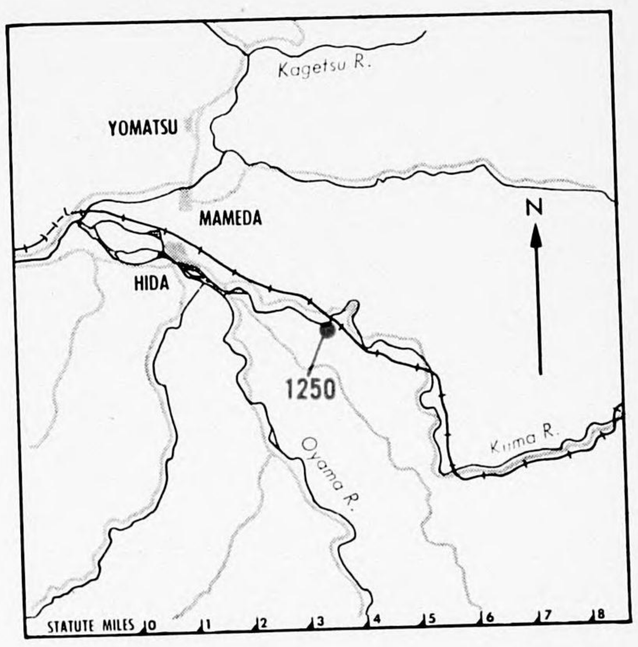


3649—Kumme—54—First Proof



TARGET 1250 Onagohata Power Station. For direction of photo note VIEW NNN.





TARGET 90.35—1250

ONAGOHATA POWER STATION

HIDA

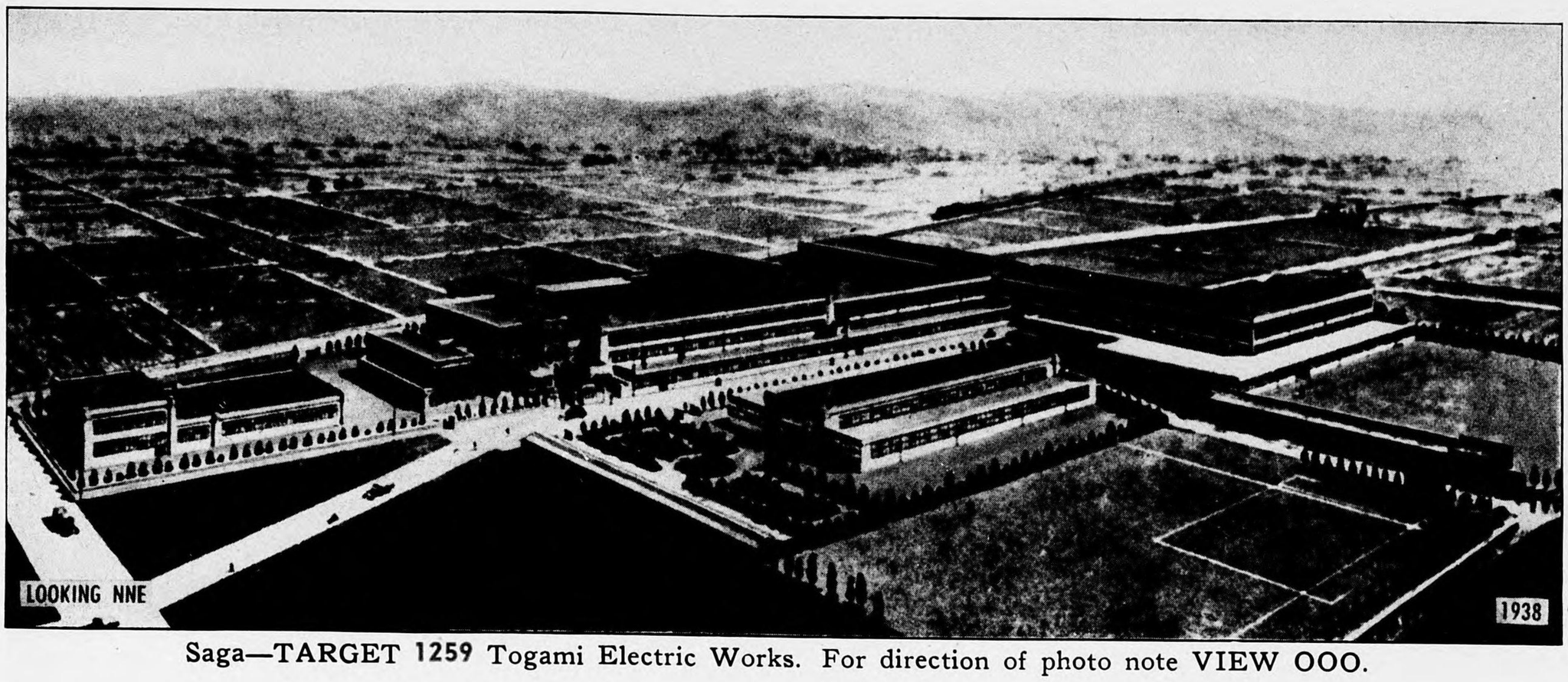
(ELECTRIC POWER)

33° 17′ N 130° 59′ E (Approx)—Largest hydroelectric station in the Kurume Area, cap 26,750 kw. in wet season, 15,000 kw. in dry season. A central generating plant of Kyushu power network. Six large and one small penstock. Powerhouse of ferro-concrete, two to three stories high, open-air switchgear adjoins SW corner of plant. Located 30 mi due E of Kurume City on S bank of Chikugo River.

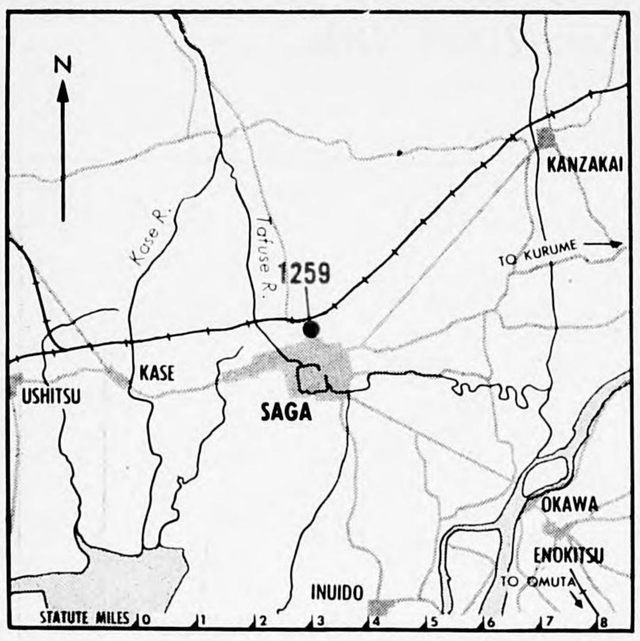
(See photo on page 55.)

KURUME 90.35 TARGET 1250 (OUTLYING TARGETS)

3649—Kurume—55—First Proof



Saga—TARGET 1259 Togami Electric Works. For direction of photo note VIEW OOO.



TARGET
90.35—
1259

TOGAMI ELECTRIC WORKS

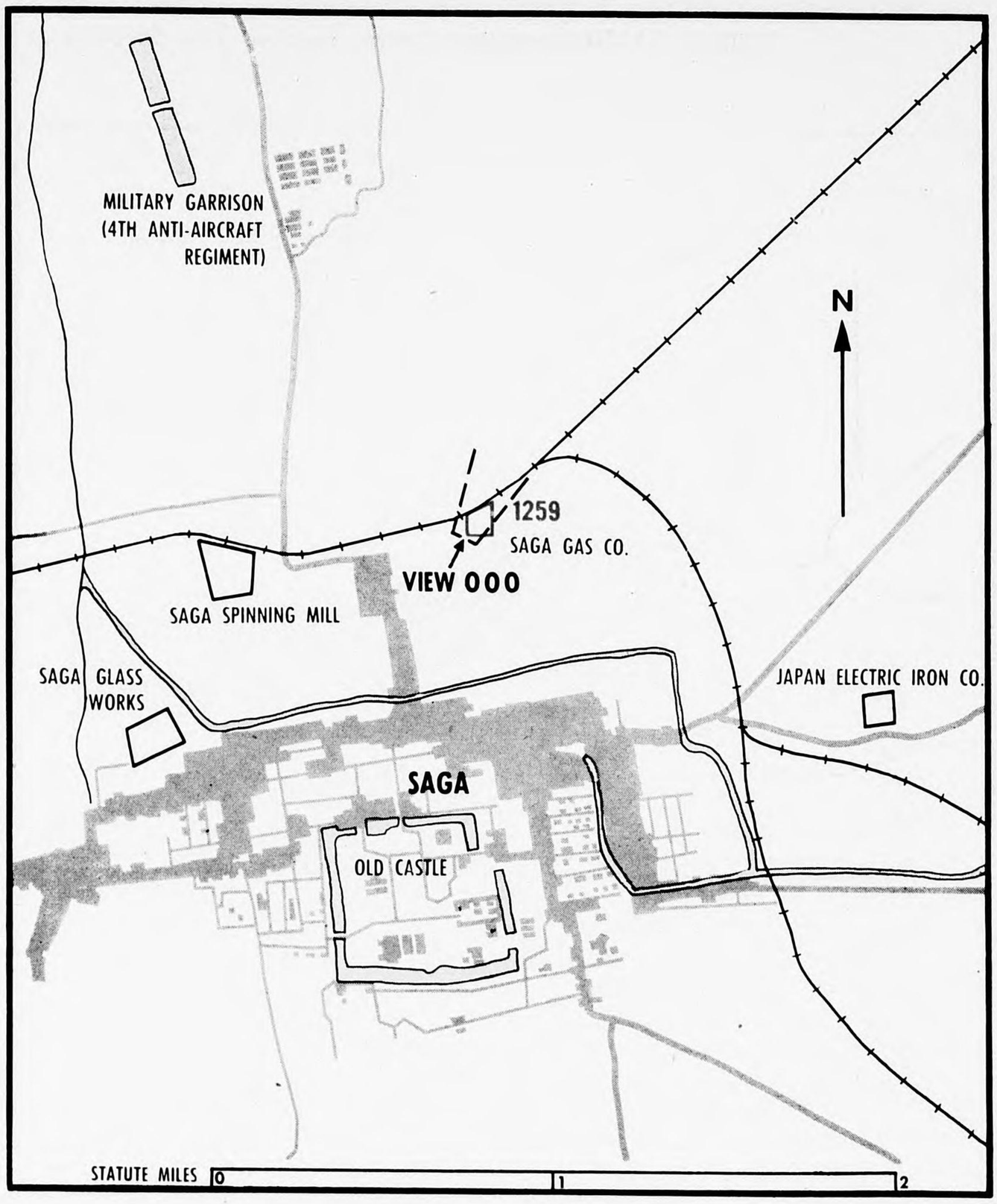
(KK Togami Denki Seisa Kusho)

SAGA

(MACHINERY)

33° 16′ N 130° 18′ E (Approx)—Producer of electrical apparatus (automatic switches, switchboards, switchgear, power plant equipment, and electrical accessories). Also reported working on navy contract. Located 1.1 mi NNE of Saga Castle.

(See photo on page 56; map on page M-12.)



KURUME 90.35 TARGET 1259 (OUTLYING TARGETS)

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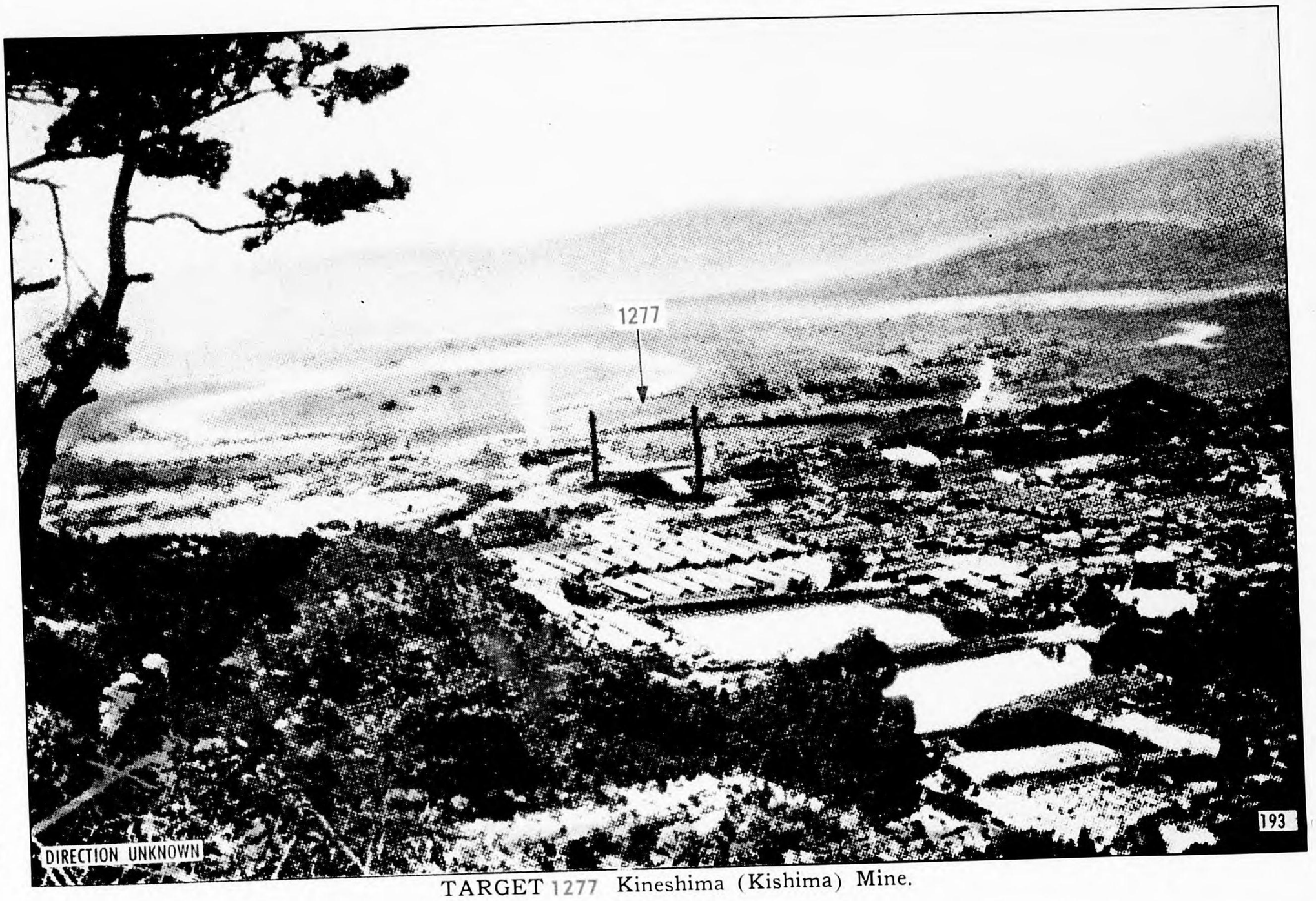
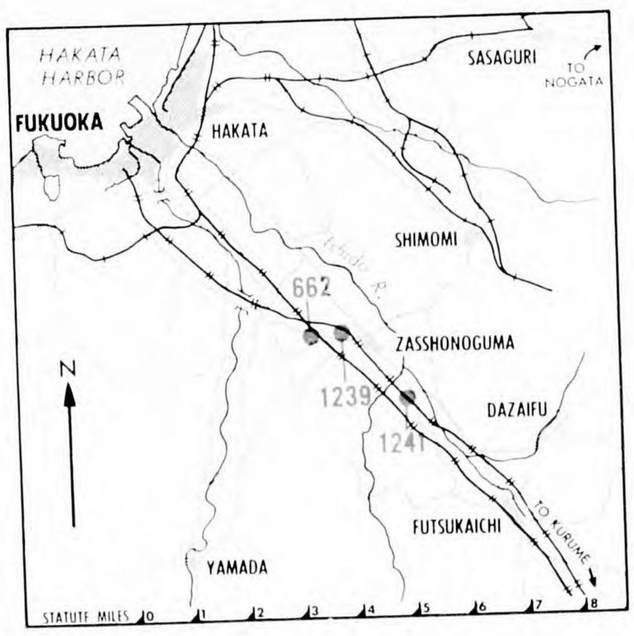
3649—Kurume—56—First Proof



TARGET 1277 Kineshima (Kishima) Mine.



TARGET 90.35—662

WATANABE AIRCRAFT PLANT

(KK Watanabe Tekkosho Hikori Kojo)

ZASSHONOGUMA

(AIRCRAFT)

33° 32′ N 130° 27′ E (Approx)—Aircraft mfg plant of Watanabe Iron Works producing Type O float planes, propellers, wheels, fuselages and large components. Importance in Japanese aircraft production unknown. Located along SW side of the Kyushu Main Line RR, .2 mi W of Kyushu Ordnance Plant (TARGET 1239). Approx four mi SE of Fukuoka City. Noted for research facilities and training school for mechanics.

(See map on page M-4.)

TARGET 90.35—1239

KYUSHU ORDNANCE PLANT

(Kyushu Heiki)

ZASSHONOGUMA

(ARMS MANUFACTURE)

33° 33′ N 130° 28′ E (Approx)—Controlled by Watanabe. Substantial producer of aircraft mchy and precision tools. Also mfg some arms. Importance unknown. Located .2 mi E of Watanabe Aircraft Plant (TARGET 662) between the Fukuoka-Kurume Electric Tramway and the Kyushu Main Line RR and SE of the point where they cross. Co established under present name July 1943 by Watanabe.

(See map on page M-4.)

TARGET 90.35—1241

MIYATA MOTOR WORKS

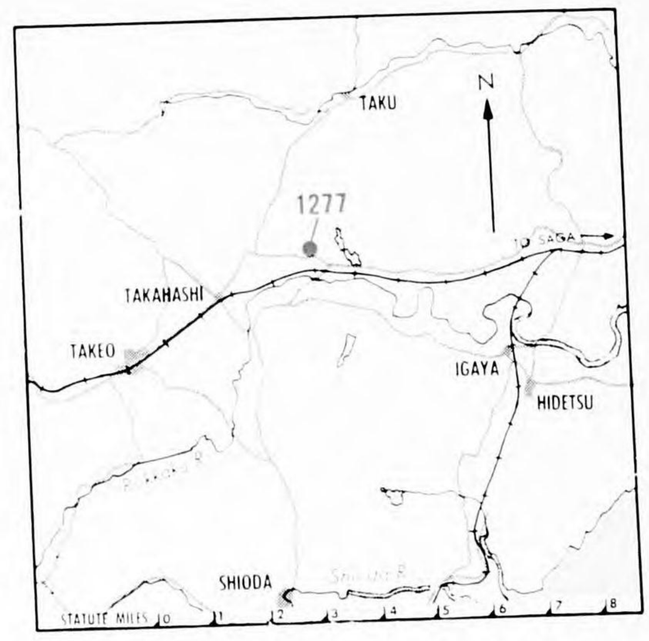
(KK Miyata Seisa Kusho)

ZASSHONOGUMA

(AUTOMOBILES & MOTORS)

33° 31′ N 130° 29′ E (Approx)—Produces motorcycles, and automobile parts. Recent extension to produce aircraft parts; now making landing gear, fuselage and engine parts. Located 1.6 mi SE of Watanabe Aircraft Plant (Target No. 662) Kyushu Ordnance Plant (Target No. 1239), at the town of Shiragi.

(See map on page M-4.)



TARGET 90.35—1277

KINESHIMA (Kishima) MINE

SAGA

(COAL)

33° 14′ N 130° 05′ E (Approx)—Coal mine with two pits, production 1937 amounted to 880,401 tons (1.7% of Japanese total production). Employs about 6000 workers. Site marked by two conspicuous stacks, several concrete bldgs, and RR spurs. Located 13 mi WSW of Saga Castle. N of Saga-Sasebo RR and the Rokkaku River.

(See photo on page 57.)

KURUME 90.35 TARGETS 662, 1239, 1241, 1277 (OUTLYING TARGETS)

3649—Kurume—57—First Proof

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KURUME 90.35 TARGETS 662, 1239, 1241, 1277 (OUTLYING TARGETS)

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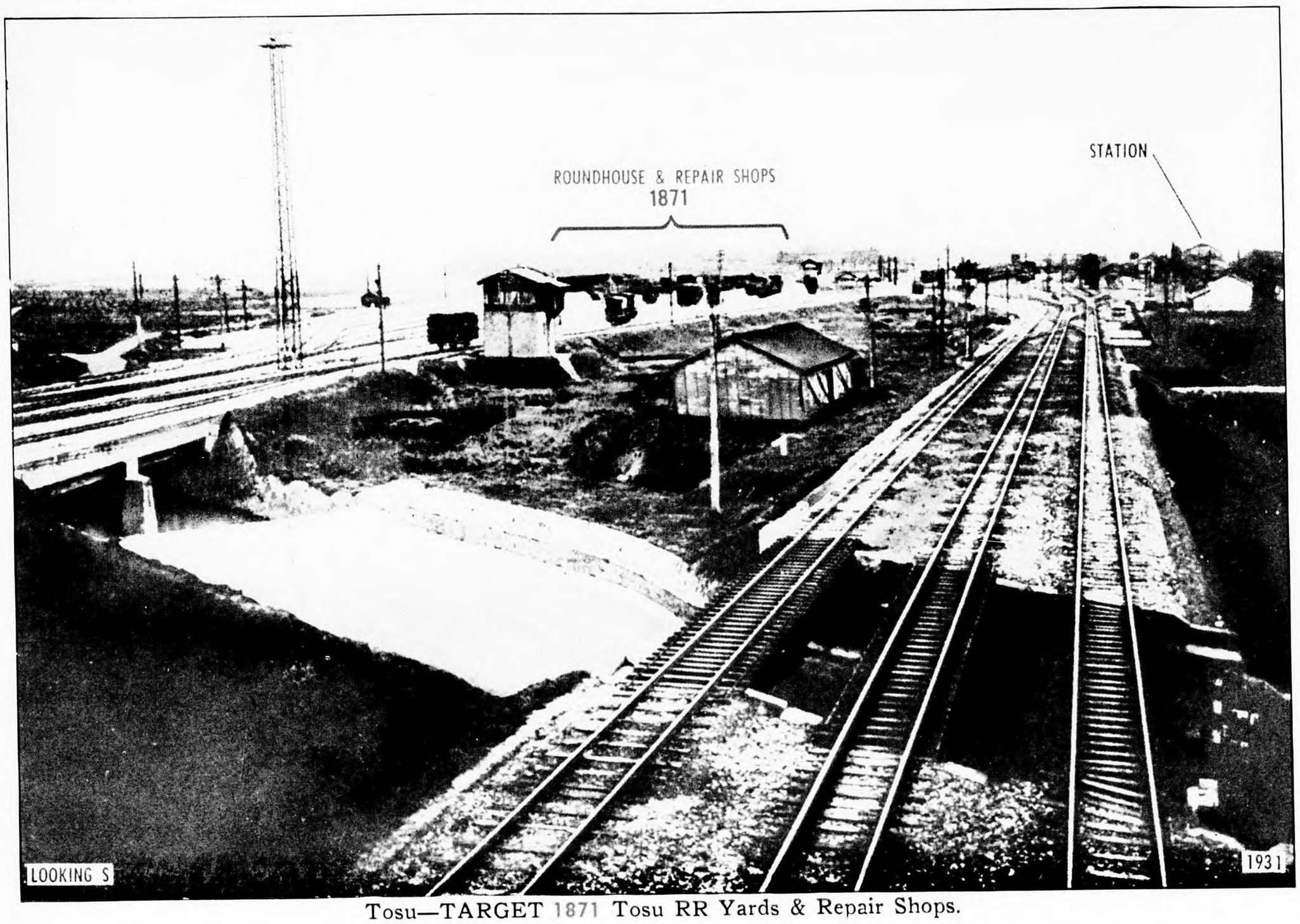
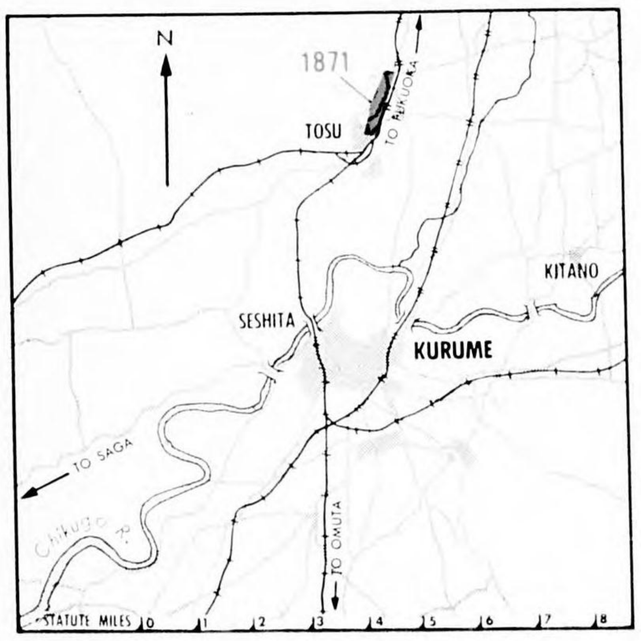


Tosu—TARGET 1871 Tosu RR Yards & Repair Shops.



TARGET
90.35—
1871

TOSU RR YARDS & REPAIR SHOPS

TOSU

(TRANSPORTATION—RAILROAD)

33° 23′ N 130° 31′ E (Approx)—Extensive marshalling yards, passenger station, roundhouse, and repair shops. Marshalling yards capable of handling 3000 cars daily. N end of yards six to eight tracks; S end and middle of yards by repair shops about 25 tracks wide. All freight to W and S Kyushu must pass through these yards. Passenger station is on W side of tracks middle of yards. These marshalling yards are hump gravity type. Location: E side of Tosu and NE toward Tashiro. Total length about 1 mi.

(See photo on page 58; map on page M-10.)

KURUME 90.35 TARGET 1871 (OUTLYING TARGETS)

3649—Kurume—58—First Proof

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U. S. S. R.

KARAFUTO

HOKKAIDO

MANCHURIA

KOREA

KOREA

Wakkanai

Otaru

Sapporo

Muroran

Hakodate

Aomori

Akita

Niigata

HONSHU

als British Confidential

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WORK MAP OF KURUME 90.35

LOCATING ALL TARGETS

ELEVATIONS IN FEET

RAILROADS

LIGHTHOUSES

ADAPTED FROM U. S. H.O. CHART V455 AND V457, 1942

DATE OF ANALYSIS—APRIL 1944

SHIMONOSEKI 90.34

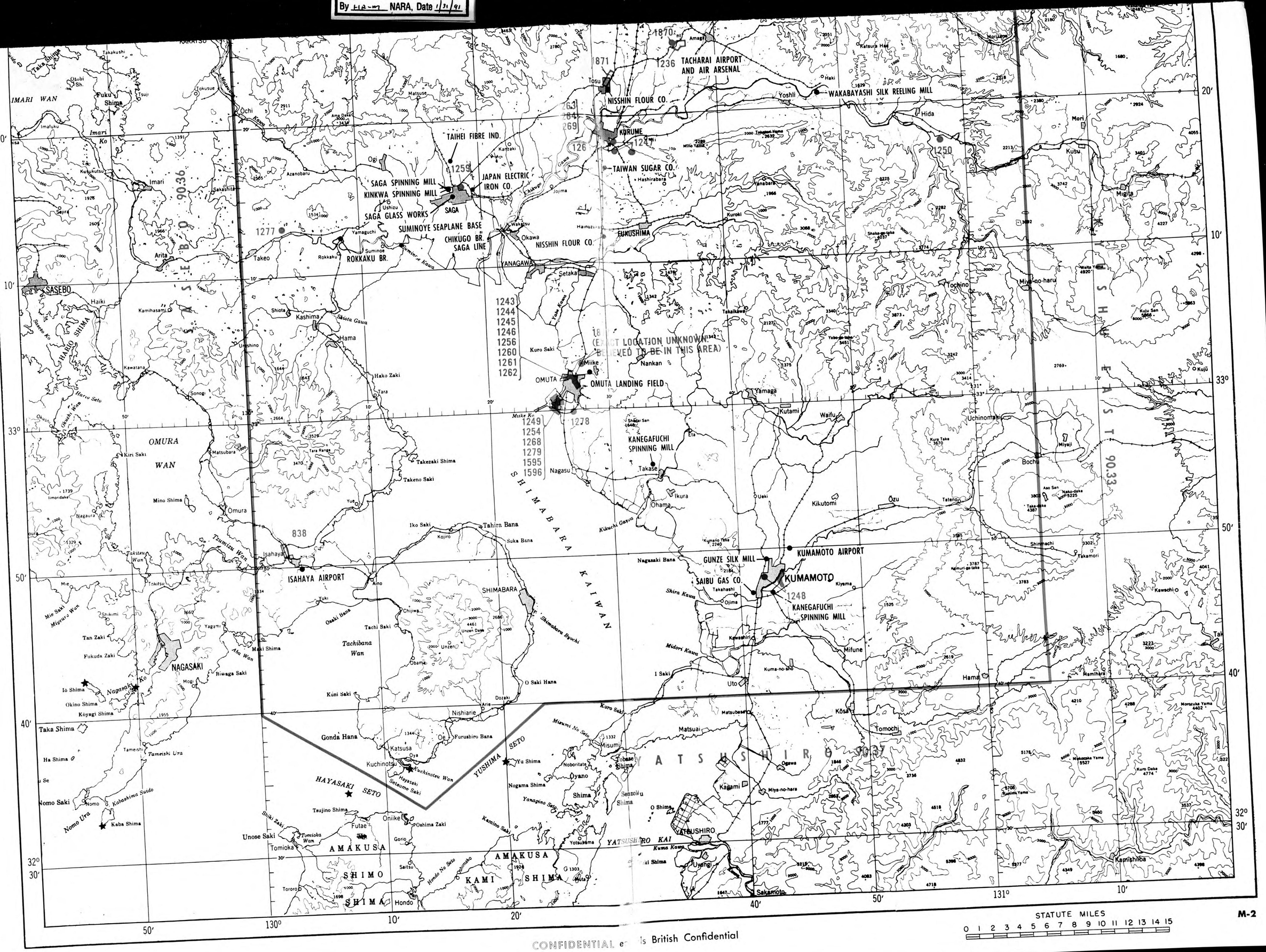
SASEBO 90.36

HUKUOKA 90.37

1875 (APPROX. LOCATION)

1877 (EXACT LOCATION UNKNOWN. BELIEVED TO BE IN THIS AREA)

By EB-MT NARA, Date 1/31/91



CONFIDENTIAL e[illegible]ls British Confidential

3649 Kurume M-2—First Proof

Authority NND 760124
By ELS-M NARA, Date 1/31/91

AIRPORT MAP OF KURUME 90.35

ELEVATIONS IN FEET

RAILROADS

AIRPORTS NOT LISTED AS TARGETS

SEAPLANE BASES NOT LISTED AS TARGETS

LIGHTHOUSES

ADAPTED FROM U. S. H.O. CHART V455 AND V457, 1942

DATE OF ANALYSIS—APRIL 1944

SHIMONOSEKI 90.34

FUKUOKA AIR STATION

NOGATA AIRPORT

NAJIMA SEAPLANE BASE

1237

1236 TACHARAI AIRPORT AND AIR ARSENAL

KUTSUO SEAPLANE BASE

KANEGAFUCHI SPINNING MILL

NISSHIN FLOUR CO.

WAKABAYASHI SILK REELING MILL

TAIHEI FIBRE IND.

TAIWAN SUGAR CO.

JAPAN ELECTRIC IRON CO

SAGA SPINNING MILL

KINKWA SPINNING MILL

SAGA GLASS WORKS

SUMINOYE SEAPLANE BASE

CHIKUGO BR. SAGA LINE

ROKKAKU BR.

NISSHIN FLOUR CO.

FUKUOKA

HAKATA

KURUME

SAGA

KARATSU

FUKUSHIMA

NOGATA

WAKAMATSU

TOBATA

YAWATA

KOKURA

NAKAMA

IIZUKA

GOTOJU

IDA

OKUMA

KAMIYAMADA

NAKATSU

YANAGAWA

TOSU

IMARI

ARITA

TAKEO

KENKAI SHIMA

I SHIMA

IKI SUIDO

FUKUOKA WAN

KARATSU WAN

IMARI WAN

HAKATA KO

IMARI KO

GENKAI NADA

SUŌ NADA

HIBO 90.36

130°

131°

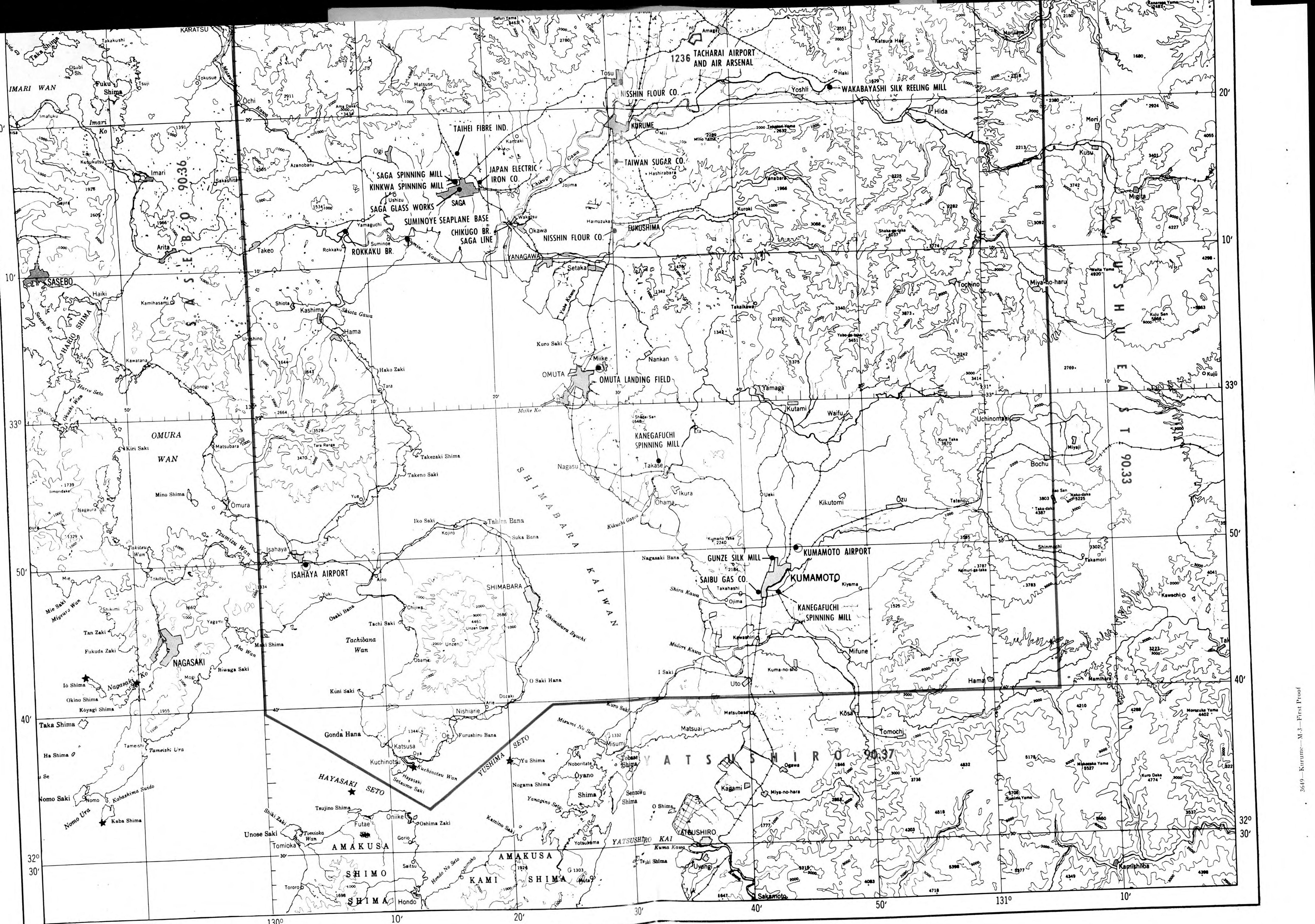
50′

40′

30′

20′

10′



M-3

STATUTE MILES

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

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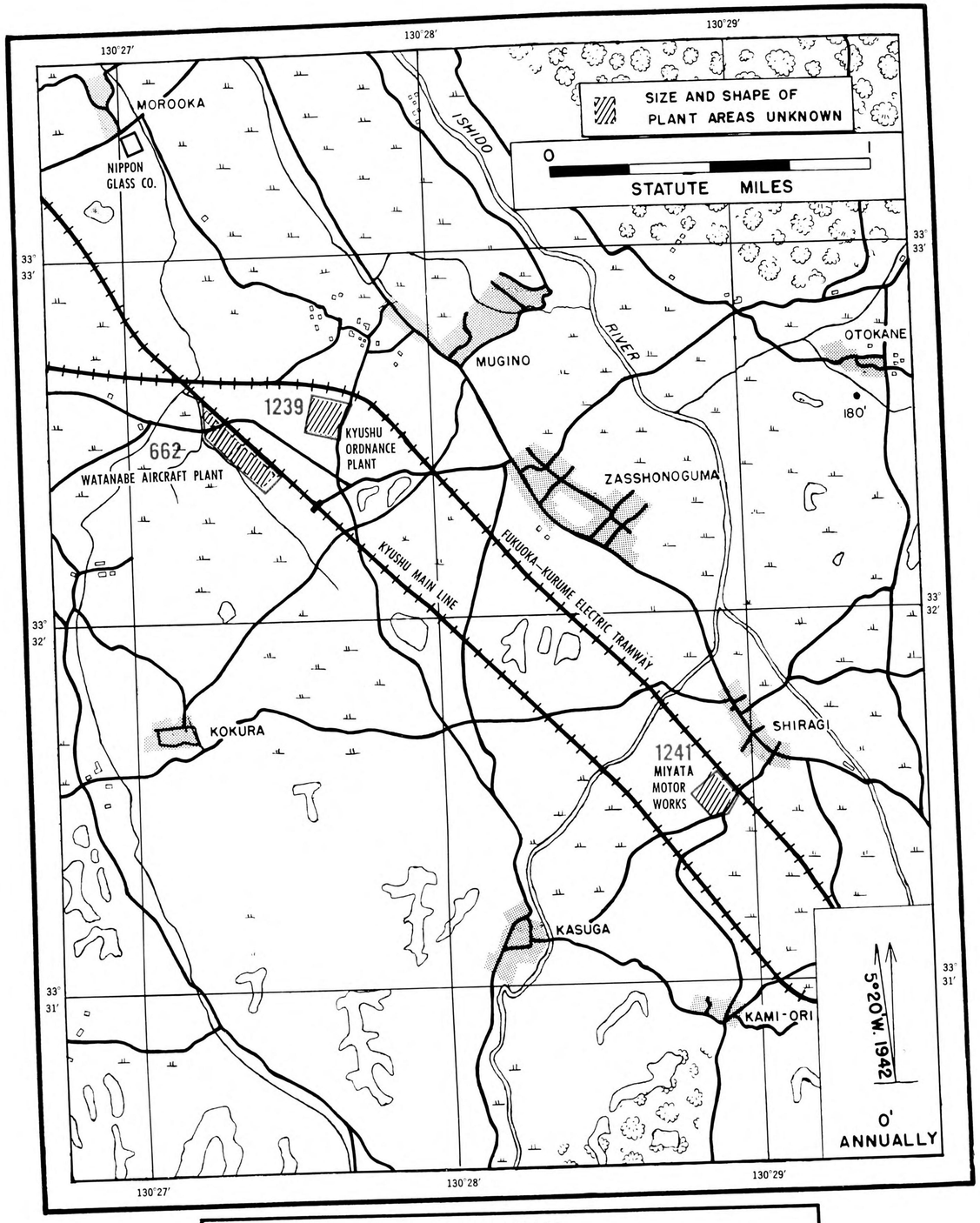


ZASSHONOGUMA REGION

ELEVATIONS IN FEET

RAILROADS

ROADS

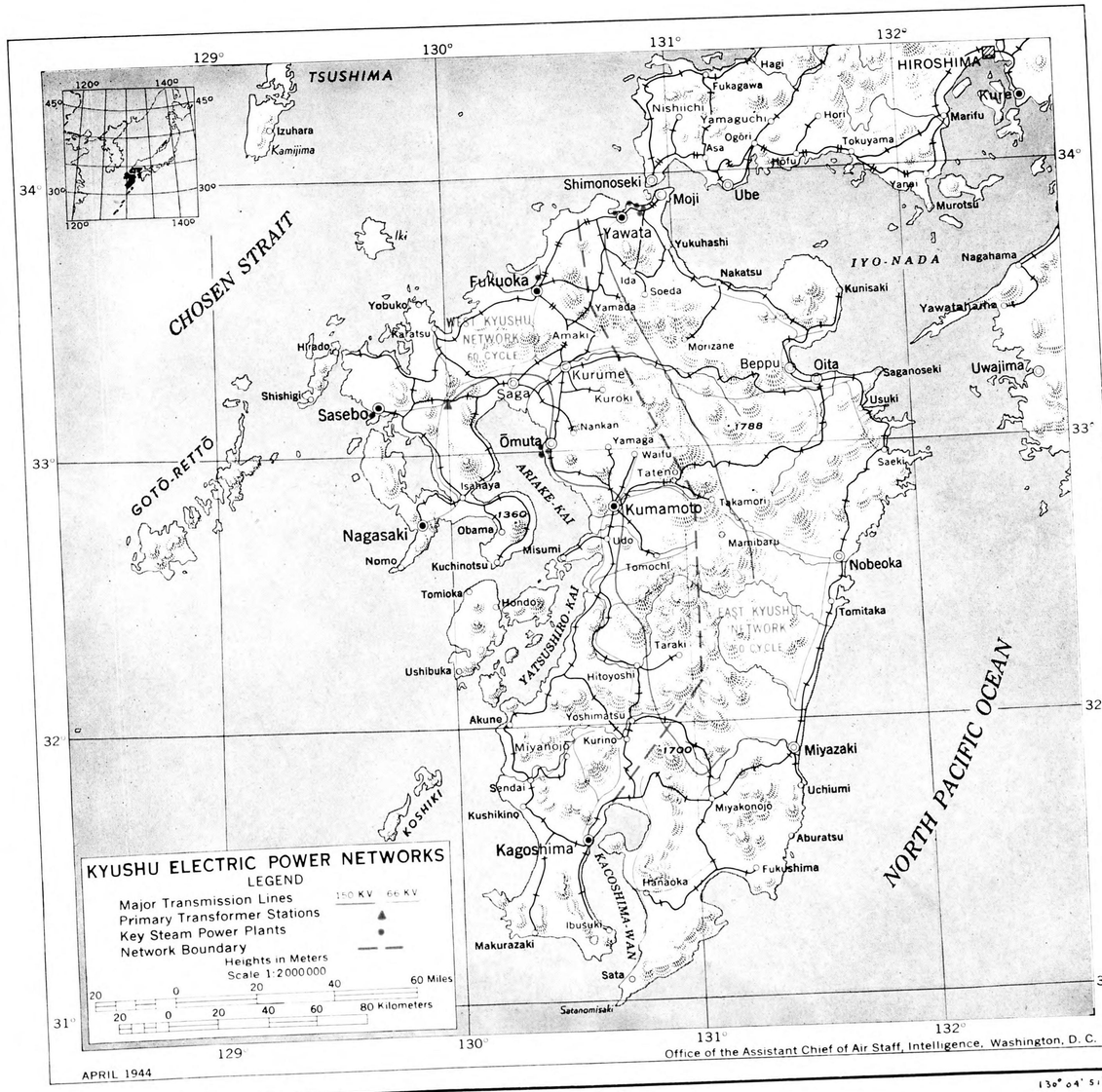
662.. WATANABE AIRCRAFT PLANT

1239.. KYUSHU ORDNANCE PLANT

1241.. MIYATA MOTOR WORKS

ADAPTED FROM JAPANESE NAVAL AIR CHART 1941
JAPANESE IMPERIAL LAND SURVEY 1930
U. S. H.O. 1940, HYDROGRAPHIC CORRECTIONS 1942

DATE OF ANALYSIS—APRIL 1944



KYUSHU ELECTRIC POWER NETWORKS

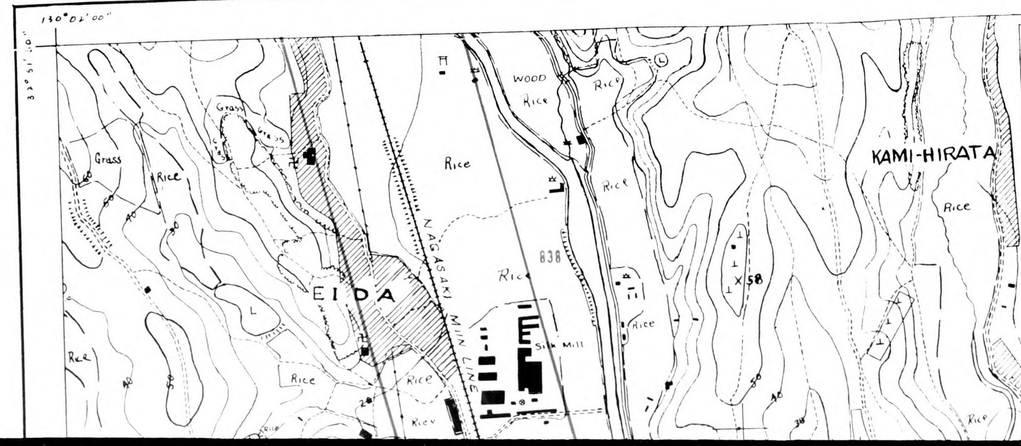
LEGEND

Major Transmission Lines — 150 KV, 66 KV
Primary Transformer Stations
Key Steam Power Plants
Network Boundary

Heights in Meters
Scale 1:2 000 000
60 Miles
80 Kilometers

APRIL 1944

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



LEGEND

Factory
Hospital
Shrine
Temple
Chimney
Pagoda
Church
Cemetery
Statue or Monument
School
Water Wheel or Mill
Stone Steps
Harbor Limits — HARBOR LIMITS
Post Office
High Tension Powerline
Police Station
Densely Populated
Sparsely Populated

ISAHAYA

NAGASAKI PREFECTURE, KYŪSHŪ, JAPAN

½ 0 ½ Miles
500 0 500 Meters
500 0 500 Yards

POLYCONIC PROJECTION
CONTOUR INTERVAL 10 METERS
PREPARED UNDER THE DIRECTION OF THE AERONAUTICAL CHART SERVICE BY THE LAKE SURVEY BRANCH, ARMY MAP SERVICE
COMPILED FROM JAPANESE IMPERIAL LAND SURVEY; 1:25,000 SHEETS KUMAMOTO 15D AND 15C, 1929
THE OFFICE OF AC/AS INTELLIGENCE, WASHINGTON, D.C.

National or Prefectural Road generally Metalled over 4 m. wide
Other Roads 2·4 m. wide
Road, Track or Trail Less than 2 m. wide

Railroads
3'6" Gauge, Single Track
3'6" Gauge, Double Track
Narrow Gauge, Single Track
Narrow Gauge, Double Track
4'8½" Gauge, Single Track
4'8½" Gauge, Double Track
Railroad Station
Cableline

HEIGHTS AND DEPTHS IN METERS

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

ISAHAYA

NAGASAKI PREFECTURE, KYŪSHŪ, JAPAN

LEGEND

Factory
Hospital
Shrine
Temple
Chimney
Pagoda
Church
Cemetery
Statue or Monument
School
Water Wheel or Mill
Stone Steps
Harbor Limits
Post Office
High Tension Powerline
Police Station
Densely Populated
Scarcely Populated

½ Miles
500 Meters
500 Yards

POLYCONIC PROJECTION

CONTOUR INTERVAL 10 METERS

PREPARED UNDER THE DIRECTION OF THE AERONAUTICAL CHART SERVICE BY THE LAKE SURVEY BRANCH, ARMY MAP SERVICE.
COMPILED FROM JAPANESE IMPERIAL LAND SURVEY; 1:25,000 SHEETS KUMAMOTO 15D AND 15C, 1929
THE OFFICE OF AC/AS INTELLIGENCE, WASHINGTON, D.C.

National or Prefectural Road generally Metalled, over 4 m. wide
Other Roads 2-4 m. wide
Road, Track or Trail Less than 2 m. wide

Railroads
3'6" Gauge, Single Track
3'6" Gauge, Double Track
Narrow Gauge, Single Track
Narrow Gauge, Double Track
4'8½" Gauge, Single Track
4'8½" Gauge, Double Track
Railroad Station
Car-line

HEIGHTS AND DEPTHS IN METERS

EIDA
NAKAIHARA
EISHŌ
WAUCHI
UTTO
KAMI-HIRATA
FUKUTA
NAKAOKI
FUNAKOSHI
KAWACHIMACHI
HANZŌ
ŌKUBO
NISHISO
WASHIZAKI
SHIMMICHI
OGAWA
HARAGUCHI
HIRAYAMA
KO-FUNAKOSHI
MITATE-YAMA (MOUNTAIN)
JŌ-YAMA (MOUNTAIN) △122
Nagasaki Main Line
Shimabara Railroad
Hommyō-gawa (River)
Agricultural Experiment Station
Water Tower
Isahaya Station
Saw Mill
Electric Substation
Stone
City Hall
Middle School
Park
Tenyū-ji (Temple)
Courthouse
Prison
Agricultural School
Kiln
Kuremo
Race Track
Airport Reported in this Area
Radio Station reported in this Area
Low Tension
High Tension
Rice
Grass
Trees
Wood
Clear
Quarries
Kilometers

130°02' 00"
32°47' 36"
130°04' 51"
32°49' 26"

M-4

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Body Kurtzite M-4 Fire Proof

KURUME AREA ... continued

130° 24′ 130°27′ 130°30′

33° 03′

SHIMABARA GULF

SEA

ARIAKE

SHIMOKUSADA

hospital

x 900′

x 590′

x 400′

243′

airlight (elev 53′)

mud flats

1877 Exact location unknown. Believed to be in this area.

x 860′

750′

x 740′

MIIKE

hospital

coke ovens

1261

1245

1246

KANEGAFUCHI SPINNING MILL

1256

1260

1243

x 240′

projected pier

OMUTA

hospital

MITSUI COAL WASHING UNIT GAS POWER PLANT

1244

1262

x 1270′

1254

coal storage yards

mud flats

10′ x

hospital

490′ x

coal mines

NISHIKOMEQ

1595

locks

1249

MIKAWA

SUV

MITSUI MINING R. R.

tunnel

tunnel

inner harbor

coke stores

1268

hospital

SEKI RIVER

1278

lighthouse (elev 52′)

33°

1279

Yotsuyama Mine

reservoir

80′ x

BARUMANDA

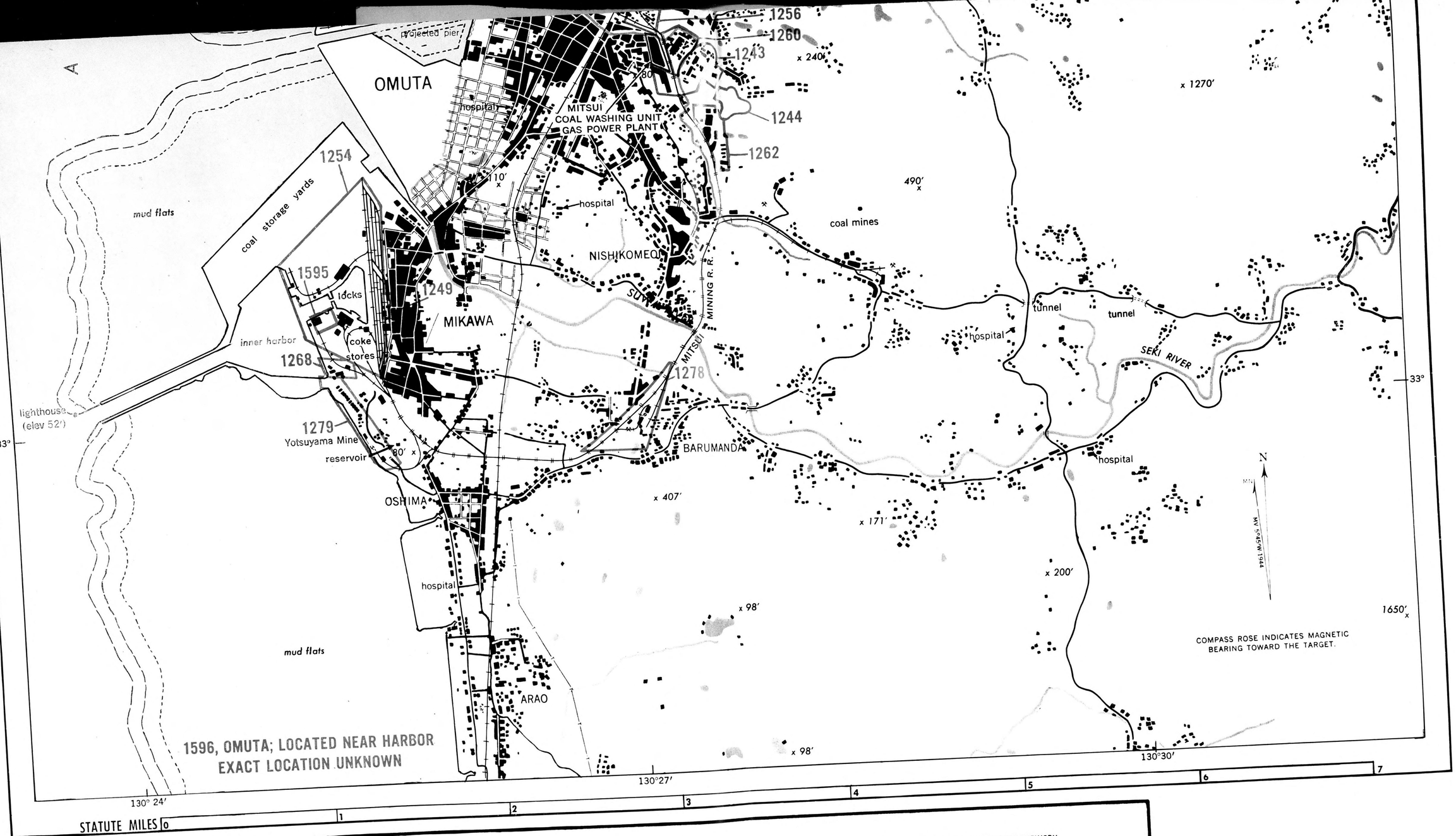
hospital

OSHIMA

x 407′

x 171′

N



OMUTA and VICINITY

ELEVATIONS IN FEET

DOUBLE TRACK RAILROADS
SINGLE TRACK RAILROADS
PRIMARY HIGHWAYS
SECONDARY HIGHWAYS
POWER LINES

SOURCE: ADAPTED FROM JAPANESE IMPERIAL LAND SURVEY DATE OF MAP—FEBRUARY 1944
DATE OF ANALYSIS—APRIL 1944

1243. . MIIKE DYESTUFFS
1244. . ORIENTAL HIGH PRESSURE CO. PLANT A
1245. . ORIENTAL HIGH PRESSURE CO. PLANT B
1246. . ELECTRO-CHEMICAL INDUSTRY
1249. . OMUTA NO. 1 STEAM POWER PLANT
1254. . MIIKE HARBOR
1256. . MIIKE MACHINERY WORKS
1260. . MITSUI ZINC DISTILLERY
1261. . MITSUI ELECTROLYTIC ZINC REFINERY
1262. . MITSUI COAL LIQUEFACTION PLANT
1268. . MITSUI RR WORKSHOPS
1278. . MANDA MINE
1279. . YOTSUYAMA MINE
1595. . OMUTA NO. 2 STEAM POWER PLANT (MINATO)
1596. . OMUTA NO. 3 STEAM POWER PLANT (SHIN KARYOKU)
1877. . TOYO ALUMINUM CO. (MIIKE)

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130°29'10"

33°02'54"

27'

28'

33°02'

33°01'

SHIRAKAWA

Ōma

TEGAMA

KUNOKI

KANEGAFUCHI SPINNING MILL

EBISUEHŌ

MIGASHI-SHIMMACHI

MIIKE MACHINERY WORKS

MITSUI ZINC DISTILLERY

COAL WASHING PLANT

MIIKE DYE STUFF

ARIAKECHŌ

ORIENTAL HIGH PRESSURE CO. PLANT A

KATAHIRACHŌ

MITSUI COAL LIQUEFACTION PLANT

NANAURACHŌ

KAWAJIRI

PRISON

ATHLETIC FIELD

NISHI-YONEO

KATTACHI COAL MINE

GRASSLAND BUMA COAL MINE

Nakahara

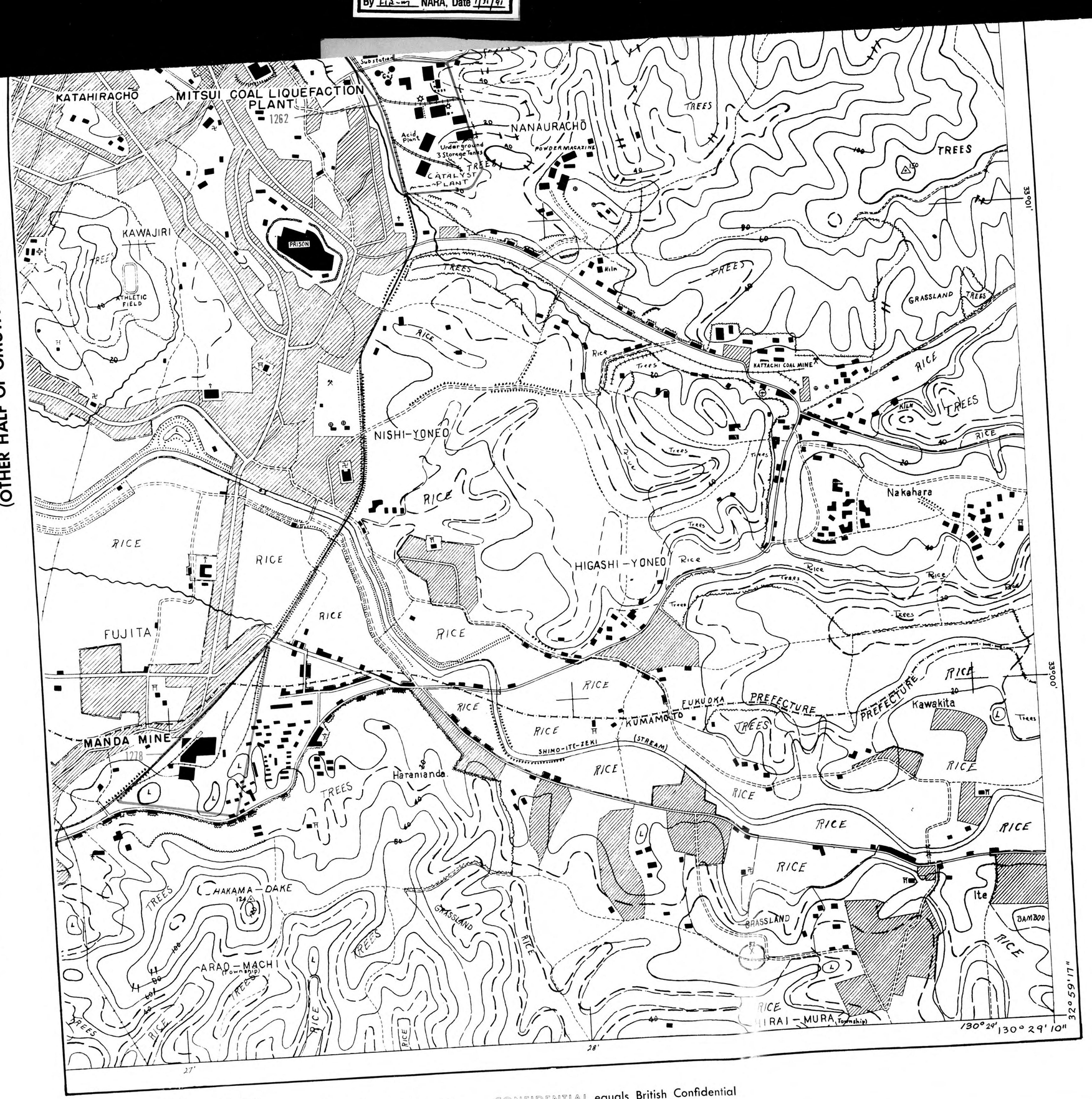
RICE

TREES

(OTHER HALF OF OMUTA PLAN ON M-7)

By EJS-ey NARA, Date 7/31/91

(OTHER HALF OF OMUTA PLAN ON M-7)



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ŌMUTA

FUKUOKA PREFECTURE, KYŪSHŪ, ISLAND

½ Miles 0 ½

500 0 500 Meters

500 0 500 Yards

POLYCONIC PROJECTION

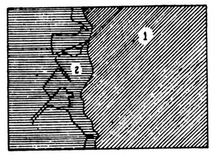
CONTOUR INTERVAL 20 METERS

PREPARED UNDER THE DIRECTION OF THE AERONAUTICAL CHART SERVICE, BY THE LAKE SURVEY BRANCH, ARMY MAP SERVICE.

COMPILED FROM: 1-JAPANESE IMPERIAL LAND SURVEY 1:50000, OMUTA(1931) & CHOSU-MAGASU(1934), 2-JAPANESE HYDROGRAPHIC CHART 172 1:12,000(1938), 3-CITY PLAN 1:15,000 Z. OBUCHI, OSAKA(1930), 4-INTELLIGENCE DATA

NAMES TRANSCRIBED ACCORDING TO MODIFIED HEPBURN(ROMAJI) SYSTEM.

RELIABILITY



THE OFFICE OF AC/AS INTELLIGENCE WASHINGTON, D.C.

LEGEND

Factory	National or Prefectural Roads generally Metalled, over 4m. wide	
Hospital	Other Roads, 2-4m wide	
Shrine	Road, Track or Trail less than 2m. wide	
Temple	Railroads	
Chimney	3'6" Gauge, Single Track	
School	3'6" Gauge, Double Track	
Post Office	Narrow Gauge Single Track	
Cemetery	Narrow Gauge Double Track	
Sparsely Populated	4'8½" Gauge Single Track	
	4'8½" Gauge Double Track	
Densely Populated	Railroad Stations	
	Cartline	
	Depth of water	2.6
Inter. Contours 10 Meters	Police Station	×
	High Tension Power Line	

HEIGHTS AND DEPTHS IN METERS

ARIAKE NO-UMI (BAY)

ŌMUTA-KŌ (HARBOR)

SHIMABARA-KAIWAN (GULF)

ORIENTAL HIGH PRESSURE CO. PLANT B

ELECTRO-CHEMICAL CO.

1245

VERY SMALL COKE OVEN

ZINC REFINERY

1261

SULPHURIC ACID PLANT

ELECTRO-CHEMICAL INDUSTRY

1246

MITSUI ELECTROLITIC ZINC REFINERY

ŌMUTA-GAWA

PROSTITUTION QUARTER

RACE TRACK

MATSUBARA-CHŌ (STREET)

TAISHŌ-CHŌ (STREET)

OHAMAMACHI

ICE PLANT

SUWA-GAWA

TRAM CO.

1255

PARK

SUWACHŌ

MITSUI CLUB

GRASS LAND

1254

MITSUI MINING COMPANY COAL STORAGE YARD

CUSTOMS SHED

HIGH LEVER TRESTLE

WET DOCK

RICE

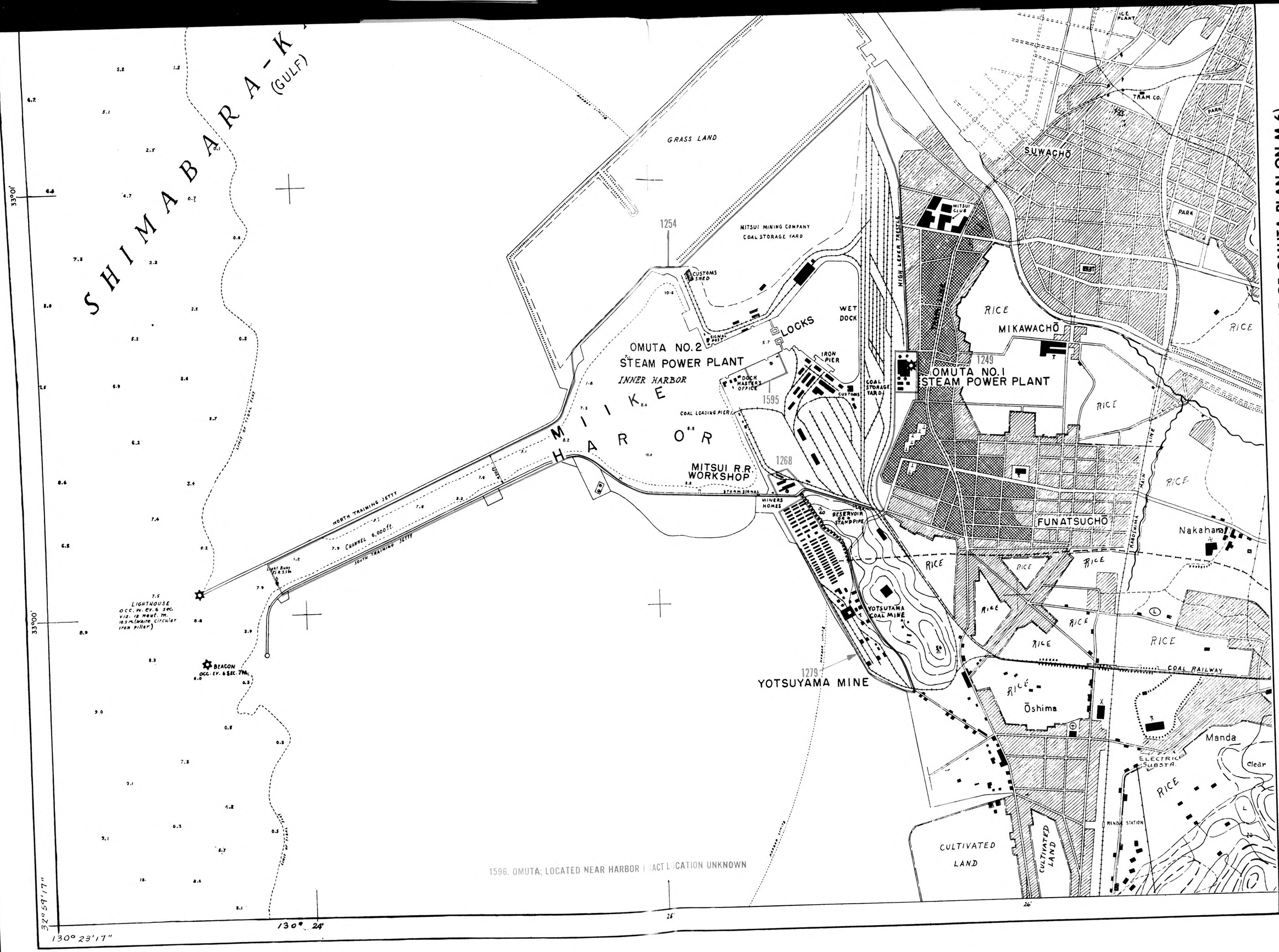
HARBOR LIMITS

LIMIT OF TIDAL FLAT

2.3 3.7 2.4 0.2 2.3 0.4 4.8 2.8 5.8 1.2 6.2 5.1 2.5 0.1 6.8 4.7 0.7 7.8 3.8 8.0 2.8 10.6

33°02'54" 130°23'17" 130°24' 25' 26' 33°02' 33°01'

(THE UPPER HALF OF OMUTA PLAN ON M-6)



(OTHER HALF OF OMUTA PLAN ON M-6)

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MIIKE MACHINERY WORKS

1256

1260

1243

small dwellings

MITSUI ZINC REFINERY MAIN PLANT

ch

coal washing plant

storage tanks

chimney

small dwellings

storage sheds

small dwellings

chimney

storage tanks

small dwellings

coke ovens

MIIKE DYE STUFFS

gas holder

by-product plant

electric power station

factory building

chimney

TO OURA MINE

ORIENTAL HIGH PRESSURE CO PLANT A

storage

air liquefaction

packing room

1244

brine tank

ammonia compressor

small boiler room

hydrogen storage

ammonia storage

nitrogen storage

coke gas storage

main valves

MAIN PLANT

electrical equipment

oxygen storage

gas scrubbers

turntable

cooling tower

trans-formers

reservoir

pump house

coke gas storage

main compressor room

gas storage

repair shop

dam

dam

reservoir

loading tracks

coal tipple

small dwellings

by-product plant (30 x 15 meters)

coke ovens

water gas generators

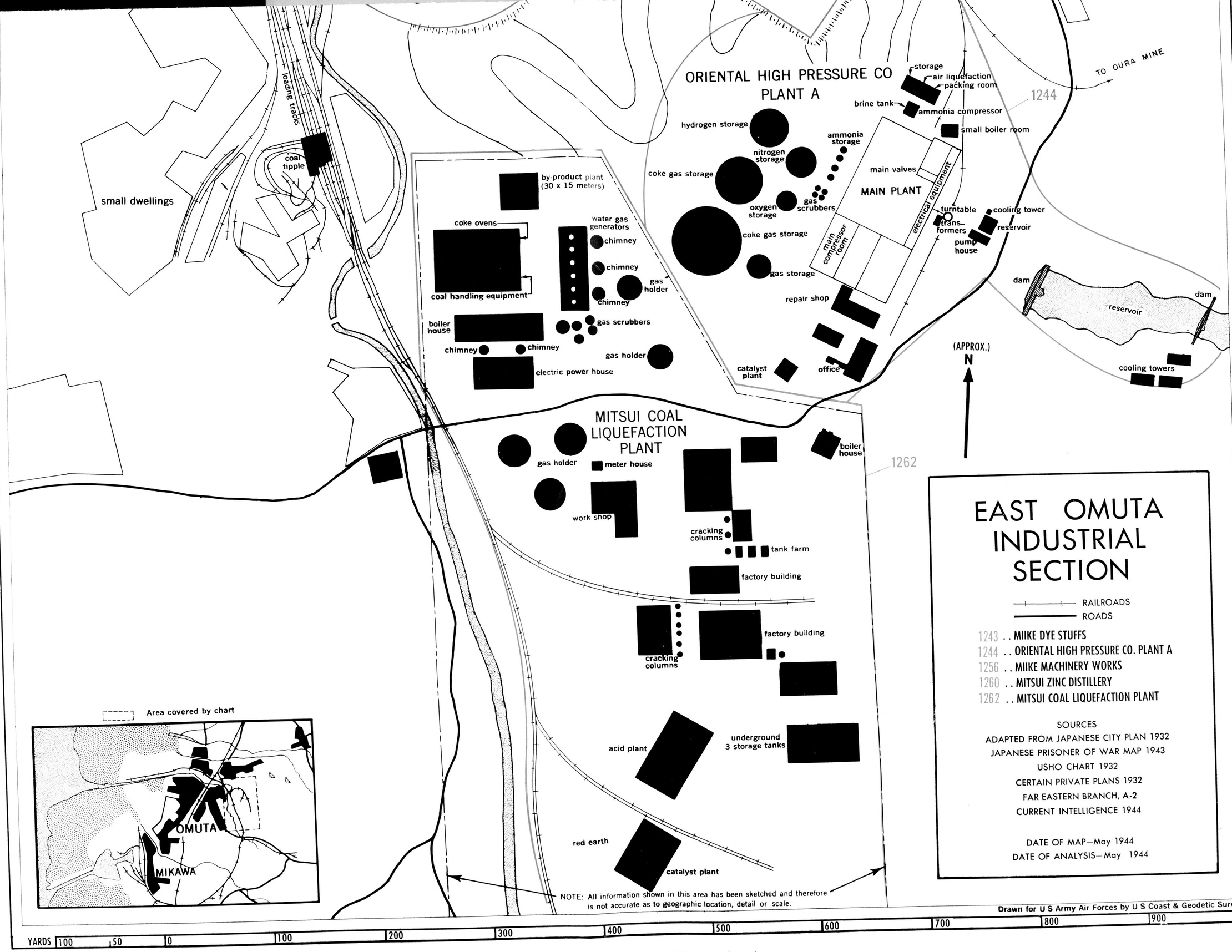
chimney

chimney

gas holder

chimney

coal handling equipment



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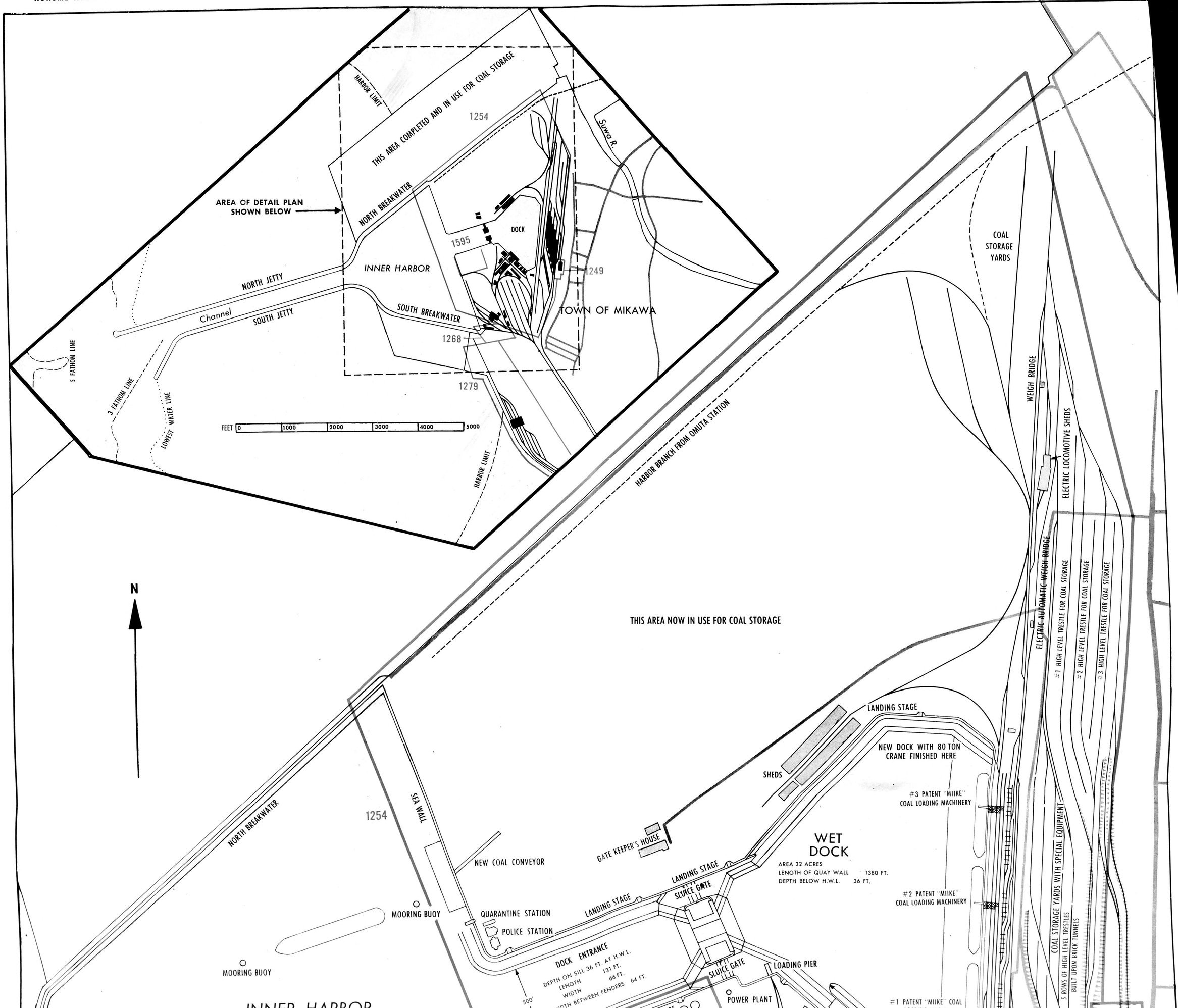
3640 Kimmitt M.S.—First Proof


HARBOR LIMIT
THIS AREA COMPLETED AND IN USE FOR COAL STORAGE
1254
Suwa R.
AREA OF DETAIL PLAN SHOWN BELOW
NORTH BREAKWATER
DOCK
1595
INNER HARBOR
1249
NORTH JETTY
Channel
SOUTH JETTY
SOUTH BREAKWATER
TOWN OF MIKAWA
1268
1279
5 FATHOM LINE
3 FATHOM LINE
LOWEST WATER LINE
FEET 0 1000 2000 3000 4000 5000
HARBOR LIMIT
HARBOR BRANCH FROM OMUTA STATION
COAL STORAGE YARDS
WEIGH BRIDGE
ELECTRIC LOCOMOTIVE SHEDS
ELECTRIC AUTOMATIC WEIGH BRIDGE
#1 HIGH LEVEL TRESTLE FOR COAL STORAGE
#2 HIGH LEVEL TRESTLE FOR COAL STORAGE
#3 HIGH LEVEL TRESTLE FOR COAL STORAGE
COAL STORAGE YARDS WITH SPECIAL EQUIPMENT
5 ROWS OF HIGH LEVEL TRESTLES
BUILT UPON BRICK TUNNELS
N
THIS AREA NOW IN USE FOR COAL STORAGE
NORTH BREAKWATER
1254
SEA WALL
NEW COAL CONVEYOR
GATE KEEPER'S HOUSE
LANDING STAGE
NEW DOCK WITH 80 TON CRANE FINISHED HERE
SHEDS
#3 PATENT "MIIKE" COAL LOADING MACHINERY
WET DOCK
AREA 32 ACRES
LENGTH OF QUAY WALL 1380 FT.
DEPTH BELOW H.W.L. 36 FT.
#2 PATENT "MIIKE" COAL LOADING MACHINERY
MOORING BUOY
QUARANTINE STATION
POLICE STATION
LANDING STAGE
SLUICE GATE
DOCK ENTRANCE
DEPTH ON SILL 36 FT. AT H.W.L.
LENGTH 131 FT.
WIDTH 66 FT.
WIDTH BETWEEN FENDERS 64 FT.
300'
LOADING PIER
POWER PLANT
#1 PATENT "MIIKE" COAL LOADING MACHINERY
CAPACITY 5000 TONS PER DAY
MOORING BUOY
INNER HARBOR

By [illegible] NARA, Date [illegible]

MIIKE HARBOR AND DOCK

33°00'N 130°25'E (TARGET 1254)

RAILROADS

ROADS

1249. . OMUTA NO. 1 STEAM POWER PLANT
1254. . MIIKE HARBOR
1268. . MITSUI RR WORKSHOPS
1279 . . YOTSUYAMA MINE
1595 . . OMUTA NO. 2 STEAM POWER PLANT (MINATO)

1254

NORTH BREAKWATER

SEA WALL

MOORING BUOY

MOORING BUOY

INNER HARBOR

AREA 124 ACRES

TIDAL RANGE—HIGH WATER SPRING TIDE IS 18 FEET ABOVE LOW WATER EQUINOXAL SPRING TIDE

NEW COAL CONVEYOR

GATE KEEPER'S HOUSE

LANDING STAGE

SLUICE GATE

QUARANTINE STATION

LANDING STAGE

POLICE STATION

DOCK ENTRANCE
DEPTH ON SILL 36 FT. AT H.W.L.
LENGTH 131 FT.
WIDTH 66 FT.
WIDTH BETWEEN FENDERS 64 FT.

300'

SLUICE GATE

LOADING PIER

POWER PLANT

LANDING STAGE

OIL TANKS

DOCK MASTER'S OFFICE

TIDE SIGNAL POLE

1595

COAL LOADING PIER

WET DOCK

AREA 32 ACRES
LENGTH OF QUAY WALL 1380 FT.
DEPTH BELOW H.W.L. 36 FT.

#3 PATENT "MIIKE" COAL LOADING MACHINERY

#2 PATENT "MIIKE" COAL LOADING MACHINERY

#1 PATENT "MIIKE" COAL LOADING MACHINERY CAPACITY 5000 TONS PER DAY

300'

IRON PIER

SHEDS

CUSTOMS INSPECTOR'S POST

HARBOR OFFICE

COAL STORAGE YARDS WITH SPECIAL EQUIPMENT
5 ROWS OF HIGH LEVEL TRESTLES BUILT UPON BRICK TUNNELS

LOW-LEVEL SIDINGS FOR FULL WAGONS

ELECTRIC POWER STATION

1249

TRANSFORMER ROOM

CUT

FILL

COKE STORAGE YARDS

1268

WORK SHOP

SOUTH BREAKWATER

1279

YOTSUYAMA COAL MINE

YOTSUYAMA

MITSUI MINING RAILWAY FROM MANDA MINE

TOWN OF MIKAWA

FEET 1000 500 0 1000 2000 3000

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M-9

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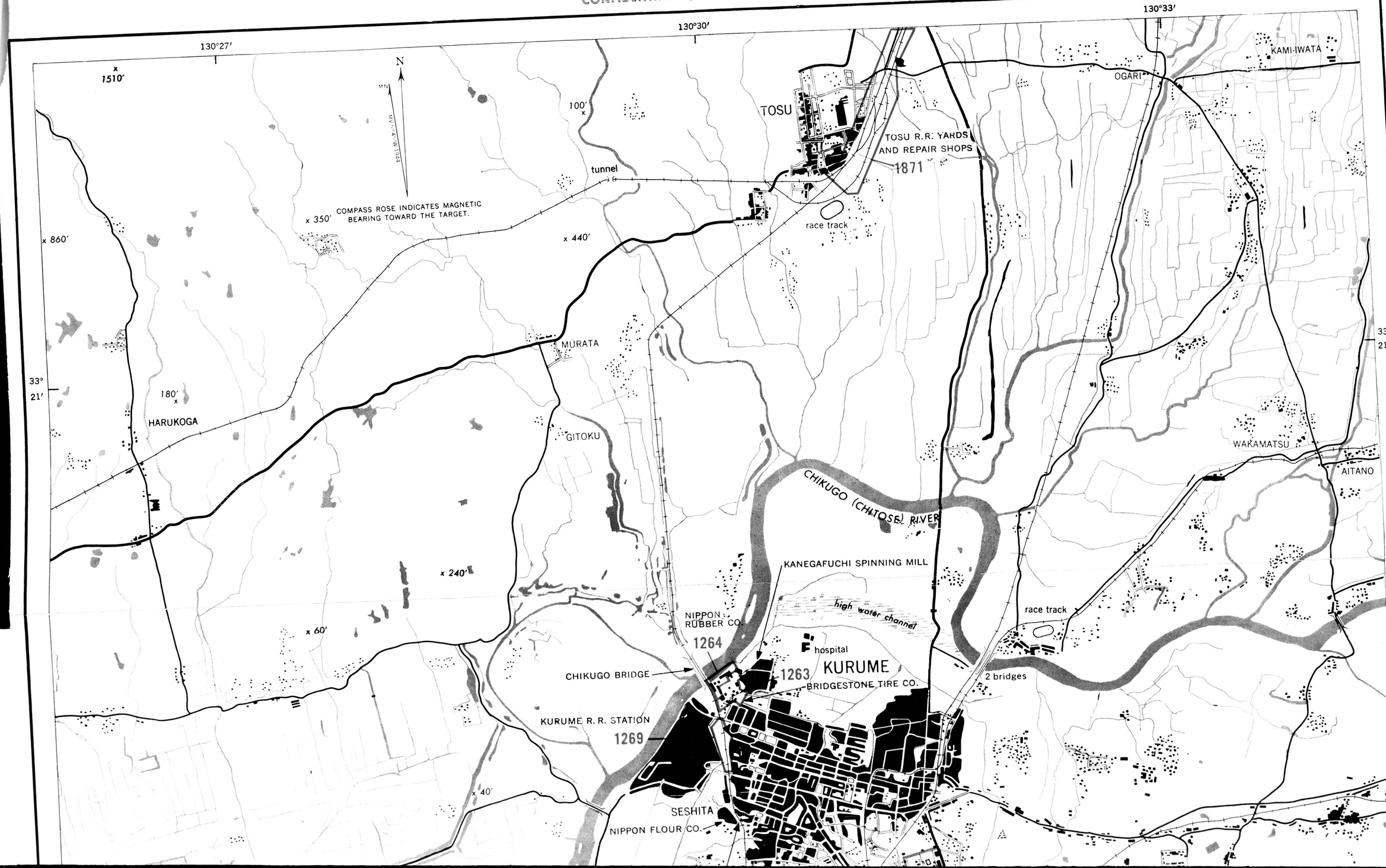

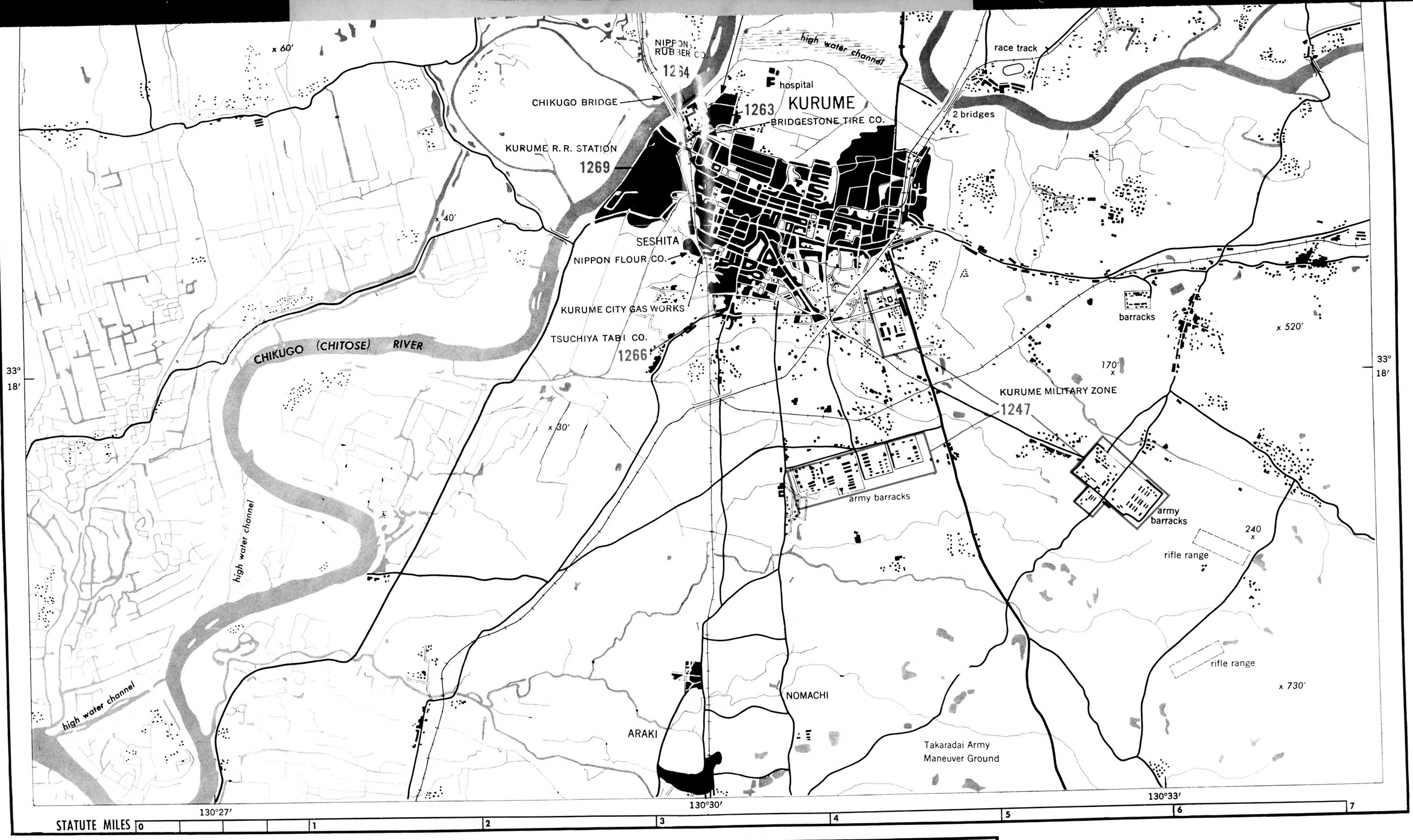

KURUME and VICINITY

ELEVATIONS IN FEET

RAILROADS

PRIMARY HIGHWAYS

SECONDARY HIGHWAYS

SOURCE: ADAPTED FROM JAPANESE IMPERIAL LAND SURVEY. DATE OF MAP—FEBRUARY 1944
DATE OF ANALYSIS—APRIL 1944

1247.. KURUME MILITARY ZONE

1263.. BRIDGESTONE TIRE CO.

1264.. NIPPON RUBBER CO.

1266.. TSUCHIYA TABI CO. (RUBBER SHOE INDUSTRY)

1269.. KURUME RR STATION

1871.. TOSU RR YARDS & REPAIR SHOPS

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349 Kurume—M-10—First Proof

CONFIDENTIAL equals British Confidential

3649—Kurume—M-11—First Proof

130° 29' 29"

33° 19' 37"

130° 33' 54"

33° 19' 37"

KURUME
FUKUOKA PREFECTURE, KYŪSHŪ, JAPAN

½ 0 ½ Mile

500 0 500 Meters

500 0 500 Yards

POLYGONIC PROJECTION

CONTOUR INTERVAL 10 METERS

Prepared under the direction of Aeronautical Chart Service by the Lake Survey Branch, Army Map Service, Compiled from, 1- Japan 1:25000, Imperial Land Survey, Kumamoto 3C (1932) and 9A (1932) 2- Kurume City Plan 1:7000 Obuchi, Osaka, 1932. 3- Intelligence Data. 4- Railroad Map of Japan, Sanseido, Tokio 1:193 Names transcribed according to modified - Hepburn (Romaji) system.

The Office of ACAS INTELLIGENCE Washington D.C.

GLOSSARY

- ji --- temple
- jinsha --- shrine
- machi --- township, street
- mura --- township

LEGEND

- Factory
- Hospital
- Shrine
- Temple
- Chimney
- Police Station
- School
- Cemetery
- Monument
- Post Office
- Water Mill
- Densely Populated
- Sparsely Populated
- National or Prefectural Road generally Metalled over 4 m. Wide
- Other Roads 2.4 m. Wide
- Roads, Track or Trail less than 2 m. Wide
- Railroads
- 3'6" Gauge, Single Track
- 3'6" Gauge, Double Track
- Narrow Gauge Single Track
- Narrow Gauge Double Track
- 4'8 ½" Gauge Single Track
- 4'8 ½" Gauge Double Track
- Railroad Stations
- Garline
- Depth of Water
- High Tension Power Line

2.5

Space for Reliability Diagram

HEIGHTS AND DEPTHS IN METERS

CONFIDENTIAL equals British Confidential

ON PROOFS FORWARDED AS A SUPPLEMENT TO THIS FOLDER

130° 33' 54"

33° 19' 37"

KURUME
FUKUOKA PREFECTURE, KYŪSHŪ, JAPAN

½ Mile
500 Meters
500 Yards

POLYGONIC PROJECTION
CONTOUR INTERVAL 10 METERS

Prepared under the direction of Aeronautical Chart Service by the Lake Survey Branch, Army Map Service.
Compiled from, 1- Japan 1:25000, Imperial Land Survey, Kumamoto 5C (1932) and 9A (1932) 2- Kurume City Plan 1:7,000 Obuchi, Osaka, 1932. 3- Intelligence Data. 4- Railroad Map of Japan, Sanseido, Tokyo: 1931
Names transcribed according to modified Hepburn (Romaji) system.

The Office of
ACAS INTELLIGENCE
Washington D.C.

GLOSSARY

- -ji ---- temple
- -jinsha ---- shrine
- -machi ---- township, street
- -mura ---- township

LEGEND

- Factory
- Hospital
- Shrine
- Temple
- Chimney
- Police Station
- School
- Cemetery
- Monument
- Post Office
- Water Mill
- Densely Populated
- Sparsely Populated

- National or Prefectural Road generally Metalled over 4 m. Wide
- Other Roads 2.4 m. Wide
- Roads, Track or Trail less than 2 m. Wide
- Railroads
- 3'6" Gauge, Single Track
- 3'6" Gauge, Double Track
- Narrow Gauge Single Track
- Narrow Gauge Double Track
- 4'8 ½" Gauge Single Track
- 4'8 ½" Gauge Double Track
- Railroad Stations
- Garline
- Depth of Water 2.5
- High Tension Power Line

HEIGHTS AND DEPTHS IN METERS

Space for Reliability Diagram

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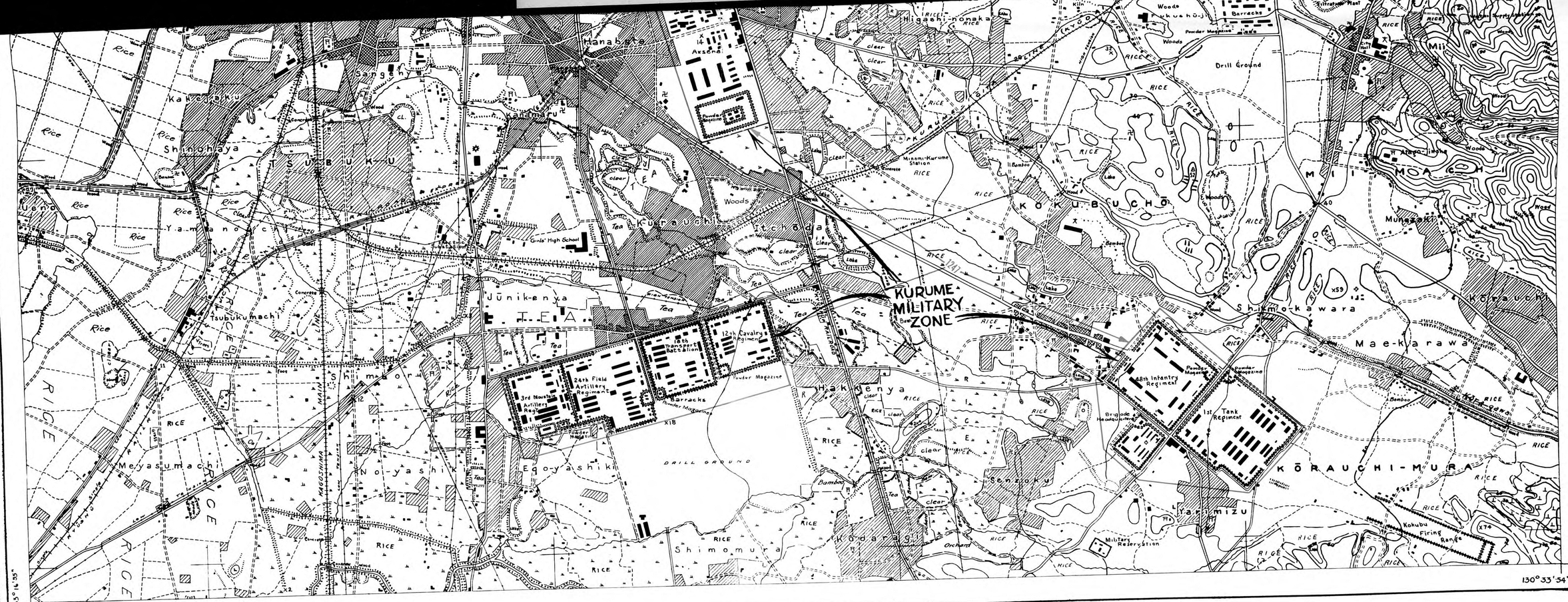

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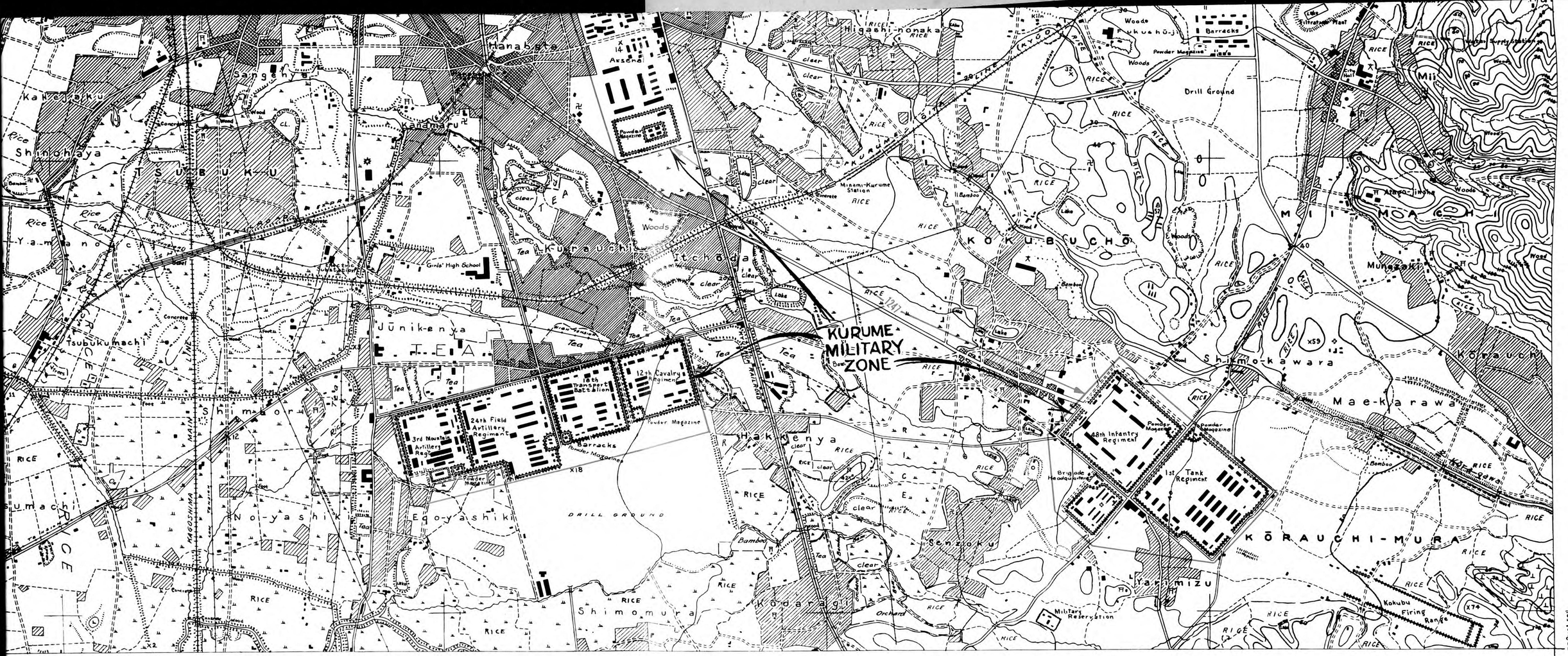

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CONFIDENTIAL equals British Confidential

SAGA

SAGA PREFECTURE, KYŪSHŪ, JAPAN

POLYCONIC PROJECTION

PREPARED UNDER THE DIRECTION OF THE AERONAUTICAL CHART SERVICE BY THE LAKE SURVEY BRANCH, ARMY MAP SERVICE

Compiled from: 1. Japanese Imperial Land Survey 1:25,000; sheets Kumamoto 9 and D, 1932. 2. Saga City Plan 1:75,000, Z, Obuchi & Osaka, 1932. Names transcribed according to Modified Hepburn (Romaji) System.

THE OFFICE OF AC/AS INTELLIGENCE, WASHINGTON, D.C.

HEIGHTS AND DEPTHS IN METERS

RELIABILITY

LEGEND

- Factory
- Hospital
- Shrine
- Temple
- Chimney
- Cemetery
- Monument
- School
- Water Mill
- Post Office
- Police Station
- Densely Populated
- Sparsely Populated
- National or Prefectural Road generally Metalled, over 4 m. wide
- Other Roads, 2-4 m. wide
- Road, Track or Trail Less than 2 m. wide
- Railroads
  - 3'6" Gauge, Single Track
  - 3'6" Gauge, Double Track
  - Narrow Gauge, Single Track
  - Narrow Gauge, Double Track
  - 4'8½" Gauge, Single Track
  - 4'8½" Gauge, Double Track
- Railroad Stations
- Car line
- High Tension Power Line
- Depth of Water

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1259

SAGA

SAGA PREFECTURE, KYŪSHŪ, JAPAN

POLYCONIC PROJECTION

PREPARED UNDER THE DIRECTION OF THE AERONAUTICAL CHART SERVICE BY THE LAKE SURVEY BRANCH, ARMY MAP SERVICE

Compiled from: 1. Japanese Imperial Land Survey 1:25,000; sheets Kumamoto 9 Land D, 1932. 2. Saga City Plan 1:75,000, Z. Obuchi Osaka, 1932.
Names transcribed according to Modified Hepburn (Romaji) System.

THE OFFICE OF AC/AS INTELLIGENCE, WASHINGTON, D.C.

HEIGHTS AND DEPTHS IN METERS

RELIABILITY

LEGEND

- Factory
- Hospital
- Shrine
- Temple
- Chimney
- Cemetery
- Monument
- School
- Water Mill
- Post Office
- Police Station
- Densely Populated
- Sparsely Populated
- National or Prefectural Road generally Metalled, over 4m wide
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- Railroads
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- 3'6" Gauge, Double Track
- Narrow Gauge, Single Track
- Narrow Gauge, Double Track
- 4'8½" Gauge, Single Track
- 4'8½" Gauge, Double Track
- Railroad Stations
- Cartline
- High Tension Power Line
- Depth of Water 2.6

Miles
Meters
Yards

SAGA
SAGA CITY
NABESHIMA-MURA (Township)
TA FUSEMACHI
KŌNOMACHI
OTAKARAMACHI
MATSUBARAMACHI
NISHI-TASHIROMACHI
AKAMATSUMACHI
OLD CASTLE AREA
HYŌGO-MURA
KOSE-MURA (Township)
KAMINO-SHIMURA
HIGASHI-TASHIROMACHI
MIZUGAEMACHI
NAKANOTATE
HONJŌ
HONJŌ-MURA (Township)
KASE-MURA (Township)
NISHI-YOKA-MURA (Township)
YAHEMACHI
NAGASAKI MAIN LINE
NAGASAKI HIGHWAY
TAKUFUE-GAWA (RIVER)
SAGA ELECTRIC RAILWAY
SAGA PRISON
NISHIN GRADE SCHOOL
GLASS FACTORY
TOGAMI ELECTRIC WORKS
GAS PLANT
ELECTRIC SUB STA
CITY HALL
PREFECTURAL OFFICE
LOCAL COURT
DISTRICT COURT
GIRLS' HIGH SCHOOL
Saga Commercial School
Kōda
Magari
Shimomura
Kita-shimura
Shūrita
Nakajima
Hirao
Nitsugi
Takao
Ushijima
Takao Station
Shimono-shimmura
Ashihara
Edayoshi
Kihara
Takefuji
Yasuzumi
Kaga
Aike shima
Hirashima
Ōshima
Rakutanda
Tangishi
Saka
Fukamachi
Yahe
Ryūtaiji
Ōgimachi
Shimoda
Ringetsu
Terakōji
Hiramatsui
Kodenji (Temple)
Mizoguchi
Nishi-kawachi
Nakamura
Ringe
Takayanagi
Haizuka
Ōibi
Fukuromura
Nishi-yata
Suetzugi
Arishige
Hachiryū
Shimo-Takagi
Jōibishiji
Drill Ground
40th Infantry Regiment Barracks
Dai
Hatsumoto
Mitsumizo
Higashi-kōno
Nishi-kōno
Shimmura
Yahamizo
Kōno-ochaya Park
Park
Ōtemmura Park
Matsubara Park
Commerce
Bank
Tax Office
Cemetery
Tomb
Temple
Shrine
Wood
Rice
Steel
Concrete
Kiln
Pond
Canal
Railroad
Station
Tramway
Cartline
Bridge
Tunnel
Factory
Hospital
Police Station
Post Office
Water Mill
Monument
School
Chimney
Gas Tank
Gas Spinning Co
Tennis Court
Golf Course
Race Course
Stadium
Aerodrome
Pier
Wharf
Lighthouse
Breakwater
Sea Wall
Embankment
Cutting
Ferry
Ford
Well
Spring
Waterfall
Rapids
Dam
Reservoir
Swamp
Marsh
Sand
Rock
Cliff
Quarry
Mine
Oil Well
Oil Refinery
Power Station
Transformer
Substation
Telegraph
Telephone
Radio Station
Lighthouse
Beacon
Buoy
Anchorage
Harbour
Port
Customs
Quarantine
Immigration
Passport
Visa
Currency
Exchange
Commerce
Industry
Agriculture
Forestry
Fishing
Mining
Manufacturing
Transportation
Communication
Trade
Export
Import
Tariff
Duty
Tax
Revenue
Expenditure
Budget
Debt
Bond
Stock
Share
Dividend
Interest
Profit
Loss
Capital
Labour
Wage
Salary
Price
Cost
Value
Money
Bank
Tax Office
Cemetery
Tomb
Temple
Shrine
Wood
Rice
Steel
Concrete
Kiln
Pond
Canal
Railroad
Station
Tramway
Cartline
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Budget
Debt
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Dividend
Interest
Profit
Loss
Capital
Labour
Wage
Salary
Price
Cost
Value
Money

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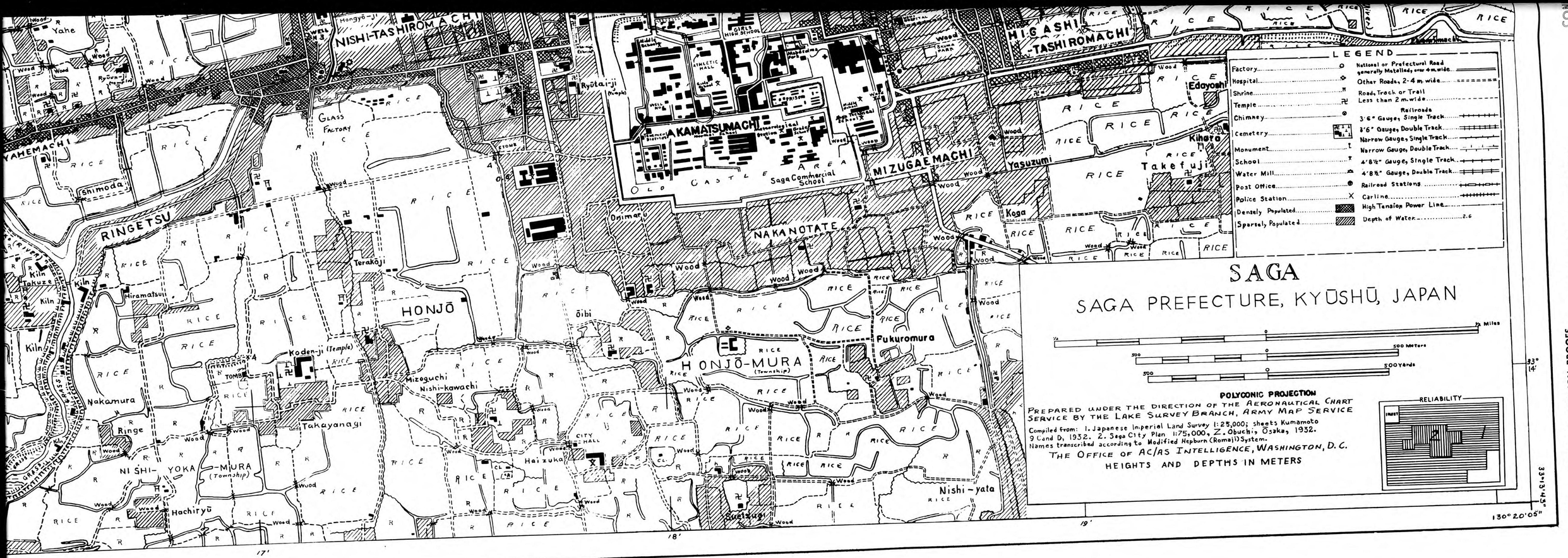

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FUKUOKA and VICINITY

ELEVATIONS AND SOUNDINGS IN METERS

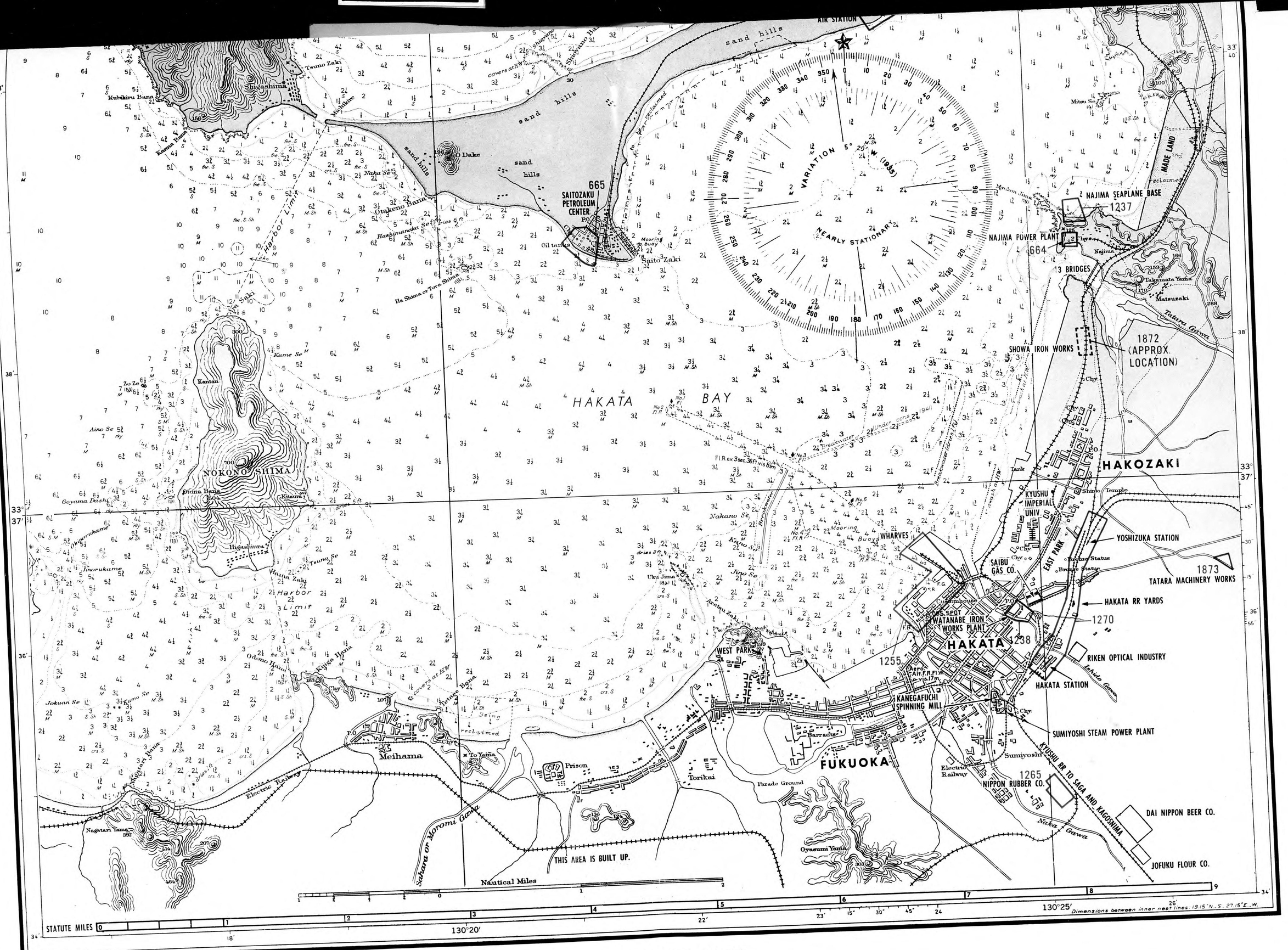
RAILROADS
ROADS
CHY.—CHIMNEYS

ADAPTED FROM U. S. H.O. CHART NO. 2310, MAY 1906, HYDROGRAPHIC CORRECTIONS TO OCT. 1941. JAPANESE IMPERIAL LAND SURVEY 1930

DATE OF ANALYSIS—APRIL 1944

663 . . FUKUOKA AIR STATION
664 . . NAJIMA STEAM POWER STATION
665 . . SAITOZAKI PETROLEUM STORAGE
1237 . . NAJIMA SEAPLANE BASE
1238 . . WATANABE IRON WORKS, PLANT NO. 1
1255 . . HAKATA HARBOR
1265 . . NIPPON RUBBER CO. (FUKUOKA PLANT)
1270 . . HAKATA RR YARDS AND STATION
1872 . . SHOWA IRON WORKS
1873 . . TATARA MACHINERY WORKS

130°20′ 18′ 22′ 24′ 130°25′ 26′
33° 42′ 41′ 40′ 38′



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130°40′ 42′ 44′ 46′ 48′ 50′ 52′

46′ 44′ 42′ 40′ 38′

FORTIFIED ZONE—JAPANESE RESTRICTED

NOGATA

DAINOURA MINE

1274

KOBUKURO

1257

KOBUKURO MACHINERY WORKS

FUTASE MINES

1276

IIZUKA

KAWARA

1274

ASANO CEMENT CO.

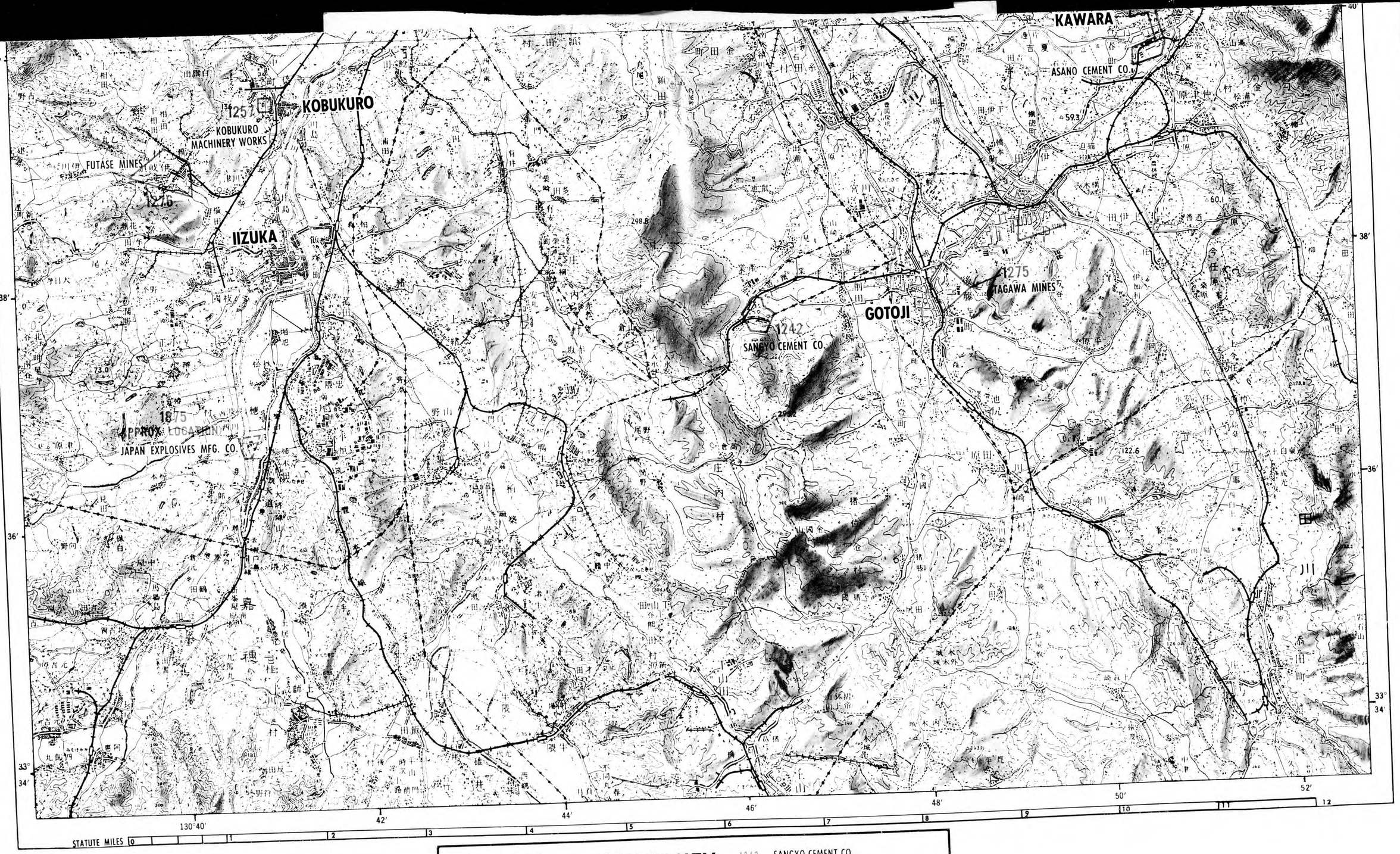
1275

TAGAWA MINES

GOTOJI

1242

SANYO CEMENT CO.



NOGATA and VICINITY

ELEVATIONS IN METERS

- DOUBLE TRACK RAILROADS
- SINGLE TRACK RAILROADS
- FEEDER RAILROADS
- PRINCIPAL ROADS
- POWER LINES

ADAPTED FROM JAPANESE IMPERIAL LAND SURVEY 1927, 1932, 1935, 1938, SOCONY C-1929, JAPANESE ENCYCLOPEDIA 1934

DATE OF ANALYSIS APRIL 1944

1242 . . SANGYO CEMENT CO.

1257 . . KOBUKURO MACHINERY WORKS (IIZUKA)

1274 . . DAINOURA (ONOURA) MINE

1275 . . TAGAWA MINES

1276 . . FUTASE MINES

1874 . . ASANO CEMENT CO. (KAWARA)

1875 . . JAPAN EXPLOSIVES MFG. CO. (IIZUKA)

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CONFIDENTIAL equals British Confidential

130°39' 15"

130°44' 25"

33°40'00"

33°40'00"

IIZUKA

FUKUOKA PREFECTURE, KYŪSHŪ, JAPAN

1/2 0 1/2 MILE

500 0 500 METERS

500 0 500 YARDS

POLYCONIC PROJECTION

CONTOUR INTERVAL 20 METERS

PREPARED UNDER THE DIRECTION OF THE AERONAUTICAL CHART SERVICE BY THE LAKE SURVEY BRANCH, ARMY MAP SERVICE.

COMPILED FROM JAPANESE IMPERIAL LAND SURVEY, 1:50,000, SHEET: DAZAIFU, 1932 (BASE MAP)

2. INTELLIGENCE DATA

NAMES TRANSCRIBED ACCORDING TO MODIFIED HEPBURN (ROMAJI) SYSTEM

THE OFFICE OF AC/AS INTELLIGENCE
WASHINGTON, D.C.

LEGEND

- Factory
- Hospital
- Shrine
- Temple
- Chimney
- Post Office
- Cemetery
- Monument
- School
- Water Mill
- Densely Populated
- Sparsely Populated
- National or Prefectural Road
- Generally Metalled, over 4 M. wide
- Other Roads, 2-4 M. wide
- Road, Track or Trail less than 2 M. wide
- Railroads
- 3'6" Gauge, Single Track
- 3'6" Gauge, Double Track
- Narrow Gauge, Single Track
- Narrow Gauge, Double Track
- 4'8½" Gauge, Single Track
- 4'8½" Gauge, Double Track
- Railroad Stations
- Carline
- Depth of Water 2.6
- Police Station
- High Tension Power Line

HEIGHTS AND DEPTHS IN METERS

GLOSSARY

- -machi ----- ward or town
- -mura ----- town or village
- -yama ----- mountain
- -gawa ----- river

KOBUKURO – MACHI

NAMAZUTA

FUTASE – MACHI

KAWASHIMA

TATEIWA

KATASHIMA

KASHIWAMORI

SHONAI – MURA

CHINZEI – MURA

EDAKUHI

KOMODA

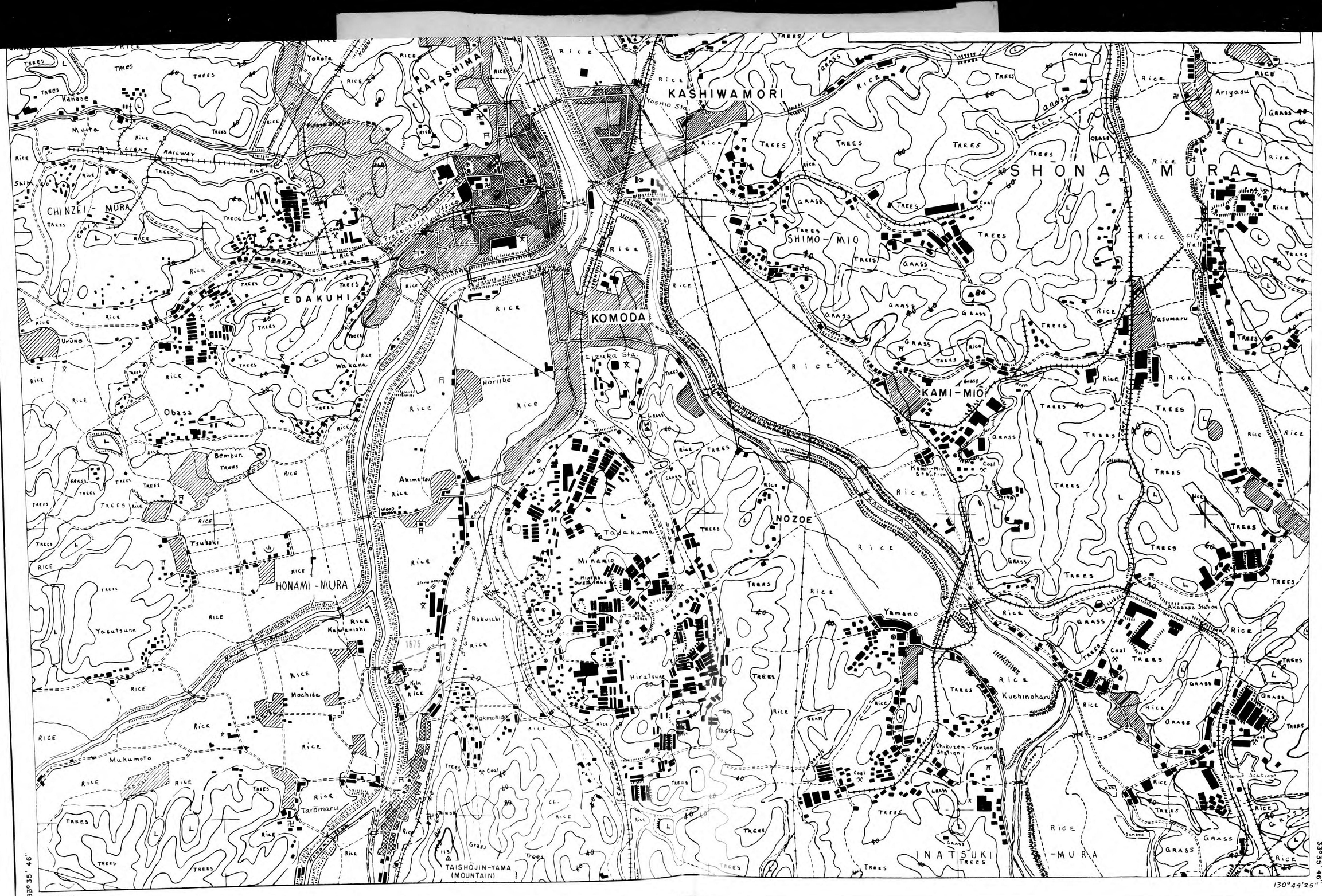
SHIMO – MIO

KAMI – MIO

NOZOE

HONAMI – MURA

Kami-aita
Shimo-aita
Otamaru
Ikisu
Kwatsu
Mizue
Urata
Yokota
Hanase
Muta
Uruno
Obasa
Bembun
Tsubaki
Yabutsune
Mochida
Mukumoto
Wakana
Horrike
Akimotsu
Tadakuma
Minamio
Rakuichi
Hiratsune
Karimokida
Yamano
Kuchinoharu
Ariyasu
Yasumaru
Kobukuro
Naka
Shirahata-yama
Namazuta Sta.
Kobukuro Sta.
Iizuka Sta.
Yoshio Sta.
Kami-Mio Station
Kuchinoharu Station
Chikuzen-Yamano Station
Kasuga Station
Prefectural Office
City Hall
Fukuoka Airport
Futase Shrine
Miners' Dwellings
Coal
Kiln
Bamboo
Grass
Trees
Rice
Fukuoka-Ka Railway
Chikuho Main Line
Kyushu Electric Railway Co.
Kyushu Light Railway
1675



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RESTRICTED

NOGATA AND ENVIRONS

FUKUOKA PREFECTURE, KYUSHU, JAPAN

Scale 1:25,000

1 Mile
1000 Meters
1000 Yards

POLYCONIC PROJECTION

CONTOUR INTERVAL 20 METERS, APPROXIMATE CONTOURS 50 METER INTERVAL

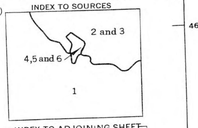
Office of the Assistant Chief of Air Staff, Intelligence, Washington, D.C.
Compiled for the commanding General, U.S. Army Air Forces, under the direction of the Aeronautical Chart Service by the Lake Survey Branch, Army Map Service, Detroit, Michigan, November 1944
Compiled from:
1. Japan 1:50,000, Japanese Imperial Land Survey; Akama,(1935) Yukuhashi (1927) (trigonometric survey -base map)
2. Communications Map, Kammon Vicinity; Japanese Imperial Land Survey, 1:50,000 (1931) (compiled map—base map, northeast)
3. Japan 1:200,000, Japanese Imperial Land Survey; Fukuoka (c. 1929) (compiled map—contours, northeast)
4. Nogata City Plan, pub. Y. Kimura, 1:9,000 (1931) (sketch survey—city detail)
5. Dai Hyakka jiten(Encyclopedia) Nogata 1:12,000 (1934) (sketch map— location of buildings)
6. Kokumin Hyakka Daijiten(Encyclopedia)Nogata c.1:50,000 (1936) (diagrammatic plan — added streets, built up area, location of buildings)
7. Japanese Government Railway Time Table (1941) (railroad gauges)

Names transcribed according to Modified Hepburn (Romaji) System

GLOSSARY

-dōri	street
-gawa	river
-mura	township, village
-machi	township, precinct
-ji	temple
-bashi	bridge
-chō	precinct
-jinsha	shrine

INDEX TO SOURCES



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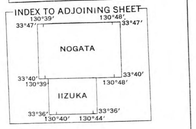


LEGEND

Hospital	National or Prefectural Road, Generally Metalled, over 4 m. wide (or streets in city area)
Shrine	Other Roads 2 - 4 m. wide
Temple	Road, Track or Trail less than 2 m. wide
Chimney	Railroads
Monument	Narrow Gauge, Single Track
School	Narrow Gauge, Double Track
Post Office	3'6" Gauge, Single Track
Depth of Water — 1.0	3'6" Gauge, Double Track
Mine Shaft	Railroad Stations
Densely Populated	High Tension Power Line
Sparsely Populated	Grassland
Woodland	Rice

HEIGHTS AND DEPTHS IN METERS

RESTRICTED

NOGATA AND ENVIRONS

FUKUOKA PREFECTURE, KYUSHU, JAPAN

Scale 1:25,000

1 0 1 Mile

1000 0 1000 Meters

1000 0 1000 Yards

POLYCONIC PROJECTION

CONTOUR INTERVAL 20 METERS, APPROXIMATE CONTOURS 50 METER INTERVAL

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, Michigan, November 1944

Compiled from:

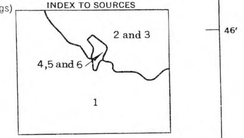
1. Japan 1:50,000, Japanese Imperial Land Survey; Akama (1935) Yukuhashi (1927) (trigonometric survey -base map)
2. Communications Map, Kammon Vicinity; Japanese Imperial Land Survey, 1:50,000 (1931) (compiled map—base map, northeast)
3. Japan 1:200,000, Japanese Imperial Land Survey; Fukuoka (c. 1929) (compiled map—contours, northeast)
4. Nogata City Plan, pub. Y. Kimura, 1:9,000 (1931) (sketch survey—city detail)
5. Dai Hyakka Jiten (Encyclopedia) Nogata 1:12,000 (1934) (sketch map—location of buildings)
6. Kokumin Hyakka Daijiten (Encyclopedia) Nogata c. 1:50,000 (1936) (diagrammatic plan — added streets, built up area, location of buildings)
7. Japanese Government Railway Time Table (1941) (railroad gauges)

Names transcribed according to Modified Hepburn (Romaji) System

GLOSSARY

-dōri	street
-gawa	river
-mura	township, village
-machi	township, precinct
-ji	temple
-bashi	bridge
-chō	precinct
-jinsha	shrine

INDEX TO SOURCES



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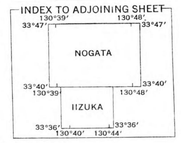


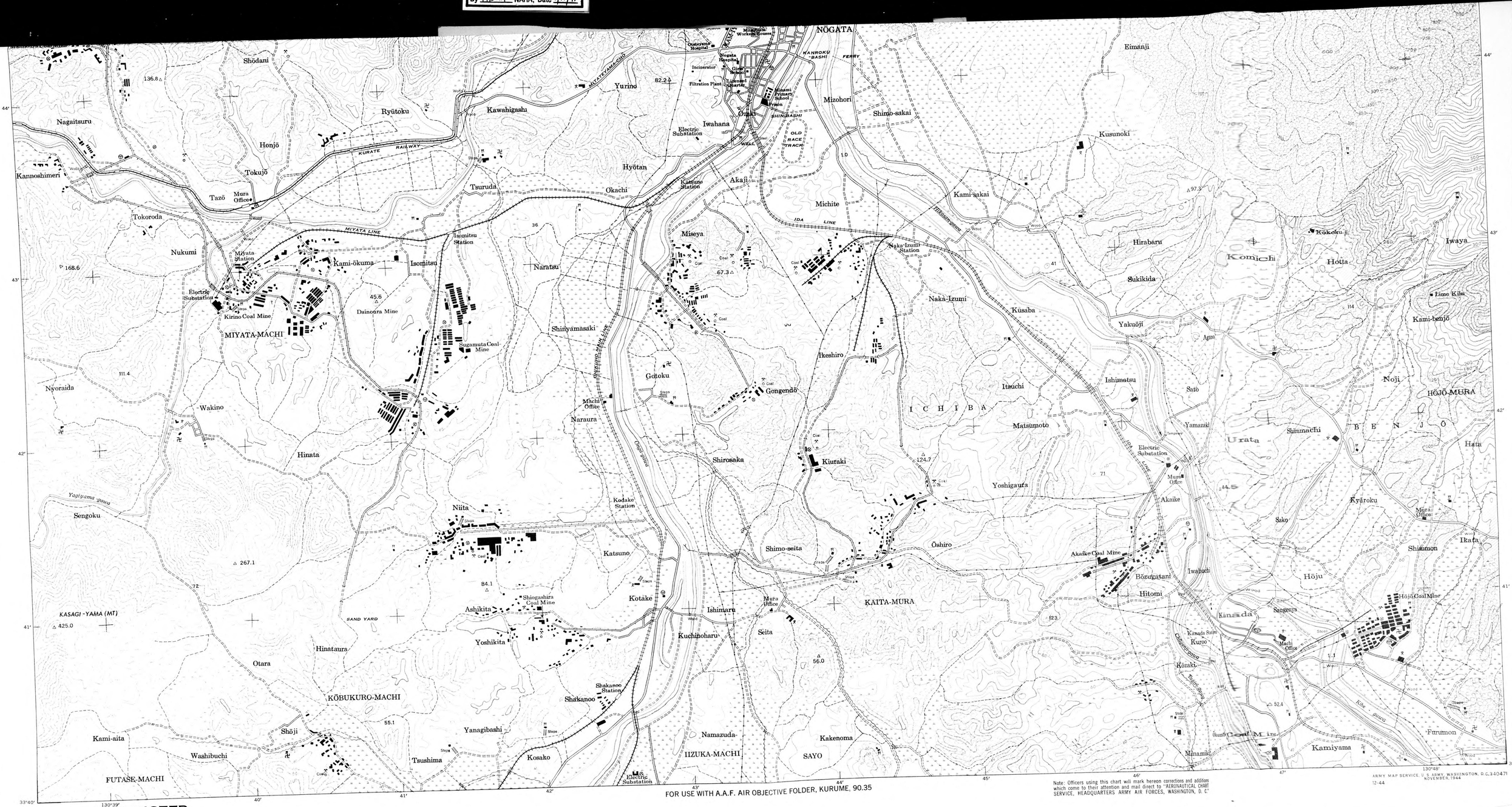
LEGEND

Hospital
Shrine
Temple
Chimney
Monument
School
Post Office
Depth of Water
Mine Shaft
Densely Populated
Sparsely Populated
Woodland

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

Railroads
Narrow Gauge, Single Track
Narrow Gauge, Double Track
3'6" Gauge, Single Track
3'6" Gauge, Double Track
Railroad Stations
High Tension Power Line
Grassland
Rice

HEIGHTS AND DEPTHS IN METERS



RESTRICTED

FOR USE WITH A.A.F. AIR OBJECTIVE FOLDER, KURUME, 90.35

Note: Officers using this chart will mark hereon corrections 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. 340471
NOVEMBER 1944
12-44

NŌGATA
Mitsubishi Workers' Houses
Osateyama Hospital
Nogata Hospital
Girls' School
Incinerator
Filtration Plant
Licensed Quarter
Minami Primary School
Hyōkon
Ōmiya
KANROKU-BASHI
FERRY
SHIN-BASHI
OLD RACE TRACK
WELL
Eimanji
Mizohori
Shimo-sakai
Kusunoki
Yurino
82.2△
WAKATEYAMA-CHŌ
Ryūtoku
Kawahigashi
KURATE RAILWAY
Iwahana
Electric Substation
Hyōtan
Tsuruda
Okachi
Katsuno Station
Akaji
1.0
Michite
Kami-sakai
△97.3
IDA LINE
MIYATA LINE
Isomitsu Station
Kami-ōkuma
Isomitsu
Naratsu
Miseya
67.3△
Naka-Izumi Station
Hirabaru
Komichi
Kōkoku-ji
Iwaya
Hotta
Sukikida
45.6△
Dainoura Mine
Naka-Izumi
Kusaba
Lime Kiln
Kami-benjō
Yakuōji
Agano
Shinyamasaki
Sugamuta Coal Mine
ITA-YUKI CHIKUHO
Ikeshiro
Gotoku
Gongendō
Ishimatsu
Sato
Noji
Machi Office
Naraura
I C H I B A
Itsuchi
HŌJŌ-MURA
Matsumoto
Yamazaki
Shimmachi
B E N J Ō
Hata
Hinata
Ōnogata
Shirosaka
Kiuraki
124.7
Electric Substation
Mura Office
Urata
Yoshigaura
Niita
Kodake Station
Akaike
Kyūroku
Sako
Katsuno
Shimo-seita
Ōshiro
Akaike Coal Mine
Mura Office
Shimmon
Ikata
84.1△
Shiogashira Coal Mine
Kotake
Bōzugatani
Iwabuchi
Hōju
Ashikita
Ishimaru
KAITA-MURA
Hitomi
Hōjō Coal Mine
SAND YARD
Yoshikita
Kuchinoharu
Seita
123
Kanada
Sangenya
Hinataura
Kanada Station
Kuroo
Machi Office
Chikuhō-gawa
Kōzaki
Tōjō-gawa
KŌBUKURO-MACHI
Shakanoo Station
Shakanoo
55.1
Yanagibashi
Tsushima
Kosako
Namazuda
IIZUKA-MACHI
Kakenoma
SAYO
Okumō Coal Mine
Minamiki
Kamiyama
Furumon
Kike-gawa
Electric Substation
41'
42'
43'
44'
45'
46'
47'
130°48'
33°40'

FOR USE WITH A.A.F. AIR OBJECTIVE FOLDER, KURUME, 90.35

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ARMY MAP SERVICE, U. S. ARMY, WASHINGTON, D.C. 340471
NOVEMBER, 1944
12-44

ŌMUTA

FUKUOKA PREFECTURE, KYUSHU, JAPAN

Scale 1:10,000

½ 0 ½ Mile

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, July 1944
Compiled from 1. Japan 1:50,000. Japanese Imperial Land Survey 1:50,000 Omuta (1931) and Chosen-Magasu (1934) 2. Japanese Hydrographic Chart 172, 1:12,000 (1938) 3. Street Plan of Ōmuta, pub. Z. Obuchi (Osaka), 1:16,000 (1930) 4. Intelligence data
Names transcribed according to modified Hepburn (Romaji) system

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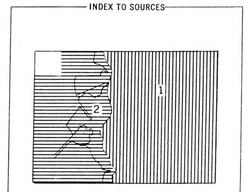

LEGEND

- Factory
- Hospital
- Shrine
- Temple
- Chimney
- School
- Post Office
- Cemetery
- Police Station
- Depth of Water
- Densely Populated
- Sparsely Populated
- National or Prefectural Roads generally Metalled, over 4 m. wide
- Other Roads 2-4 m. wide
- Road, Track or Trail less than 2 m. wide
- 3'6" Gauge, Single Track
- 3'6" Gauge, Double Track
- Railroad Stations
- Carline
- High Tension Power Line
- Intermediate Contours 10 Meters
- Rice
- Woodland
- Grassland
- Bamboo

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

130°24′ 25′ 26′ 27′ 33°02′ 01′

ARIAKENO-UMI (BAY)

ŌMUTA-KŌ (HARBOR)

SHIMABARA-KAIWAN (GULF)

HARBOR LIMITS

Shirokane-gawa (River)

DOMEN-GAWA (RIVER)

TEGA

Electric S

Slaughterhouse

Sulphuric Acid Plant

Mitsui Electrolytic Zinc Refinery

Oriental High Pressure Co.

Electro Chemical Co

Coke Plant

3rd Elementary School

Industrial School

Kanegafuchi Spinning Mill

Transformer Station

EBISUCHŌ

ŌMUTA-GAWA (RIVER)

Engineering Works

SHIN-HAMADA-CHŌ (STREET)

TAISHŌ-CHŌ

HOMMA-CHI

Prostitution Quarter

Cemetery

ŌMUTA

Gas Co.

Elec Light Co

4th Elementary School

Mitsui Club

Coal Washing Plant

Mitsui Office

Mining

ARIAKECHŌ

25.2

Race Track

MATSUBARA-CHŌ (STREET)

TAISHŌ-CHŌ (STREET)

HOMMACHI (STREET)

City Hall

PARK

Isolation Hospital

OHAMAMACHI

Ice Plant

KATAHIRACHŌ

Tram Co.

33

OKAWACHŌ

YAMASHITACHŌ

SUWACHŌ

SHIROKANE-CHŌ (1ST)

Medical Clinic

KAWAJIRI

ATHLETIC FIELD

Private School

Mitsui Club

Town Office

Mitsui Mining Company Coal Storage Yard

SUWAGAWA (RIVER)