HEADQUARTERS (PACIFIC)
United States Strategic Bombing Survey
APO 234, c/o Postmaster
San Francisco, California

26 October 1945

SUBJECT: Transmittal of Intelligence Material.

TO: Regional Headquarters, United States Strategic Bombing Survey, Nagasaki, Japan.

Enclosed are folders containing information on targets located in the Nagasaki Area. This information is for use of field teams, and for your files.

RICHARD REEVE,
Commander, USNR,
Chief, G-2
98.28-2529  Miyasakai Airfield

Airfield Report 54, 1 May
DA 71, 18 May
Litho-mosaic, March 1945

2524  Kushira Airfield

Airfield Report 51, 25 April
DA 57, 7 May
Litho-mosaic, April 1945

2520  Kakubu Airfield

Airfield Report 57, 3 May, 1945
DA 55, 6 May

2516  Kanoya East Airfield

Photographic Intelligence Report #488, 30 March (Interpron TWO)
DA 85, 10 June

2514  Kagoshima Airfield

Airdrome Report 47, 18 April
Litho-mosaic June 1943

2507  Ibusuki Seaplane Station

A/F Report #34, 25 May
Litho-mosaic, May 1945

2501  Chiran Airfield

A/F Report 77, 20 May
DA 92, 14 June
Litho-mosaic, May 1945

1373  Miyakonojo Airfield

A/F Report 72, 17 May
DA 66, 14 May
Litho-mosaic, April, 1945

1378  Kanoya Airfield

DA 88, 12 June
Litho-mosaic, April, 1945
Airfield Report 61
NAGASAKI AREA

90.37-2512 Isumi Airfield

Airdrome Report 45, 14 April
DA 36, 6 May
Litho-mosaic, April 1945

849 Omura Airfield

Airdrome Report 44, 25, March
DA 93, 15 June
Litho-mosaic, March 1945

90.36 Nagasaki Urban Area

JTG, March 45
Litho-mosaic
Target Info. Sheet

Sasebo Urban Area

Target Info. Sheet
D/4 129, 7 Aug 45
Litho-mosaic

752 Sasebo Naval Dockyard
Photos

758 Naval Arsenal & Engine - Sasebo
Photos

1627 Omura A/C Factory, Omura

D/4 30, 31 Mar, 45
JTG, Sept 44 & Apr 45

90.35-1870 Tachiara Machine Works, Tachiara

DA 45, 23 April
JTG Target Info. Sheet, 22 June
Litho-mosaic, March 1945
Photos - pre-strike

1226 Tachiara Airfield

Photo Intelligence Report No. A/F 19
DA 45, 23 April
Litho-mosaic, March 1945

90.33-2437 Saeki Airfield

Photographic Intelligence Report 599, 13 June
DA 67, 16 May
Litho-mosaic, July 1945
NAGASAKI AREA

2536 Tomitaka A/F
  D/A 83, 9 June 1945
  P.I. Report 692, 4 June 1945
  Lithos

2531 Kitagahara A/F
  D/A 62, 13 May 1945
  P.I. Report 499, 31 March 1945
  Lithos

2080 Oita Naval Air Depot
  D/A 94, 15 June 1945

1308 Oita A/F
  D/A 94, 15 June 1945
  A/F 59, 3 May 1945
  Lithos

1307 USA A/F
  D/A 96, 10 June 1945
  A/F 53, 26 April 1945
  Lithos
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TWENTIETH AIR FORCE
APO 234, c/o POSTMASTER
SAN FRANCISCO, CALIFORNIA

10 August 1945

SPECIAL FLASH DAMAGE ASSESSMENT REPORT NO. 10

Mission No.: 33RM 395
Target Area: Sasebo (90.36)

Date Flown: 9 August 1945
Airplane Commander: T. C. Kendall
1st Lt, AC

20 AF Mission SHI 16, 9 August 1945, 509th Group
TARGET NAGASAKI 90.36 URBAN:

Photos show target completely smoke obscured.

Approved: FRANK E. DELANEY
CAPT, AC, Asst A-2

Approved: HAMILTON D. DARBY
MAJOR, AC, In Charge

CONFIDENTIAL
SPECIAL DAMAGE ASSESSMENT
FLASH REPORT NO. 11

DATE: 10 August 1945

Mission No. 3FR5M 398
Target Area: Sasebo (90.36)
Date Flown: 10 August 1945
A/C Commander: W. L. Voris, 1st Lt., A.C.
Mean Time of Photography: 1010K
Altitude (average): 31,000'

(This tentative report is subject to change after a more detailed study and is to be considered strictly as advance information.)

Damage to NAGASAKI - 90.36 - Urban.
20AF SBM 16 - Strike, 9 August 1945. 509th Bomb Group.
Built-up area: Sq. Mi. Total: 3.3
Percent Destroyed: 30

Targets damaged by current strike: 4 numbered, 9 other.

Quality and limitations of photographs: 25% cloud cover. Much of city in dark cloud shadow.

Damage confined mainly to NW portion of city. No damage in South quarter of city.

No damage to shipping noted.

Damage to targets is as follows:

<table>
<thead>
<tr>
<th>Number</th>
<th>Name</th>
<th>Extent of Damage</th>
</tr>
</thead>
<tbody>
<tr>
<td>546</td>
<td>Mitsubishi Steel &amp; Arms Works</td>
<td>Probably destroyed. (In cloud shadow)</td>
</tr>
<tr>
<td>2022</td>
<td>Mitsubishi-Urakami Ordnance Plant</td>
<td>30% damaged. 70% cloud obscured. One large saw-tooth roof building gutted. 5 smaller buildings gutted.</td>
</tr>
<tr>
<td></td>
<td>Urakami Branch, Gas Works</td>
<td>90% destroyed. All buildings seem destroyed. Gasometer apparently remains. Photo coverage dark and hazy.</td>
</tr>
<tr>
<td></td>
<td>Mitsubishi Woodworking Plant</td>
<td>100% destroyed.</td>
</tr>
<tr>
<td></td>
<td>Kyushu Gas Works</td>
<td>50% destroyed. 3 buildings destroyed. Two gasometers apparently undamaged.</td>
</tr>
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</table>

CONFIDENTIAL
<table>
<thead>
<tr>
<th>Target - Name</th>
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</tr>
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<tbody>
<tr>
<td>Nagasaki Station &amp; Freight Yard</td>
<td>20% destroyed. Hazy photos show numerous small shop-type bldgs. destroyed, 2 possible train sheds - gutted.</td>
</tr>
<tr>
<td>Unidentified Industry</td>
<td>100% destroyed or damaged. Partly smoke obscured. Area seems a mass of crumbled ruins.</td>
</tr>
<tr>
<td>Steam Power Plant</td>
<td>90% destroyed. 2 largest bldgs. gutted. Several small bldgs. destroyed. Fire noted still burning in target area.</td>
</tr>
<tr>
<td>Several small Unidentified Factories</td>
<td>100% destroyed or damaged. Partly smoke obscured. Target area seems a mass of crumbled ruins.</td>
</tr>
<tr>
<td>Unidentified Small Industry</td>
<td>Target area still afire. Plant area obscured by smoke.</td>
</tr>
<tr>
<td>Unidentified Industry</td>
<td>100% damaged. One large bldg. still burning. 5 small bldgs. apparently damaged.</td>
</tr>
<tr>
<td>Prison</td>
<td>Probably 100% destroyed. All bldgs. apparently destroyed. Area partly smoke obscured.</td>
</tr>
</tbody>
</table>


542 - Akunoura Engine Works (Mitsubishi Jukogyo KK) - About 65% damage (gutted or structural)

<table>
<thead>
<tr>
<th>Elbg. No.</th>
<th>Extent of Damage</th>
</tr>
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<tbody>
<tr>
<td>12E</td>
<td>100% destroyed.</td>
</tr>
<tr>
<td>12F</td>
<td>90% Structural Damage.</td>
</tr>
<tr>
<td>12G</td>
<td>Minor Damage.</td>
</tr>
<tr>
<td>12H</td>
<td></td>
</tr>
<tr>
<td>15a, b, c, d, e</td>
<td>100% structural damage.</td>
</tr>
<tr>
<td>16</td>
<td>Minor Damage.</td>
</tr>
</tbody>
</table>

(Reference: J.T.G. Illustration No. 90,36-542 F3/1, 21 March 1945)

Damage is located as follows on XXI-EC Litho-Mosaic, Nagasaki Area, Mitsubishi Steel & Arms Works, 90,36-546, June 1945.

Area bounded by: 075130, 081120, 082113, 080099, 085090, 090085, 118061, 112059, 110055, 104056, 106060, 103065, 100065, 099067, 099070, 092076, 089076, 086085, 078102, 073109, 070114, 069117, 070120, 073123, 075130.

Area bounded by: 069119, 070113, 072110, 073107, 076105, 077100, 077094, 070095, 069102, 064104, 067105, 065111, 061114, 059115, 060116, 069119.

Area bounded by: 077088, 077084, 071084, 073085, 071091, 072092, 073091, 077088.

Area bounded by: 081082, 086075, 089072, 086072, 083074, 079070, 080076, 078076, 081082.

Area bounded by: 084051, 081045, 079044, 077050, 080051, 084051.

APPROVED. 

HAMILTON D. DARBY, 
Major, AC, TC, Charge. 

FRANK E. DERMANY, 
Captain, AC, Asst 1-2 

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TWENTIETH AIR FORCE
APO 234, c/o POSTAL STATION
SAN FRANCISCO, CALIFORNIA

10 August 1945

SPECIAL FLASH DAMAGE ASSESSMENT REPORT NO. 10

Mission No.: 315 M 395
Target Area: Sasebo (90.36)

Date Flown: 9 August 1945
Airplane Commander: T. C. Kendal
1st Lt., AC

20 AF Mission SHM 16, 9 August 1945, 509th Group

TARGET NAGASAKI 90.36 URBAN:

Photos show target completely smoke obscured.

Approved: ..............................
FRANK E. DELANEY
CFT, AC, Asst A-2

Approved: ..............................
HAMILTON B. DARBY
MAJOR, AC, In Charge

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Mitsubishi Woodworking Plant
100% destroyed.

Kyushu Gas Works
50% destroyed. 3 buildings destroyed. Two gasometers apparently undamaged.
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C. I. U.
TWENTIETH AIR FORCE
APO 234, c/o POSTMASTER
SAN FRANCISCO, CALIFORNIA

10 August 1945

SPECIAL FLASH DAMAGE ASSESSMENT REPORT NO. 10

Mission No.: 3PRM 395  Target Area: Sasebo (90.36)
Date Flown: 9 August 1945  Airplane Commander: T. C. Kendal

20 AF Mission 5616, 9 August 1945, 509th Group
TARGET NAGASAKI 90.36 URBAN:

Photos show target completely smoke obscured.

Approved: ........................................
FRANK E. DELANEY
CPT, AC, Asst A-2

Approved: ........................................
HAMILTON B. DARBY
MAJOR, AC, In Charge

CONFIDENTIAL
SPECIAL DAMAGE ASSESSMENT
FLASH REPORT NO. 11

DATE: 10 August 1945

Mission No. 2PR5M 398
Target Area: Sasebo (90.36)

Date flown: 10 August 1945
A/C Commander: W. I. Voris,
1st Lt., AC

Mean Time of Photography: 1010K
Altitude (average): 31,000'

(This tentative report is subject to change after a more detailed study and is to be considered strictly as advance information.)

Damage to NAGASAKI - 90.36 - Urban.

20AF 70M 16 - Strike, 9 August 1945. 509th Bomb Group.

Built-up area: Sq. Mi. Total: 3.3 Sq. Mi. Destroyed: .98

Percent Destroyed: 30

Targets damaged by current strike: 4 numbered, 9 other.

Quality and limitations of photographs: 25% cloud cover.
Much of city in dark cloud shadow.

Damage confined mainly to NW portion of city. No damage in South quarter of city.
No damage to shipping noted.

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### SPECIAL DAMAGE ASSESSMENT
### FLASH REPORT NO. 11, Cont’d.

#### Target – Name
- **Nagasaki Station & Freight Yard**: 20% destroyed. Hazy photos show numerous small shop-type bldgs., destroyed. 2 possible train sheds – gutted.
- **Unidentified Industry**: 100% destroyed or damaged. Partly smoke obscured. Area seems a mass of crumbled ruins.
- **Steam Power Plant**: 90% destroyed. 2 largest bldgs. gutted. Several small bldgs. destroyed. Fire noted still burning in target area.
- **Several small Unidentified Factories**: 100% destroyed or damaged. Partly smoke obscured. Target area seems a mass of crumbled ruins.
- **Unidentified Small Industry**: Target area still afire. Plant area obscured by smoke.
- **Unidentified Industry**: 100% damaged. One large bldg. still burning. 5 small bldgs. apparently damaged.
- **Prison**: Probably 100% destroyed. All bldgs. apparently destroyed. Area partly smoke obscured.

#### Extent of Damage
- **542 – Akunoura Engine Works (Mitsubishi Jukogyo KK)**: About 65% damage (gutted or structural)
  - Bldg. No. 12E – 100% destroyed.
  - 12F – 100% Structural Damage.
  - 12G – Minor Damage.
  - 12H –
  - 15a, b, c, d, e – 100% structural damage.
  - 16 – Minor Damage.
- (Reference: S.T.C. Illustration No. 90, 36-542 P3/1, 21 March 1945)

Damage is located as follows on XXI-DC Litho-Mosaic, Nagasaki Area, Mitsubishi Steel & Arms Works, 90, 36-546, June 1945.

- **Area bounded by**: 075130, 061420, 082113, 080099, 085090, 090065, 118064, 112059, 110055, 104056, 106060, 103065, 100065, 099067, 099070, 092075, 089070, 086085, 076102, 073109, 070114, 069117, 070120, 073123, 075129.
- **Area bounded by**: 069119, 070113, 072110, 073107, 076105, 077100, 077094, 070095, 069102, 064104, 067105, 065111, 061114, 059115, 060116, 069119.
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---

**APPROVED.**

HAMILTON D. DARBY,

Capt., AC, In Charge.

FRANK E. DETHANZI,

Capt., AC, A-S-2
CONFIDENTIAL

C. I. U.
TWENTIETH AIR FORCE
APO 234, c/o POSTMASTER
SAN FRANCISCO, CALIFORNIA

3 August 1945

SHIPPING REPORT NO. 42

MAGASAKI HARBOR

Mission No.: 3PRSM 366, 29 July 1945  Target Area: Sasebo 90,36

Naval: 1 PF  Merchant: 11; 65,970 G.T.

4 operative; 12,000 G.T.
7 fitting and building; 53,170 G.T.
5 SAL
1 SBL
2 SCL
2 SCS
1 SAS

Last complete coverage: 23 May 1945, CIU Shipping Report No. 13.

Reference prints: 3104-36

Annotated and attached: harbor plan.

TA B L E A U S CH I P I N G
(NAVAL)

LOCATION  TYPE  LENGTH  TONNAGE  REMARKS

---------------

A  PF  220'  Kalibokan class

(merchant)

1  SCS  210'  900  Type E (mod)
2  SAS  210'  1000  Type TS tanker, Koryu Haru class
3  SAL  517'  10000  *Sagasaki Type TL (mod) fitting
4  SAL  517'  10000  *Sagasaki Type TL (mod) fitting
5  SCL  350'  3250  **awaiting outfitting
6  SCS  210'  900  Type E (mod)
7  SBL  440'  6670  Type A (mod) fitting, Butoeha Haru class
8  SAL  517'  10000  *Sagasaki Type TL (mod) fitting
9  SAL  517'  10000  *Sagasaki Type TL (mod)
10  SCL  350'  3250  **Building
11  SBL  517'  10000  Building

*A new variety of TL conversion. The standard 517' TL (mod) tanker hull has been converted to dry cargo carrier. This model has 5 goall post type masts and 6 major hatches, Bridge is located between second and third hatch. For temporary drawing see Weekly Intelligence Volume 2, No. 1, 16 July 1945.

This conversion model will be referred to in future reports as Sagasaki Type pending more specific information.

**This hull recently launched and awaiting outfitting resembles vessel of new design described in Weekly Intelligence Volume 2, No. 2, 23 July 1945, in shipyards on Ino Shima. Superstructure and stack are aft. Vessel has 4 hatches forward of bridge and one hatch aft of stack.

Approved:  FOR
HAMILTON D. BAX
MAJ. AC

DISTRIBUTION: "C"

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Naval Vessels: 1 720' CV, fitting out.
2 235' DD.

Merchant Vessels:

<table>
<thead>
<tr>
<th>Operative</th>
<th>Fitting out or</th>
<th>Awaiting Repairs</th>
<th>Under Construction</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 cable ship</td>
<td>3 type TL (Modified)</td>
<td>1 type TL (Modified)</td>
<td></td>
</tr>
<tr>
<td>8 type E</td>
<td>3 type A (Modified)</td>
<td>probable</td>
<td></td>
</tr>
<tr>
<td>1 type TL (Modified)</td>
<td>2 type E</td>
<td>2 MV, unidentified</td>
<td></td>
</tr>
</tbody>
</table>

References: a and c. No photography attached.

(From: Survey Report 45 - dated 15 Mar. 45 - date flown 10 Mar. 45, 21 Bom. Com.)

****Shipping terminus. See insert at beginning of this section****

3. Principal port of embarkation.—HQ BC #6 dated 28 Sept ’44 SECRET

4. Strategic sea area in the NAGASAKI—SASEBO area is defined as follows:
North of 32°10’N, and E of line connecting point at 32°10’, 129°00’E with the OSE SAKI lighthouse on FUNAYE SHIMA in the GOTO BETTO (32°36’, 05°N, 128°36’01’E), FUNAYE SHIMA, HIME SHIMA, and the point at 33°30’, 129°55’E, as well as S of 33°30’, except for 33°30’, 129°55’E, and the point at ARIAKE-NO UMID by TACHIBANA #4 WANN, east of the line connecting KABA SHIMA (33°32’, 08°N, 129°46’06’E) in the NAGASHI-KO vicinity, and ONISHI SAKI in the entrance to SAKITSU WANN on the W coast of AMAKUSASHIMA SHIMA.

(Sep Notices to Manning, OP 16 FE 137)

NAGASAKI HARBOR (32°44’N, 129°52’E) Harbor 50 percent cloud covered

Naval: 1. Merchant: 19, 80,030 G.T.

NV: 1 Escort, KAIJOKAN class

MV: 5 SBL; 4 type A, modified, 1 490’ in length
7 SCS; all type E, modified 2 fitting
2 SAL; type TL, modified fitting
1 SAS, type T5
1 FTR
1 TARE, 2-stor, 430’
1 Unidentified

Reference Photos: 23L-6.

(From: S/R 183 - dated 30 June 1945 - flown 25 June 1945 - 21 BC)
NAGASAKI HARBOR - Shipping

Naval:  2 AM - 200'  (3 on 16 Apr. 45)

Merchant:  15  (32 on 16 Apr. 45)
  1 Type TL (Mod) - outfitting  3 Type E
  1 Type A (Mod) - outfitting  1 FTD
  2 Type A (Mod) - under construction  1 Type A (Mod)
  1 Type TL (Mod)

Last previous report - CIU S/R 93
Reference prints 2:  36-40 and 4L:  60-62
(From:  S/R 99 - dated 25 Apr. 45 - flown 21 Apr. 45 - 21 BC)

(30 Apr 45)
2 Naval Vessels
21 Merchant vessels (76,360 GT)
23
NV
2 PF-UN2 (Escorts)  4 Sal  1 TB
  4 SBL  1 FU
  10 868  1 FT

(21 Apr 45)
2 Naval vessels
15 Merchant vessels
23
NV
2 PF-UN2 (escorts)  1 SAL, fitting  1 SAL
  2 SBL  8 SOS
  2 SBL, building  1 FTD

(See CIU S/R 99)

(From Shipping report 4 - dated 8 May 45 - flown 30 Apr. 45) 21 BC)

NAGASAKI HARBOR REPORT NO. 4.
Nagasaki harbor is one of Japan's three major shipbuilding centers. It includes the large Mitsubishi Tategami Shipyard which is capable of handling battleships and carriers. Operating in connection with the Tategami yards is the Mitsubishi dockyard (3 graving docks), the Akunoura Engine Works, and electric equipment plant, and in addition, also included as a part of Nagasaki harbor, are the Kawanami Kogyo KK shipyards on Koyagi Island (1 large and 2 small drydocks, several small shipyards, and the numerous piers, wharves, quays, cranes, etc., found in the entire inner harbor.
(2 photos 1 mosaic - filed under T-544 - T-1842 and T-860 in that order.)
(From: Harbor Report No. 4 - dated 28 May 1945 - 21 BC)
NAGASAKI HARBOR * SHIPPING

(32/43 N., 129/50 E)

Naval: 3
1 CV, Hayataka Class - 750' - Outfitting
2 Escorts, PF-UN-2 - 220'

Merchant: 13
1 Type A (Modified)
7 Type E
2 Type A (modified) outfitting
1 Type A (modified) under construction
2 Type TL (modified) under construction

Reference prints 3R: 25-27 and 3L: 25-27
No prints attached.
(From: S/R 63 - dated 3 Apr 45 - flown 28 Mar 45 - 21 B.C.)

Naval: 3
1 CV, Hayataka Class, 745' - probable
2 PG, 210' - probable

Merchant: 10
7 Sugar Class
3 Unidentified
Reference: ONI 208 - J, 229 - Jan. 45
Reference prints - 2: 1-3 and 3L: 1-4
No prints attached.
(From: S/R 81 - dated 12 Apr 45 - flown 8 Apr 45 - 21 B.C.)

(32/44 N., 129/52 E) Shipping

Naval: 1 CV, in drydock 720' to 740' (3 Naval and 13 Merchant on 28 March 1945)

2 Escorts - about 200'

Merchant: 22 over 200'

Reference prints: IV: 36, 37
Last previous report - CIU S/R 63
No prints attached.
(From: S/R 82 - flown 11 Apr 45 - dated 15 Apr 45 - 21 B.C.)

Naval: 3 AN, No. 1 Class (3 on 11 Apr 45)

Merchant: 32 (22 on 11 Apr 45)
4 SAL, Type L (Mod) - 3 fitting out
1 Cable ship
2 Unidentified
3 Under construction (Possible tankers)
1 SbS
2 SEL
10 SOS
9 Unidentified, 6' coverage only
Last previous report - CIU S/R 82
No prints attached.
(From: S/R 93 - dated 22 Apr 45 - flown 16 Apr 45 - 21 B.C.)
### Nagasaki Harbor Shipping

#### Naval Vessels

<table>
<thead>
<tr>
<th>Annotation</th>
<th>Type</th>
<th>Length</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>PF-UN2</td>
<td>220</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>PF-UN2</td>
<td>220</td>
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</table>

#### Merchant Vessels

<table>
<thead>
<tr>
<th>Annotation</th>
<th>Type</th>
<th>Length</th>
<th>Tonnage</th>
<th>Remarks</th>
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<tbody>
<tr>
<td>1</td>
<td>SCS</td>
<td>210</td>
<td>880</td>
<td>Type &quot;E&quot;</td>
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<tr>
<td>2</td>
<td>SCS</td>
<td>210</td>
<td>880</td>
<td>&quot;</td>
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<td>3</td>
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<tr>
<td>12</td>
<td>S/L</td>
<td>517</td>
<td>10000</td>
<td>&quot;</td>
</tr>
<tr>
<td>13</td>
<td>S/L</td>
<td>210</td>
<td>880</td>
<td>&quot;</td>
</tr>
<tr>
<td>14</td>
<td>S/L</td>
<td>520</td>
<td>10000</td>
<td>Fitting, Probably TL (mod)</td>
</tr>
<tr>
<td>15</td>
<td>S/L</td>
<td>460</td>
<td>8800</td>
<td>Type &quot;I&quot;</td>
</tr>
<tr>
<td>16</td>
<td>S/L</td>
<td>440</td>
<td>6670</td>
<td>Probable troop transport</td>
</tr>
<tr>
<td>17</td>
<td>S/L</td>
<td>517</td>
<td>10000</td>
<td>Fitting</td>
</tr>
<tr>
<td>18</td>
<td>S/L</td>
<td>450</td>
<td>6670</td>
<td>Prob. &quot;A&quot; (mod), Hull ½ built</td>
</tr>
<tr>
<td>19</td>
<td>S/L</td>
<td>520</td>
<td>10000</td>
<td>Prob. TL (mod); 2/3 complete</td>
</tr>
<tr>
<td>20</td>
<td>S/L</td>
<td>450</td>
<td>6670</td>
<td>Fas. &quot;I&quot; (mod), Keel being laid more than 1/3 complete</td>
</tr>
</tbody>
</table>

**TOTAL GROSS TONNAGE:** 6670

(From: S/R No. 4 - flown 30 Apr. 45 - dated 8 May 45 - BC)

(HARBOR REPORT #4) 27 May 1945

#### Unidentified Targets

2. Unidentified industry - on W side inner harbor. Four major buildings in a rectangular area covering 200,000 sq. ft. Included as part of target are five probable conveyor systems for unloading ships.

33. Unidentified factory - in W-shaped area on E side of inner harbor, between Naguri Point and Tamekaze.

34. Unidentified pier, 96' long - located at W end of above factory.

35. Unidentified pier, 145' long - located adjacent to above pier.

Inclusion 3: Annotated mosaic

OTAO COAL DUMP

49. Located W side of inner harbor near unidentified industry (2).

Inclusion 3: Annotated mosaic

CONFIDENTIAL

continued on Page 5
Harbor Report No. 4, cont'd.

CONFIDENTIAL

5. Tezegawa Shipyard (see Target 544)
11. Akunsyo-fitting out wharf (see Target 542)
22. Doshima quay (see Target 1842)

Inclusion 3: Annotated mosaic

SECONDARY PIERS AND WHARVES

3. Kozaki Point pier (see Target 545)
544. Tezegawa pier (see Target 544)
12. Azuma-Urgu pier (see Target 542)
13. Municipal floating pier (see Target 542)
14. Municipal floating pier, 125' long - 800' S of mouth of Uruguni-Gawa.
50. Possible municipal floating pier, 87' long - at mouth of Uruguni-Gawa, off the W bank.
15. Department of Railways Wharf (see Target 1842)
16. Department of Railways Pier
17. Municipal floating pier
18. Municipal floating pier No. 1
19. Municipal floating pier No. 2
20. Municipal floating pier No. 3
21. Unidentified floating pier
22. "Wharf, 1400' long - on E side inner harbor, S of Doshima quay.
23. Customs wharf, 58' long - S of Doshima quay.
24. Partially covered pier, 210' long - E side of inner harbor.
25. Unidentified floating pier, 210' long - E side of inner harbor, about 600' S of mouth of Matsue Gawa.
27. Mitsubishi Floating pier, 175' long - 1860' S of mouth of Matsue Kawa, on E side of inner harbor.
28. Unidentified pier, 150' long - E side of inner harbor.
29. "Wharf, about 3300' Tottori - E side of inner harbor.
31. "Wharf area and Mitsubishi coal dump, 1500' frontage - on W side of Tottori Kawa.
34. Unidentified pier, 65' long (see 32).
35. Unidentified pier, 165' long (see 33).
37. Small floating pier, 100' long - in area of XXI 6102 - SE side outer Harbor.
38. Floating pier, 175' long - in area of XXI 6102 - SE side outer harbor.
40. Floating pier (see Target 860).

Inclusion 3: Annotated mosaic

FLOATING CRANES

46. "Jib crane on base 96' x 194'
47. " " " 28' x 67'
48. " " " 30' x 106'
50. " " " 30' x 67'
51. " " " 30' x 97'

Inclusion 3: Annotated mosaic

References:
1. AOF 26.36 - July 1944
2. JHIS 81 - Chapter VI - August 1944
3. Third Phase PT Report No. 126, 18th PTF, Hq., 14th Air Force, APO 627
4. PT Handbook
5. ONT 206-J (revised) Supplement 3 - January 1945

Inclusions:
1. Annotated print SPSH180-38L30

DISTRIBUTION: "B"

Approved: [Signature]

Major, AG

CONFIDENTIAL
PHOTOGRAPHIC INTELLIGENCE REPORT NO. 467

Shipping Report:
NAGASAKI HARBOR AREA, KYUSHU, JAPAN.
32° 43' N., 129° 52' E.

Based on XXI Bom Com 3FR54W75 of 9 March 1945.

Reference:
(a) A. O. F. 90,36 Sasebo 18 July 1944.

Coverage:
Complete vertical 24" x 40".

Summary

Naval
1 CV 750* (oa). Probable UNRYU class.
1 ARC.
2 FF.

Merchant
22,000 G.T. operational - 11 ships.
23,600 G.T. building - 3 ships.
35,600 G.T. outfitting - 7 ships.

Detail

Naval

<table>
<thead>
<tr>
<th>NO.</th>
<th>TYPE</th>
<th>LENGTH (oa)</th>
<th>LOCATION</th>
<th>REMARKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>CV</td>
<td>750</td>
<td>M</td>
<td>Outfitting. Flight deck 725' x 90'. Island structures do not appear complete. Sponsons. Two elevators. Probably same unit of UNRYU class which was photographed outfitting in this position on 17 November 1944. Resembles cable layer TOYU MARU. 3700 G.T.</td>
</tr>
<tr>
<td>2</td>
<td>ARC</td>
<td>385-95</td>
<td>Near T</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>FF</td>
<td>220-30</td>
<td>M</td>
<td></td>
</tr>
</tbody>
</table>

Merchant

<table>
<thead>
<tr>
<th>NO.</th>
<th>TYPE</th>
<th>LENGTH (oa)</th>
<th>GROSS TON</th>
<th>LOCATION</th>
<th>REMARKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>SAL</td>
<td>520</td>
<td>10,000</td>
<td>H</td>
<td>AMATSU MARU class. One outfitting in drydocks at M, machinery hatches open. One docked at Akunoura Engine Works. Probably outfitting.</td>
</tr>
<tr>
<td>2</td>
<td>SAL</td>
<td>520</td>
<td>20,000</td>
<td>M</td>
<td>AMATSU MARU class.</td>
</tr>
<tr>
<td>1</td>
<td>SBL?</td>
<td>465-80</td>
<td>7,000?</td>
<td>T</td>
<td>On ways. Hull nearing completion. 60% of main deck laced. No hatches visible.</td>
</tr>
<tr>
<td>1</td>
<td>SBL</td>
<td>445</td>
<td>6,600</td>
<td></td>
<td>BATAPA MARU class, Docked Nagasaki and Dejima Wharves.</td>
</tr>
<tr>
<td>2</td>
<td>SBL</td>
<td>445</td>
<td>13,200</td>
<td>K, M</td>
<td>BATAPA MARU class, Outfitting ship at M in drydock.</td>
</tr>
<tr>
<td>NO.</td>
<td>TYPE</td>
<td>LENGTH(fo)</td>
<td>CROSS TON</td>
<td>LOCATION*</td>
<td>REMARKS</td>
</tr>
<tr>
<td>-----</td>
<td>------</td>
<td>------------</td>
<td>-----------</td>
<td>-----------</td>
<td>---------</td>
</tr>
<tr>
<td>1</td>
<td>Unident.</td>
<td>220</td>
<td>1,000</td>
<td>M</td>
<td>Probable harbor craft.</td>
</tr>
<tr>
<td>8</td>
<td>SCS</td>
<td>210</td>
<td>6,400</td>
<td>H, K</td>
<td>Standardized type. Moored in channel. Two awaiting outfitting. One without stern section.</td>
</tr>
<tr>
<td>3</td>
<td>SCS</td>
<td>210</td>
<td>2,400</td>
<td>K</td>
<td></td>
</tr>
</tbody>
</table>

Three of six building slips at Tategami Shipyards empty. Two drydocks at Kawamichi Shipyards empty. No ships visible on building slips at this yard.

*Location:

H - Nagasaki Harbor.
K - Kawamichi Industry Co. Shipyards Target 860.
M - Mitsubishi Dockyard Target 543.
T - Tategami Shipyard Target 544.

R. De LANCIE, Commanding.
**SHIPPING REPORT:**

Macassar Harbor, Bandoeng, Java

32° 44' 1" N., 129° 8' 31" E.

Based on U.S. Forces sortie 3755/180 of 30 April 1945.

References:
(a) Etapreport No. 69, 24 April 1945.
(b) A.O.P. 98/36, Sibobo Area, 14 July 1944.

**COVERAGE:**

Complete vertical 24° and 40° to 32,000'.

---

**SUMMARY**

**NAVAL**

2 PF.
1 ARC.

**MERCHANT**

39,600 g.t. operational - 14 ships.
30,000 g.t. outfitting - 3 ships.
30,000 g.t. building - 3 ships.
800 g.t. repairing - 1 ship.

Ships less than 200' not listed. Three of six building ways empty at Tetegani Shipyard.

---

**DETAIL**

**NAVAL**

<table>
<thead>
<tr>
<th>No.</th>
<th>Type</th>
<th>Length (feet)</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>PF</td>
<td>320</td>
<td>TAKAZU, N. Iwakura Dockyard.</td>
</tr>
<tr>
<td>1</td>
<td>ARC</td>
<td>355-95</td>
<td>O.A., Leyte, Togo Haru, 3700 g.t. Present 16 April 1945.</td>
</tr>
</tbody>
</table>

**MERCHANT**

<table>
<thead>
<tr>
<th>No.</th>
<th>Length (feet)</th>
<th>Gross Ton</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>520</td>
<td>10,000</td>
<td>MUSKY class. Docked at K numura Tugboat Yard.</td>
</tr>
<tr>
<td>2</td>
<td>520</td>
<td>30,000</td>
<td>MUSKY class. All outfitting. Two in drydock and one docked at Mitsubishi Dockyard. All have machinery hatches open.</td>
</tr>
<tr>
<td>1</td>
<td>520</td>
<td>10,000</td>
<td>MUSKY class. On ways at Tetegani Shipyard. Backward and shells in process.</td>
</tr>
<tr>
<td>1</td>
<td>520</td>
<td>10,000</td>
<td>MUSKY class. On ways at Tetegani Shipyard. Bridge built, main deck completed, ready for launching. Semi shortly 15 April 1945.</td>
</tr>
<tr>
<td>1</td>
<td>520</td>
<td>10,000</td>
<td>MUSKY class. On ways at Tetegani Shipyard. Bridge built, main deck completed, ready for launching. Semi shortly 15 April 1945.</td>
</tr>
<tr>
<td>2</td>
<td>1445</td>
<td>13,200</td>
<td>TAIHAN MUSKY class.</td>
</tr>
<tr>
<td>1</td>
<td>140</td>
<td>7,000</td>
<td>KOAN MUSKY class.</td>
</tr>
<tr>
<td>1</td>
<td>120</td>
<td>1,200</td>
<td>KOAN MUSKY class.</td>
</tr>
<tr>
<td>10</td>
<td>210</td>
<td>6,000</td>
<td>One in drydock at Mitsubishi Dockyard.</td>
</tr>
</tbody>
</table>
PHOTOGRAFIC INTELLIGENCE REPORT NO. 663

SHIPPING REPORT: NAGASAKI HARBOR, KYUSHU, JAPAN.
32° 44'N., 129° 51' E.

References: (a) Interprn. Two P.I. Report No. 595 of 6 May 1945.
(b) A.O.P. 90,36 Sasebo Area, 18 July 1944.

SUMMARY

NAVAL
1 DE
2 TF

MERCHANT
19,300 g.t. operational - 7 ships.
50,000 g.t. outfitting - 5 ships.
22,600 g.t. building - 4 ships.
1,600 g.t. repairing - 2 ships.

Ships less than 200' not listed.

Two of six building ways empty at Tatagami Shipyard.

DETAIL

<table>
<thead>
<tr>
<th>No.</th>
<th>Type</th>
<th>Length(ton)</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>DE</td>
<td>255-60</td>
<td>In drydock at Mitsubishi Dockyard.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>No.</th>
<th>Type</th>
<th>Length(ton)</th>
<th>Gross Tons</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>SLL</td>
<td>520</td>
<td>20,000</td>
<td>MITSU MARU class. Outfitting at Mampoua Engine Works.</td>
</tr>
<tr>
<td>3</td>
<td>SLL</td>
<td>520</td>
<td>30,000</td>
<td>MITSU MARU class. All outfitting at Mitsubishi Dockyard, one in drydock. All have machinery hatches open. One of these launched since 30 April 1945.</td>
</tr>
<tr>
<td>1</td>
<td>SLL</td>
<td>520</td>
<td>10,000</td>
<td>MITSU MARU class. On ways at Tatagami Shipyard. Bulkheads and shell plating in progress.</td>
</tr>
<tr>
<td>1</td>
<td>SBL</td>
<td>445</td>
<td>6,600</td>
<td>BASH HARA MARU class.</td>
</tr>
<tr>
<td>1</td>
<td>SBL</td>
<td>445</td>
<td>6,600</td>
<td>BASH HARA MARU class. On ways at Tatagami Shipyard. Tank top completed. This ship previously reported as S.L. of MITSU MARU class.</td>
</tr>
<tr>
<td>1</td>
<td>T</td>
<td>430-440</td>
<td>7,000</td>
<td>KOU MARU class.</td>
</tr>
<tr>
<td>1</td>
<td>SAS</td>
<td>320-330</td>
<td>3,500</td>
<td>Probable KIEN TAI MARU class. On ways at Tatagami Shipyard. Main deck substantially complete.</td>
</tr>
<tr>
<td>1</td>
<td>SCL</td>
<td>310</td>
<td>2,300</td>
<td>AKESHI MARU class.</td>
</tr>
<tr>
<td>1</td>
<td>KV</td>
<td>290-300</td>
<td>2,500</td>
<td>Possible AKESHI MARU class. On ways at Tatagami Shipyard. Bottom plating complete.</td>
</tr>
<tr>
<td>1</td>
<td>SB</td>
<td>210-220</td>
<td>1,000</td>
<td>Two in drydock at Mitsubishi Dockyard.</td>
</tr>
<tr>
<td>5</td>
<td>SCS</td>
<td>210</td>
<td>4,000</td>
<td></td>
</tr>
</tbody>
</table>

COVERAGE

Complete vertical 24° and 40° at 30,000'.

R. Delancey,
Commanding.
UNIVERSAL STATES PACIFIC FLEET
PHOTOGRAPHIC INTERPRETATION SQUADRON TWO

CONFIDENTIAL

PHOTOGRAPHIC INTELLIGENCE REPORT NO. 797

SHIPPING REPORT:

90° 36' N., 129° 51' E.

Based on:

XX AF sortie 3FR5M36 of 29 JULY 1945.

References:

(a) Interprontwo P.I. Report No. 663 of 23 May 1945.
(b) A.O.I. 90° 36 Sasebo Area, 16 July 1944.
(c) "Weekly Intelligence, Vol. 2 No. 1; 16 July 1945 - "Tankers Converted to Freighters".

SUMMARY

Naval

1 FF.

Merchant

12,740 g.t.; operational - 4 ships.
23,200 g.t.; outfitting - 4 ships.
19,870 g.t.; building - 3 ships.
6,670 g.t.; repairing - 1 ship.
Ships under 200' not listed.

DETAIL

Naval

No. TYPE LENGTH (ca) REMARKS
1 FF 220 KAI OKAN Alongside SEL at Akonoura Engine Works (Target 543)

Merchant

No. TYPE LENGTH (ca) CROSS TON REMARKS
1 SBL 517 10,000 S.L. hull (AMATSU MARU class) converted to dry cargo carrier (see Reference (c)). Outfitting at Akonoura Engineering Works (Target 543).

SBL 517 20,000 Converted S.L. hulls outfitting at Mitsubishi Dockyards (Target 543). One nearly completed.

SBL 517 10,000 Converted S.L. moored in harbor, has steam up.

NV 500-525 10,000 Building at Tategami Shipyard (Target 544). Bottom plating laid, little progress since 23 May 1945.

SBL 445 6,670 BALTOPIA MARU class. Repairing in drydock at Mitsubishi Dockyards (Target 543).

SBL 445 6,670 BALTOPIA MARU class. Building at Tategami Shipyard (Target 544). Between-deck plating partially completed, progress slow since 23 May 1945.


SCS 210 1,740 KORYU MARU class. Alongside quay at Akonoura Engine Works (Target 545).

COVERAGE

Complete 72' vertical, 60' 40' at 31,000'.

De LUCIE
Commanding.
SHIPPING REPORT: NAGASAKI HARBOR, KYUSHU, JAPAN
32° 44' N, 129° 51' E.

Based on XXI BomCom 3FR5M 103 of 28 March 1945.

References:
(a) Interprów Two P. I. Report No. 467 of 18 March 1945.
(b) A.O.E. 90.36 Sasebo Area, 18 July 1944.

Coverage: Complete vertical 6", 24", 40" at 34,000'.

NAVAL
1 CV UNRYU class.
2 PF.

MERCHANT
37,600 g.t. operational - 13 ships.
10,000 g.t. building - 4 ships.
10,000 g.t. outfitting - 1 ship.

DETAIL

NAVAL

<table>
<thead>
<tr>
<th>No.</th>
<th>Type</th>
<th>Length (oa)</th>
<th>Location</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>CV</td>
<td>750</td>
<td>M</td>
<td>UNRYU class. Outfitting in drydock. Flight deck 725' x 90'. Small island on starboard side opposite forward elevator. Two horizontal stacks abaft island. After elevator platform installed, forward one may be present but not observed, elevator hatch open. Sponsors present. Unidentified objects on flight deck.</td>
</tr>
<tr>
<td>2</td>
<td>PF</td>
<td>220</td>
<td>M</td>
<td></td>
</tr>
</tbody>
</table>

MERCHANT

<table>
<thead>
<tr>
<th>No.</th>
<th>Type</th>
<th>Length (oa)</th>
<th>Gross Ton</th>
<th>Location</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>SAL</td>
<td>520</td>
<td>10,000</td>
<td>M</td>
<td>MATSU M.KU class. In drydock. Appears operational.</td>
</tr>
<tr>
<td>1</td>
<td>SAL</td>
<td>520</td>
<td>10,000</td>
<td>M</td>
<td>MATSU M.KU class. Outfitting at dock previously occupied by CV.</td>
</tr>
<tr>
<td>1</td>
<td>S.L</td>
<td>520</td>
<td>10,000</td>
<td>T</td>
<td>MATSU M.KU class. On ways. Hull complete, top deck laid. Bridge taking shape. Ready for launching. This ship on ways 9 March and referred to as SBL?.</td>
</tr>
<tr>
<td>1</td>
<td>S.L</td>
<td>520</td>
<td>10,000</td>
<td>T</td>
<td>MATSU M.KU class. On ways. Hull outline nearly complete. Transverse bulkheads going in. Previously referred to as SBL.</td>
</tr>
<tr>
<td>1</td>
<td>S.L</td>
<td>520</td>
<td>10,000</td>
<td>T</td>
<td>MATSU M.KU class. On ways. Top deck laid. Appears ready for launching. Previously referred to as S.L7.</td>
</tr>
</tbody>
</table>
MERCH. AT (cont.)

<table>
<thead>
<tr>
<th>No.</th>
<th>Type</th>
<th>Length (oa)</th>
<th>Gross Ton</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>SSL</td>
<td>520</td>
<td>10,000</td>
<td>T</td>
</tr>
<tr>
<td>3</td>
<td>SBL</td>
<td>445</td>
<td>19,800</td>
<td>H, N</td>
</tr>
<tr>
<td>1</td>
<td>FFD</td>
<td>235</td>
<td>1,200</td>
<td>H</td>
</tr>
<tr>
<td>1</td>
<td>SGS</td>
<td>220</td>
<td>1,000</td>
<td>H</td>
</tr>
<tr>
<td>7</td>
<td>SCS</td>
<td>210</td>
<td>5,600</td>
<td>H, N</td>
</tr>
</tbody>
</table>

Four of the six building ways at T occupied. All three drydocks at M occupied.

Location:
H - Nagasaki Harbor
N - Nagasaki and Dejima Wharves. Target 1642
M - Mitsubishi Dockyard, Target 543
T - Tuyegami Shipyards. Target 544

R. DeLancie
R. De Lucie
PH4(3)  UNITED STATES PACIFIC FLEET  RSF/krm
Serial: I/023  PHOTOGRAPHIC INTERPRETATION SQUADRON TWO
CONFIDENTIAL  24 April 1945.

PHOTOGRAPHIC INTELLIGENCE REPORT NO. 595.

SHIPPING REPORT:  HAGASAKI HARBOR, KYUSHU, JAPAN.
32°44'N., 129°51'E.

Based on XXI Bom Com sortie 3PR51147 of 16 April 1945.

References:  
(a) Interpron Two P.I. Report No. 533 of 5 April 1945.
(b) A.O.F. 90.36, Sasebo Area, 18 July 1944.

Coverage:  Complete vertical 24" and partial 40" at 32,500'.

SPECIAL

NAVAL

3 PF.
1 ARC.

MERCHANT

31,500 g.t. operational - 12 ships.
30,000 g.t. outfitting - 3 ships.
30,000 g.t. building - 3 ships.

Three of six ways empty at Tategami Shipyard. Two of three drydocks
empty at Mitsubishi Dockyard.

DETAIL

<table>
<thead>
<tr>
<th>NO.</th>
<th>TYPE</th>
<th>LENGTH (oa)</th>
<th>CROSS TON</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>PF</td>
<td>220</td>
<td>10,000</td>
</tr>
<tr>
<td>1</td>
<td>ARC</td>
<td>385-95</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NO.</th>
<th>TYPE</th>
<th>LENGTH (oa)</th>
<th>CROSS TON</th>
</tr>
</thead>
<tbody>
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<td>1</td>
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<td>1</td>
<td>FT</td>
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<td>7</td>
<td>SCS</td>
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</tr>
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</table>

REMARKS

KAIKOKAI. Hoored at Mitsubishi Dockyard, target 543.

Cable layer TOYU MARU, 3,700 g.t.

was at Nagasaki 9 March.

ALATSU MARU class. Hoored in harbor.

ALATSU MARU class. Outfitting.

One at Akunoura Engine works, machinery hatches open. Two at
Mitsubishi Dockyard.

ALATSU MARU class. On ways at
Tategami Shipyard, target 544. Hull outline complete, little change
since 28 March.

ALATSU MARU class. On ways at
Tategami Shipyard. Hull complete, bridge built, ready for launching.
Bridge built since 28 March.

ALATSU MARU class. On ways at
Tategami Shipyard. Hull outline
taking shape. Bottom plates had
been laid on 28 March.

BATAFARA MARU class. Hoored in harbor.

R. DE LANCEY,
Commanding.
**LOCALITIES COVERED**

| Nagasaki, Japan | 20 Aug 44 | 11FL/1/7 |

**LAST COVERAGE**

<table>
<thead>
<tr>
<th>Date</th>
<th>Mission No.</th>
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<tr>
<td>20 Aug 44</td>
<td>11FL/1/7</td>
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**INSTALLATIONS COVERED**

<table>
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<tr>
<th>Location</th>
<th>Target Number</th>
<th>Print Numbers</th>
<th>Photo Quality</th>
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<tr>
<td>Nagami Point Oil Storage</td>
<td>832</td>
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<tr>
<td>Military Area (Prob. Munitions Storage)</td>
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<td>(RV91-92)</td>
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<td>Waterfront warehouses, prob. military</td>
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<td>RV91-92</td>
<td>Completely clouded</td>
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<tr>
<td>Akunara Eng. Wks. (not visible)</td>
<td>542</td>
<td>RV91-92</td>
<td>Good</td>
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<tr>
<td>Mitsubishi Elec. Co. (not visible)</td>
<td>829</td>
<td>RV91-92</td>
<td>Completely clouded</td>
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<tr>
<td>Hayashi Com'l. Co. Eng. Wks. (not visible)</td>
<td>828</td>
<td>RV91-92</td>
<td>Completely clouded</td>
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<tr>
<td>Kawanami Industrial Co. Shipyard</td>
<td>860</td>
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<tr>
<td>Warehouse Area</td>
<td>None</td>
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<td>Mitsubishi Steel &amp; Arms Wks.</td>
<td>546</td>
<td>RV89-91</td>
<td>Fair (cloud shadow)</td>
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<tr>
<td>Mitsubishi Rolling Mill</td>
<td>1795</td>
<td>RV90-91</td>
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<tr>
<td>Prob. Assembly Plant</td>
<td>None</td>
<td>RV89-90</td>
<td>Good</td>
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<td>Unidont. Factory</td>
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<td>Ogakura Dam</td>
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</table>

**REMARKS:**

- Map Reference: Target Folder 90.36
- Photos scale small for detail interpretation
- Photos of better quality generally than previous cover

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G. I. U.
XXI BEATER COMMAND
APO 234, c/o POSTMASTER
SAN FRANCISCO, CALIFORNIA

(Combined IX Sections: 3rd Photo Recon Sqdn and 35th Photo Tech Unit)

20 May 1945

HARBOR REPORT NO. 4

NAGASAKI HARBOR
32/43N - 129/50E

Photography:

Date Flown:

3PR5M75 10 March 1945
3PR5M103 20 March 1945
3PR5M180 30 April 1945

SUMMARY

Nagasaki harbor is one of Japan's three major ship-building centers. It includes the large Mitsubishi Tatagani Shipyard which is capable of handling battleships and carriers. Operating in connection with the Tatagani yard is the Mitsubishi Dockyard (3 floating docks), the Akomura Engine Works, an electrical equipment plant, and the Mitsubishi Steel Co.

In addition, also included as a part of Nagasaki harbor, are the Kawarei Hochoyo KK shipyards on Koyagi Island (1 large and 2 small drydocks), several small shipyards, and the numerous piers, wharves, quays, cranes, etc., found in the entire inner harbor.

Target 544 (32/44N - 129/51E) Tatagani Shipyard - Mitsubishi Japan Hochoyo KK)

This shipyard, located on the W side of the inner harbor, has built all types of merchant and naval vessels (up to 40,000 tons) and is one of the primary shipbuilding yards in Japan. Shops in the target area (W and N of the ways) include the following: plate shop, machine shops, tool, woodworking and iron shops. The allied Akomura Engine Works is capable of completely outfitting finished hulls, but there is probably an anchorage N of the ways (5) used for partially outfitting some units. At target 544 there are 5 cranes visible in addition to the gantry cranes over the ways.

Slipways: (See inclosure 1)

A. 110' x 250' (width between centries)
B. 110' x 150'  
C. 170' x 350' (combined width between centries - C & D)
D. 170' x 615'  
E. 30' x 450' (width between centries)
F. 30' x 450'  

Construction activity on ways:

A. None
B. 500', (approx) M/V, building
C. 917', probable M/V S.I., building
D. None
E. Keel laid for 450', M/V
F. None

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-1-
Probable launching sequence:

C. First
D. Second
E. Third

West end and N of the slipways are two heavy industrial areas containing the following main buildings:

G. A roughly rectangular building (304,000 sq. ft.), probable heavy machine shop. Smaller buildings in this area are probably machine shops, sheet metal and blacksmith shops.
H. A roughly rectangular building (76,500 sq. ft.), probably a smith shop and marking shed.
I. Hold loft area (32,340 sq. ft.).
J. Probable joiner shop (5,175 sq. ft.).
K. Tatagami pier - 130' long.
L. Tatagami shipyard wharf, on the NE side of Tatagami Shipyard, is used as a fitting-out wharf. One locomotive crane services the 780' of waterfront berthing space.

Inclosure 1: Annotated print 3TP5M130-3L:30

TARGET 543 (32/44N - 129/51E) Mitsubishi Dockyard

This complete ship repair dockyard, located in area N of Target 543, is credited with approximately 7 percent of the ship repair accomplished by commercial docks. Its facilities include 3 concrete, granite-faced drydocks, outfitting sheds, fitting out wharf and 4 cranes:

6. Graving dock No. 1 - 90' x 532'
7. Graving dock No. 3 - 100' x 725'
8. Graving dock No. 2 - 80' x 375'
9. Outfitting sheds covering about 58,000 sq. ft.
10. Fitting out wharf, about 595' long.

Activity in dockyard:

6. Graving dock No. 1 - S.S. tanker; 517'; fitting out
7. Graving dock No. 3 - S.S. tanker, 517'; fitting out
8. Graving dock No. 2 - S.S. tanker, 210'; fitting out
10. Fitting out wharf, S.S. tanker, 517' tied up, probably fitting out.

Inclosure 1: Annotated print 3TP5M130-3L:30

TARGET 542 (32/44N - 129/52E) Akunoura Engine Works

One of Japan's leading marine engine works, located N of Target 542, on the W side of the inner harbor. The compound is comprised of more than 40 buildings including boiler shop, electric steel plant, copper works, experimental tank and laboratory, and machinery assembly shop with gear cutting and propeller balancing equipment - the plant is divided in two main building areas. Administration buildings are located on the waterfront to the N, near Target 529. One giant hammerhead crane is visible on the dock.

A. Irregularly-shaped area covering approximately 665,000 sq. ft., probably containing blacksmith shop, copper and brass foundry, and machine shop.
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Harbor Report 4, cont'd.

8. Irregularly-shaped area covering about 175,000 sq. ft. containing a probable boiler shop.
11. V-shaped fitting-out wharf with total berthage space of about 1600' - one 150' long hammerhead crane on S side.
12. Mitsu-Ura Pier SW corner of Mitsu-Ura (Bay) - 100' long.
13. Municipal floating pier, NE corner Mitsu-Ura (Bay) - 120' long.

Enclosure 1: Annotated print SPMR 180-31:30

TARGET 622 (32° 15' N.-129° 52' E) Mitsubishi Electric Lmp., Co.

Located N of Target 542 on N side of inner harbor. A manufacturer of marine electrical apparatus, this plant is integrated with the Hama-ura Marine Works.

Enclosure 2: Annotated print SPMR 180-31:30

TARGET 360 (32° 52' N.-129° 19' E) Kawa-eda Industry Co., Shipyard

Located on Koyagi Island two miles SW of the entrance to Nagasaki inner harbor; engaged in commercial shipbuilding and repair - has facilities for building ships up to 10,000 tons. In addition to two reported drydocks and slipways, a new wetdock and drydock has been constructed - other indications of expansions are visible throughout the area.

30. Unidentified small-craft yard - some small boats are visible on the ways. Three small buildings and other small sheds, as well as one possible drydock 150' long are visible - located on E side of inner harbor.
32. Probable small shipyard, on E side of inner harbor, has one large and a number of small buildings. At least 12 ways are visible - five small boats are on ways.
39. Building under construction in area of about 250,000 sq. ft., on W side of reclaimed land joining former islands of Kageo and Koyagi.
40. Floating piers, 200' long - NE corner Koyagi Island.
41. Floating dock, 120' x 1290' total dimensions, on E side of Koyagi Island, an area covering approximately 1,430,000 sq. ft., contains several unidentified new buildings.

A. Drydock - 120' x 700' - 400' covered by roof.
B. Floating dock - 120' x 590'.

42. Possible covered drydock - E side of Koyagi Island (such an installation had previously been indicated in this location).
43. Unidentified slipway on E side Koyagi Island - 360' long and about 16' wide at entrance.
44. Drydock on E side Koyagi Island - about 35' x 300'.
45. Framework - may be gantry crane. Two largest frames measure 70' x 360'; the two smaller 70' x 175'.

Enclosure 3: Annotated mosaic

TARGET 1795 (32° 35' N.-129° 52' E) Mitsubishi Steel Rolling Mill

Located on W bank of Urakawa River.

Enclosure 4: Annotated mosaic

TARGET 516 (32° 35' N.-129° 52' E) Mitsubishi Steel and Arms Works

Located on E bank of Urakawa River, across from Target 1795 - manufactures torpedoes and naval munitions.

Enclosure 5: Annotated mosaic
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TARGET 1942 (32/49 N -120/52 E) Nagasaki & Pojima Wharves and NR Yards

Cover entire area at NE end of inner harbor and contains numerous small
warehouses, storehouses and oil storages. Included in this area is one
principal wharf and at least seven secondary wharves and piers. It
includes a marshaling yard and numerous spur tracks.

22. Doshima quay, on E side of inner harbor. This is a major general
cargo dock with 6 storage type buildings and several small cranes -
it has a berthing of 1260'. Terminals of RR switch tracks is in rear
of warehouses.

15. Department of Railways Wharf, on N shore of inner harbor and on S side
of Nakano Shima. Water frontage of 106' x 210' is serviced by at
least two RR spur.

16. Department of Railways Pier, on N shore of inner harbor - 93' long.
It projects from a fishing wharf.

17. Municipal floating pier, 60' long, NE corner inner harbor.

18. Municipal floating pier No. 1, 410' long, E side inner harbor.


20. Municipal floating pier No. 3, 308' long, E side inner harbor.

21. Unidentified floating pier, 235' long, E side inner harbor.

Inclosure 2: Annotated print 3PR5180-5R: 30

XXI TARGET 6108 (32/42 N -129/60 E) Unidentified Factory

On SE side of outer harbor, across from Target 860.

30. Small ship repair yard with four visible ways - 4 small craft are
either under construction or being repaired.

Inclosure 3: Annotated mosaic

TARGET 545 (32/33 N -129/61 E) Konaki Point Oil Storages

At least five groups of fuel oil tanks situated on waterfront around
Konaki Point.

3. Oil bunkering pier, 180', on N' side of Mishima Ura on W side
inner harbor.

Inclosure 3: Annotated mosaic

TARGET 532 (32/33 N -129/61 E) Nagami Point Oil Storages

Two groups of oil storage tanks, one N and one S of Nagami Point - on
E side of inner harbor.

Inclosure 3: Annotated mosaic

UNIDENTIFIED TARGETS

2. Unidentified industry - on W side inner harbor. Four major build-
ings in a rectangular area covering 200,000 sq. ft. Included as part
of target are five probable overhead conveyors for unloading ships.

33. Unidentified factory - in W-shaped area on E side of inner harbor,
between Nagami Point and Tano Yaman.

34. Unidentified pier, 365' long - located at N' end of above factory.

35. Unidentified pier, 145' long - located adjacent to above pier.

Inclosure 3: Annotated mosaic

OIAO COAL DUMP

40. Located W side of inner harbor near unidentified industry (2).

Inclosure 3: Annotated mosaic

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Harbor Report No. 4, cont'd.

PRINCIPAL PIERs AND WHARVES

1. Tatemae Shipyard (see Target 814)
11. Akunzoro fitting out wharf (see Target 842)
22. Doshsima quay (see Target 1842)

Inclosure 3: Annotated mosaic

SECONDARY PIERs AND WHARVES

3. Kazama Point pier (see Target 848)
4. Tatemae pier (see Target 844)
12. Hizen-mura pier (see Target 842)
13. Municipal floating pier (see Target 842)
14. Municipal floating pier, 125' long - 800' S of mouth of Urugani-Gawa.
15. Possible municipal floating pier, 87' long - at mouth of Urugani-Gawa, off the N bank.
16. Department of Railways wharf (see Target 1842)
17. Department of Railways pier
18. Municipal floating pier
19. Municipal floating pier No. 1
20. Municipal floating pier No. 2
21. Municipal floating pier No. 3
22. Unidentified floating pier
23. Wharf, 1400' long - on E side inner harbor, S of Doshsima quay.
24. Custom wharf, 50' long - S of Doshsima quay.
25. Partially covered pier, 210' long - E side of inner harbor.
26. Unidentified floating pier, 210' long - E side of inner harbor.
27. Mitsubishi floating pier, 175' long - 1500' S of mouth of Hatake Kawa.
28. Unidentified pier, 150' long - E side of inner harbor.
29. Wharf, about 300' frontage - E side of inner harbor.
30. Wharf area and Mitsubishi coal dump, 1100' frontage - on N side of Tanco Iwa.
31. Unidentified pier, 95' long (see 32).
32. Unidentified pier, 135' long (see 33).
33. Small floating pier, 100' long - in area of XXI-1102 - SE side outer harbor.
34. Floating pier, 175' long - in area of XXI-1102 - SE side outer harbor.
35. Floating pier (see Target 980).

Inclosure 3: Annotated mosaic

FLOATING CRANES

46. Jib crane on base 96' x 194'
47. " " " 28' x 67'
48. " " " 50' x 105'
49. " " " 40' x 87'
50. " " " 20' x 87'

Inclosure 3: Annotated mosaic

References:
1. AOF 90.36 - July 1944
2. JICIS 84, Chapter VI - August 1944
3. Third Phase FI Report No. 126, 14th FI, 14th Air Force, APD 827
4. FI Handbook
5. ONI 208-J (revised) Supplement 3 - January 1945

Inclosures:
1. Annotated print SRSM180-3L30
2. Annotated print SP2190-3L30
3. Annotated mosaic, Namazakui Harbor

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[Signature]
MAJOR, AC

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The Nagasaki area derives its industrial importance chiefly from the extensive shipbuilding and ship repair facilities of the Mitsubishi and Koyagi Shima yards. In addition, there are small-boat yards engaged in the construction of small wooden vessels. The Akouura Engine Works, a producer of large ship engines, and the Hayashi Commercial Co. Engine Works are functionally integrated with the ship construction and repair installations of the area. These facilities are estimated to represent some 10 percent of marine engine capacity, 15 percent of shipbuilding capacity, and 6 percent of ship repair capacity for Japan Proper; and to employ some 60,000 workers (67 percent of total industrial employment in Nagasaki). The large shipways and graving docks permit the construction and repair of the largest merchant and naval vessels.

Two large ordnance plants, the Mitsubishi Steel and Arms Works and the Mitsubishi-Uragami Ordnance Plant, are estimated to employ some 14,000 workers and to account for the production of some 7 percent of arms and munitions (principally naval torpedoes) and 5 percent of heavy ordnance and A/A guns for Japan Proper.

The Mitsubishi Electric Manufacturing Co. is estimated to have 10 percent of total capacity in Japan Proper for the production of heavy electrical equipment, principally large ship turbines.

The city is also a strategically located military supply port.

Nagasaki, located on the western side of Kyushu Island, occupies a very limited, amphitheater-like site with narrow valleys extending back from the harbor to the east, and to the north along the Urakami River. The principal industrial concentration (shipbuilding and repair, and marine engine works) is on the western side of the harbor. The eastern side of the harbor contains the important loading and storage facilities. The city proper is located at the head of the harbor, is partly built on reclaimed land and extends back into the surrounding hills.

Commercial and public buildings are concentrated in the eastern and central parts of the city. Densely-grouped housing crowds the commercial areas and extends in an almost unbroken mass to the hills, fanning out on both sides of the harbor and up the narrow valleys.

### Construction & Zone R - Residential Vulnerability

- **R₁** - Over 40% built-up - comprising 30% of area of buildings.
- **R₂** - 20 - 40% built-up - comprising 38% of area of buildings.
- **R₃** - less than 20% built-up - comprising 10% of area of buildings.

Predominantly residential type buildings used as dwellings, small shops and household industry, mostly one story with some two story, framed in timber with walls and partitions of heavy plaster
construction. Floors are of wood covered with heavy compressed straw matting. Roofs are generally of tile with a few of corrugated or sheet iron over wood framing and rafters. Along main streets are two and some three-story commercial buildings housing stores, shops, etc. Roofs are as above. Floors are generally wood. A few large, modern fire-resistive buildings serving as office buildings, hotels and municipal buildings are found concentrated in downtown section. Roofs of all except latter group of large buildings are combustible and are readily penetrable by all incendiary bombs.

ZONE M - MANUFACTURING

Built-upness 45% - comprising 16% of area of buildings.

Industry is concentrated along waterfront, predominantly heavy manufacturing including shipbuilding, marine engines and boilers, steel production and fabrication, and arms. Plants are predominantly of one-story steel frame, medium span gable roof, buildings with roofs of corrugated asbestos and iron. Many buildings have travelling cranes. Roofs of buildings are readily penetrable by all incendiary bombs. Susceptibility of important targets to damage from conflagration during area attack are listed below found in Table 1.

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<thead>
<tr>
<th>Target</th>
<th>Susceptibility to Damage From Fire Spread</th>
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<tr>
<td>90-38-545</td>
<td>Slight</td>
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<tr>
<td>90-38-529</td>
<td>Moderate</td>
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<tr>
<td>90-38-1795</td>
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</tr>
<tr>
<td>90-38-042</td>
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<td>90-38-828</td>
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<tr>
<td>90-38-2022</td>
<td>Bomb</td>
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ZONE X - MIXED RESIDENTIAL/INDUSTRIAL

Built-upness 33% - comprising 18% of area of buildings.

Combined residential/industrial area containing about equal areas of both classes. Residential construction same as described above. Industrial construction small factories including both wall-bearing and frame construction, predominantly combustible roofs readily penetrable by all incendiary bombs. Entire zone susceptible to destruction by conflagration.

ZONE S - STORAGE

Built-upness 28% - comprising 4% of area of buildings.

Predominantly one-story steel and wood frame buildings with medium span, gable roofs of light weight sheet materials. Buildings are generally divided into moderate sized fire divisions by fire walls. Few moderate sized three and four story reinforced concrete frame buildings. Roofs of buildings except reinforced concrete structures are readily penetrable by all incendiary bombs. Because of wide streets, railroads, etc. storage facilities are only moderately susceptible to damage from fire spread.
ZONE T - TRANSPORTATION

Built-upness 9% - comprising 0.8% of area of buildings.

Concentrated in single terminus at waterfront consisting of station of reinforced concrete and some small transit and storage sheds of wood and steel frame construction. Roofs of the sheds are of light weight materials, are generally combustible, and are readily penetrable by incendiary bombs. Because of isolation, low density of buildings and low vulnerability of important portions to fire damage, transportation facilities are susceptible to only minor damage from fire spread.

The most suitable weapon for attack on the congested areas of Nagasaki (Zones R, R2, and X) is the M-69 (or M-74) in simile clusters. This bomb will also be effective on many of the industrial buildings in Zones H, S, and T, provided these buildings are within formation patterns.

It is not believed that any available high explosive or fragmentation bomb is worth the weight of M-69 clusters which it would displace. On the other hand, a high explosive charge (x feature) or white phosphorous cap attached to the bomb should considerably increase its effectiveness.

Suggestions for the tactical employment of the M-69 type bomb in attacks on congested urban areas are made in the paper on "Physical Vulnerability and Weapon Recommendations" at the front of the Urban Area's Target System Folder. In general, aiming points should be selected in well built-up zones, and an attempt made to secure high local densities in a number of nearly contiguous areas.

A successful area attack against Nagasaki will damage or destroy factories and a large proportion of the housing in the city. The purpose of this pre-attack assessment is to indicate the probable amount of production which will be lost in factories as a result of the following combination of factors:

(1) Damage or destruction of factory structures and equipment.
(2) Absenteeism (housing destruction, etc.).
(3) Cost of repair and replacement.

Assumptions of physical damage are as follows:

(1) The substantial destruction of zones R1 and R2 (estimated to contain not less than 75 percent of the housing, and 80 percent of the population).
(2) Conflagration damage to industrial structures at risk in or adjacent to zones R1 and R2 as measured by the physical vulnerability assessment (see Table 1).
<table>
<thead>
<tr>
<th>Target No.</th>
<th>Identified Priority Plants</th>
<th>Estimated Employment</th>
<th>Vulnerability to Fire Spread</th>
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<tbody>
<tr>
<td>79.36-545</td>
<td>Mitsubishi Dockyard Repair</td>
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<td>79.36-544</td>
<td>Tatagami Shipyard</td>
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<td>Kawasaki Industry Co.</td>
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<td>Akusura Engine Works</td>
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<td>Kasa Seiyu Co. Engine Works</td>
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</tr>
<tr>
<td>80.36-662</td>
<td>Makati Point Oil Storage</td>
<td>100</td>
<td>None</td>
</tr>
<tr>
<td>80.36-1642</td>
<td>Nagasaki &amp; Hyogo Wharves</td>
<td>5,000</td>
<td>Moderate</td>
</tr>
</tbody>
</table>

**Unidentified Priority Plants**

<table>
<thead>
<tr>
<th>Shipbuilding and Ship Repair</th>
<th>Estimated Employment</th>
<th>Vulnerability to Fire Spread</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small boat yards</td>
<td>8,000</td>
<td>None</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chemicals and Oil</th>
<th>Estimated Employment</th>
<th>Vulnerability to Fire Spread</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small chemical and oil plants</td>
<td>600</td>
<td>High</td>
</tr>
</tbody>
</table>

**Non-Priority Plants**

<table>
<thead>
<tr>
<th>Category</th>
<th>Estimated Employment</th>
<th>Vulnerability to Fire Spread</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clothing</td>
<td>500</td>
<td>High</td>
</tr>
<tr>
<td>Construction</td>
<td>2,000</td>
<td>High</td>
</tr>
<tr>
<td>Food Products</td>
<td>2,000</td>
<td>High</td>
</tr>
<tr>
<td>Gas and Electricity</td>
<td>1,000</td>
<td>High</td>
</tr>
<tr>
<td>Lumber, Woodworking</td>
<td>2,000</td>
<td>High</td>
</tr>
<tr>
<td>Printing</td>
<td>500</td>
<td>High</td>
</tr>
<tr>
<td>Textiles</td>
<td>500</td>
<td>High</td>
</tr>
<tr>
<td>Other Manufacturing</td>
<td>1,500</td>
<td>High</td>
</tr>
</tbody>
</table>

1/ Located to south of city, outside of area covered by mosaic.
Production loss of identified priority plants, including transportation and wharf installations, attributable to damage to structures and equipment is 71 percent of total loss; of unidentified priority plants 16 percent; and of non-priority plants 6 percent. Of a total production loss of 166,000 man-months 67 percent consists of damage to industrial structures and equipment.

Major concentration of loss is against the shipbuilding and ship repair industry which out-ranks all other industry in Nagasaki in importance. The two ordnance plants will incur production loss only through absenteeism, transportation and wharf installations through damage to buildings and equipment; and electrical equipment manufacturing by damage to buildings and equipment; and absenteeism in equal proportions.

The relationship between direct production loss and annual industrial production for Nagasaki is as follows:

<table>
<thead>
<tr>
<th>Industry</th>
<th>Loss in Months</th>
<th>Production Loss = Percent Annual Prod.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shipbuilding and Ship Repair</td>
<td>1.6</td>
<td>15</td>
</tr>
<tr>
<td>Ordnance</td>
<td>1.0</td>
<td>8</td>
</tr>
<tr>
<td>Machinery, Tools, Instruments</td>
<td>2.0</td>
<td>17</td>
</tr>
<tr>
<td>Chemicals and Oils</td>
<td>2.4</td>
<td>20</td>
</tr>
<tr>
<td>Transportation, Communications,</td>
<td>2.5</td>
<td>20</td>
</tr>
<tr>
<td>Wharf Activities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AVERAGE</td>
<td>1.7</td>
<td>14</td>
</tr>
<tr>
<td>Non-Priority Industry</td>
<td>2.6</td>
<td>20</td>
</tr>
<tr>
<td>AVERAGE</td>
<td>1.8</td>
<td>16</td>
</tr>
</tbody>
</table>

Photographic cover reveals little in the way of barracks adjacent to industrial plants for worker housing. It is probable, therefore, that the bulk of industrial workers are housed in the city proper. Nagasaki has long been an important industrial city in Japan. The war does not appear to have caused any significant change in the city's industry, population, or the residential location of industrial workers.

For purposes of this pre-attack assessment, certain factors are used to indicate the general magnitude of the cost of repair and replacement. This cost is a legitimate addition to direct industrial loss. The cost of repair and replacement, however, has an impact on final output which is delayed and uncertain in point of time.

The overall cost of repair and replacement of damaged industrial plants is estimated at 195,000 man-months.

The cost of repair and replacement of industrial loss, as estimated above, does not include any allowance for the cost of repair and replacement of (1) buildings, equipment, and stocks of non-priority industries, (2) stocks in warehouses, stores, or in transit, (3) raw material stocks in factories, and (4) damaged and destroyed residential buildings.
The total estimated direct and indirect production loss is 361,000 man-months.

Replacement of industrial equipment and stocks is a task of priority industries. Restoration of building damage is a charge against the construction industry and producers of building materials. Much of this indirect loss will be a burden to areas rather than to industry in Nagasaki.

On the basis of the assumed level of damage, a substantial order of loss is imposed on industrial production in Nagasaki. This loss concentrates against two major functions - shipbuilding and transportation. The cost of repair and replacement, although causing an additional strain on Japanese industry, will be diffused. This burden, of itself, should not create a condition of significant industrial unbalance or strain.

A reduction in the level of damage by some 50 percent, both to industrial plants and housing (destruction of 50 percent of housing in zones R1 and R2) would cause direct production loss to decrease somewhat more than a proportionate amount. As the level of damage is still substantial, the effect of the declining rate of absenteeism is not significant. Direct production loss as a proportion of annual industrial production declines from 1.8 months’ loss to .65 months’ loss.

### Significant Installations

(See ________)

<table>
<thead>
<tr>
<th>Reference Number</th>
<th>Name</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>TARGET 2222 - Mitsubishi-Urakami Ordnance Plant (Mitsubishi-Urakami Heiki Seisakusho)</td>
<td>Branch of Mitsubishi Steel and Arms Works (TARGET 546); unconfirmed production of ship fittings and naval ordnance.</td>
</tr>
<tr>
<td>2</td>
<td>Unidentified Industry</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Urakami Branch Gas Works</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Barracks</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Prison</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Unidentified Industry</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Several small unidentified factories</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Medical School &amp; Hospital</td>
<td>Camouflaged, but no other evidence of conversion to other use.</td>
</tr>
<tr>
<td>9</td>
<td>Probable Barracks or School</td>
<td></td>
</tr>
<tr>
<td>Reference Number</td>
<td>Name</td>
<td>Comment</td>
</tr>
<tr>
<td>------------------</td>
<td>----------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>10</td>
<td>TARGET 546 - Mitsubishi Steel and Arms Works (Mitsubishi Hoikikai Seisakusho)</td>
<td>Integrated steel ingot/rolling/casting works, producing ship plate and shapes, as well as naval ordnance (principally torpedoes).</td>
</tr>
<tr>
<td>11</td>
<td>TARGET 1795 (now cancelled) - Casting Plant of Mitsubishi Steel and Arms Works</td>
<td>Castings for Mitsubishi Steel and Arms Works (TARGET 546).</td>
</tr>
<tr>
<td>12</td>
<td>Mitsubishi Woodworking Plant</td>
<td>Produces wooden fittings and cuts lumber for Nagasaki's shipyards.</td>
</tr>
<tr>
<td>13</td>
<td>Steam Power Plant</td>
<td>Small standby plant.</td>
</tr>
<tr>
<td>14</td>
<td>Unidentified Small Industry</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Unidentified Small Industry</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>TARGET 528 - Hayashi Commercial Co. Engine Works (Hayashi Kane Shoten KK)</td>
<td>Reported producer of marine engines.</td>
</tr>
<tr>
<td>17</td>
<td>(Part of TARGET 1042) - Nagasaki Station and Freight Yard</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>Kyushu Gas Works</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>TARGET 1842 - Nagasaki and Tazima Wharves and RR Yards</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>TARGET 542 - Akunoura Engine Works (Mitsubishi Jukogyo KK)</td>
<td>Major producer of marine engines, boilers, etc.</td>
</tr>
<tr>
<td>22</td>
<td>TARGET 543 - Mitsubishi Dockyard</td>
<td>Repairs all types of merchant and naval craft.</td>
</tr>
<tr>
<td>23</td>
<td>TARGET 544 - Tateyama Shipyard (Mitsubishi Jukogyo KK)</td>
<td>Builds all types of merchant and naval ships.</td>
</tr>
<tr>
<td>24</td>
<td>Small Industrial Plant</td>
<td>Reported flour mill and grain storage.</td>
</tr>
<tr>
<td>25</td>
<td>TARGET 545 - Kosaki Point Oil Storages</td>
<td>In aggregate, comprises large oil bunkering storage.</td>
</tr>
<tr>
<td>26</td>
<td>New Shipyard</td>
<td>Probable producer of small standardized cargo vessels.</td>
</tr>
<tr>
<td>Reference Number</td>
<td>Name</td>
<td>Comment</td>
</tr>
<tr>
<td>------------------</td>
<td>----------------------------------------</td>
<td>----------------------------------------------</td>
</tr>
<tr>
<td>27</td>
<td>Small Industrial Plant</td>
<td>Reported chemical plant, products unknown.</td>
</tr>
<tr>
<td>28</td>
<td>Small-boat Yard</td>
<td></td>
</tr>
<tr>
<td>29</td>
<td>Barracks and Storage</td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>Small-boat Yards</td>
<td>Build small fishing and patrol craft, lifeboats, etc.</td>
</tr>
<tr>
<td>31</td>
<td>Unidentified Industry and Storage</td>
<td>Reported operated by Navy.</td>
</tr>
<tr>
<td>32</td>
<td>TARGET 832 - Megami Point Oil Storages</td>
<td>Oil storage and unidentified naval storage.</td>
</tr>
<tr>
<td>33</td>
<td>Military Barracks and Storehouses</td>
<td></td>
</tr>
<tr>
<td>34</td>
<td>Kamigo Reservoir</td>
<td></td>
</tr>
<tr>
<td>35</td>
<td>Water Filtration Plant</td>
<td></td>
</tr>
<tr>
<td>36</td>
<td>Nishiyama Reservoirs and Filtration Beds</td>
<td></td>
</tr>
<tr>
<td>37</td>
<td>Ogakura Reservoir and Filtration Beds</td>
<td></td>
</tr>
</tbody>
</table>

**NOTE:** Schools, public buildings, and small military barracks or stores are not annotated.
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TARGET: Nagasaki Urban Industrial Area
Objective Area: 90.36

TARGET INFORMATION SHEET

NAGASAKI URBAN INDUSTRIAL AREA

Latitude: 32° 44' N
Longitude: 129° 52' E
Elevation: Approximately Sea Level

1. LOCATION AND IDENTIFICATION: Kyushu is the southermost main island of the mountain arc of Japan. It is about 200 miles from north to south and 150 miles across. The Gotto-Retto plus the Danjo-Gunto, extend from just off the northwest tip southwest to nearly 128° E. Off the southern tip of Kyushu the Nansei Shoto and associated islands extend all the way to Formosa.

With the exception of a few restricted alluvial deposits where some of the main streams enter the sea, the entire coast line of Kyushu is of the highly irregular submerged type. The island is composed of some sediments but lava flows and other crystalline rocks prevail. The terrain is hilly or mountainous and is chopped up by deep narrow valleys with but a few isolated lowlands limited for the most part to river mouths and bayheads. Numerous large and small volcanoes are scattered over the entire island. Some of these are active and form pillars of cloud by day and pillars of flame by night. They are symmetrical cones having steep upper slopes covered with lava and ash that descend to broad sloping ash aprons and alluvial fans along the coasts.

The more or less isolated northwest corner of Kyushu may be regarded as the "Northwest Hill Lands". This entire province is intricately cut up by rivers and arms of the sea. In the northern part are low rounded flat-topped hills that go up to 1500 feet. The southern part is rugged, has several large volcanic cones, and is separated by large deep bays into three peninsulas which are joined to the rest of Kyushu by large Tara-dake volcano (3,551 feet) and other associated lava cones. One narrow rugged peninsula swings to the north and nearby joins the mainland just south of Sasebo almost land-locking large irregular Omura Bay. Another peninsula extends eastward and its large club-foot shaped east end just about closes off Ariake Bay. It is composed mainly of Unzan-dake volcano (4,488 feet), still active, and a group of smaller cones. The third peninsula is narrow and fairly straight, and juts out to the southwest for about twelve miles. At the west side of its base is short, narrow, and protected Nagasaki Harbor which is almost completely surrounded by rugged hills the ascend abruptly to 900 to 2000 feet.
The City of Nagasaki, lying along the eastern shore of upper
Nagasaki Harbor, is generally thought of as including its industrial
suburbs of Inase and Akunoura on the west side of the harbor and
Urakami extending northward along both sides of the Urakami River.
A combined area of roughly 12 square miles occupies a site similar
to an amphitheatre, reaching out from the reclaimed land along the
waterfront with tentacle-like growths into the narrow valleys of the
surrounding hills. The TARGET AREA (indicated as Zone 1 on the
"Incendiary Zone Map of Nagasaki and Vicinity," Map M-4 in Air
Objective Folder 90.36) extends from the railroad station at the
northeast corner of the harbor southward along the eastern waterfron
for approximately 1 ½ miles, and from a quarter of a mile to a mile
inland to the east. Four small rivers flow in a general westerly
direction through the city, which is also traversed by several wide
avenues.

2. TARGET DESCRIPTION:

a. General -- The Nagasaki area has an estimated population of
253,000 and its average population density of some 7000-8000 per
square mile is far below that of Japan's principal industrial
cities. However, the congestion within the city (target area)
itself is reflected in the jam-packed, cave-to-cave building pattern
which has caused Nagasaki to be described as "a sea of roofs".
The section of the target area along the waterfront contains all
the important port loading and storage facilities, including 30
or more military warehouses. Crowding against this warehouse area
on the east is the highly concentrated mercantile district of the
city in which are situated the chief harbor/shipping offices and
business houses. In the central part of Nagasaki and extending to
the NE on either side of the Nakashima River are numerous commercial
and government buildings, almost engulfed by the mass of densely
grouped small shop buildings and residences which press around them
from all sides and overflow in terraced confusion up the slopes of
the surrounding hills.

Only slightly less congested as a result of wartime expansion
than Nagasaki City itself, is the narrow Akunoura-Inase-Urakami
strip along the west shore of the harbor and northward along the
Urakami River. (Indicated as Zone 2 on the "Incendiary Zone Map
of Nagasaki and Vicinity", Map M-4 in Air Objective Folder 90.36).
Construction of housing for shipyard and industrial workers has
taken place in these sections and in the N Urakami area barracks
for troops have been built.

b. Buildings -- While many of the commercial and public build-
ings in Nagasaki are of stone and reinforced concrete construction,
some of them, such as the main railroad station, are wooden tile-roof
structures. No statistics are available on the number of wooden
buildings compared with the number of relatively modern fireproof
construction, but photographic and other evidence indicates that
construction in Nagasaki does not vary from that of other Japanese

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cities, either large or small. It can be assumed on this basis that at least 90% of the target area is composed of crowded highly inflammable wooden structures.

c. Fire Defenses. The street plan of Nagasaki, conforming mainly to the topographic features of the surrounding hills and the Nakashima River channel, is a negligible factor in controlling the spread of fires. Construction of firebreaks has been made impractical by the limited amount of level space in the city, although a few wide avenues and four river channels and canals running through the city might be partially effective in checking fires. Nagasaki is known to have a plentiful water supply from three reservoirs in the hills to the east, but no information is available on its fire-fighting facilities.

3. IMPORTANCE: Nagasaki's position in western Kyushu has resulted in its becoming vitally important as a port for the trans-shipment of military supplies and the embarkation of troops in support of Japan's operations in China, Formosa, Southeast Asia and the Southwest Pacific. The docks and freight yards adjacent to the target area are believed to be congested with military supplies. Reconnaissance photography and other sources indicate extensive enlargement of these dock and storage facilities.

Industrially the Nagasaki area is most important as a major shipbuilding (estimated 15% of Empire total) and repair center for both naval and merchant vessels, and it is also the location of integrated naval ordnance, marine engine, and marine electrical equipment plants.

Despite the fact that the important industrial targets lie across the harbor to the west, outside the main incendiary zone, the wartime functions of the entire Nagasaki area would be seriously disrupted by a successful incendiary attack on the prescribed target area. Destruction of the freight yards, docks, and military warehouses adjoining Zone 1 would not only cripple the supply-channel facilities, but also would destroy tremendous quantities of valuable military stores. A great many workers from the shipyards and industrial plants across the harbor live in Nagasaki proper, and a general conflagration destroying their housing would have a marked effect on the industrial production of the area.

4. AIMING POINTS: Aiming points will be specified in the Field Order.

28 March 1945

TARGET SECTION, A-2
XXI BOMBER COMMAND

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TARGET: Nagasaki Urban Industrial Area
Objective Area: 90.36

TARGET INFORMATION SHEET

NAGASAKI URBAN INDUSTRIAL AREA

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   Only slightly less congested as a result of wartime expansion than Nagasaki City itself, is the narrow Akunoura-Inase-Uarakami strip along the west shore of the harbor and northward along the Urakami River. (Indicated as Zone 2 on the "Incendiary Zone Map of Nagasaki and Vicinity", Map M-4 in Air Objective Folder 90.36). Construction of housing for shipyard and industrial workers has taken place in these sections and in the N Urakami area barracks for troops have been built.

   b. Buildings -- While many of the commercial and public buildings in Nagasaki are of stone and reinforced concrete construction, some of them, such as the main railroad station, are wooden tile-roofed structures. No statistics are available on the number of wooden buildings compared with the number of relatively modern fireproof construction, but photographic and other evidence indicates that construction in Nagasaki does not vary from that of other Japanese
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4. AIMING POINTS: Aiming points will be specified in the Field Order.

28 March 1945

TARGET SECTION, A-2
XXI BOMBER COMMAND

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NOT TO BE TAKEN INTO THE AIR ON COMBAT MISSIONS

TARGET: Nagasaki Urban Industrial Area
Objective Area: 90.36

TARGET INFORMATION SHEET

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The City of Nagasaki, lying along the eastern shore of upper Nagasaki Harbor, is generally thought of as including its industrial suburbs of Inase and Akunoura on the west side of the harbor and Urakami extending northward along both sides of the Urakami River. A combined area of roughly 12 square miles occupies a site similar to an amphitheatre, reaching out from the reclaimed land along the waterfront with tentacle-like growths into the narrow valleys of the surrounding hills. The TARGET AREA (indicated as Zone 1 on the "Incendiary Zone Map of Nagasaki and Vicinity," Map M-4 in Air Objective Folder 90.36) extends from the railroad station at the northeast corner of the harbor southward along the eastern waterfront for approximately 1 1/2 miles, and from a quarter of a mile to a mile inland to the east. Four small rivers flow in a general westerly direction through the city, which is also traversed by several wide avenues.

2. TARGET DESCRIPTION:

a. General -- The Nagasaki area has an estimated population of 253,000 and its average population density of some 7000-8000 per square mile is far below that of Japan's principal industrial cities. However, the congestion within the city (target area) itself is reflected in the jam-packed, cave-to-cave building pattern which has caused Nagasaki to be described as "a sea of roofs". The section of the target area along the waterfront contains all the important port loading and storage facilities, including 30 or more military warehouses. Crowding against this warehouse area on the east is the highly concentrated mercantile district of the city in which are situated the chief harbor/shipping offices and business houses. In the central part of Nagasaki and extending to the NE on either side of the Nakashima River are numerous commercial and government buildings, almost engulfed by the mass of densely grouped small shop buildings and residences which press around them from all sides and overflow in terraced confusion up the slopes of the surrounding hills.

Only slightly less congested as a result of wartime expansion than Nagasaki City itself, is the narrow Akunoura-Inase-Uarakami strip along the west shore of the harbor and northward along the Urakami River. (Indicated as Zone 2 on the "Incendiary Zone Map of Nagasaki and Vicinity", Map M-4 in Air Objective Folder 90.36). Construction of housing for shipyard and industrial workers has taken place in these sections and in the N Urakami area barracks for troops have been built.

b. Buildings -- While many of the commercial and public buildings in Nagasaki are of stone and reinforced concrete construction, some of them, such as the main railroad station, are wooden tile-roof structures. No statistics are available on the number of wooden buildings compared with the number of relatively modern fireproof construction, but photographic and other evidence indicates that construction in Nagasaki does not vary from that of other Japanese
cities, either large or small. It can be assumed on this basis that at least 90% of the target area is composed of crowded highly inflammable wooden structures.

c. Fire Defenses--The street plan of Nagasaki, conforming mainly to the topographic features of the surrounding hills and the Nakashima River channel, is a negligible factor in controlling the spread of fires. Construction of firebreaks has been made impractical by the limited amount of level space in the city, although a few wide avenues and four river channels and canals running through the city might be partially effective in checking fires. Nagasaki is known to have a plentiful water supply from three reservoirs in the hills to the east, but no information is available on its fire-fighting facilities.

3. IMPORTANCE: Nagasaki's position in western Kyushu has resulted in its becoming vitally important as a port for the trans-shipment of military supplies and the embarkation of troops in support of Japan's operations in China, Formosa, Southeast Asia and the Southwest Pacific. The docks and freight yards adjacent to the target area are believed to be congested with military supplies. Reconnaissance photography and other sources indicate extensive enlargement of these dock and storage facilities.

      Industrially the Nagasaki area is most important as a major shipbuilding (estimated 15% of Empire total) and repair center for both naval and merchant vessels, and it is also the location of integrated naval ordnance, marine engine, and marine electrical equipment plants.

      Despite the fact that the important industrial targets lie across the harbor to the west, outside the main incendiary zone, the wartime functions of the entire Nagasaki area would be seriously disrupted by a successful incendiary attack on the prescribed target area. Destruction of the freights yards, docks, and military warehouses adjoining Zone 1 would not only cripple the supply-channel facilities, but also would destroy tremendous quantities of valuable military stores. A great many workers from the shipyards and industrial plants across the harbor live in Nagasaki proper, and a general conflagration destroying their housing would have a marked effect on the industrial production of the area.

4. AIMING POINTS: Aiming points will be specified in the Field Order.

28 March 1945

TARGET SECTION, A-2
XXI BOMBER COMMAND

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**TARGET DATA**

**NO.**

**DATE 18 July '45**

**LOCATION West Coast of Kyushu**

**FUNCTION**

**TYPE / STRUCTURE**

**TOTAL AREA**

**BUILT UP AREA**

---

**PLANING**

<table>
<thead>
<tr>
<th>AD. FT.</th>
<th>047 195</th>
<th>RAD. FT.</th>
<th>078 033</th>
</tr>
</thead>
<tbody>
<tr>
<td>HOLDING METHOD</td>
<td></td>
<td>REF.</td>
<td></td>
</tr>
<tr>
<td>IF</td>
<td>32° 18'N 129° 31'E</td>
<td>ALT.</td>
<td>18,000</td>
</tr>
<tr>
<td>AXIS</td>
<td>36°</td>
<td>ALT.</td>
<td>127 02</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**EXECUTION**

| ALT. | 114 886 | 112 076 |
| TONS/A/C | | |
| A/C LOST | AS | |
| 1PH | |

---

**HOLDS**

| TYPE | M-17 | E-48 |
| FUSE | | |
| TONS AB | | |
| IN SET. | | |
| NO. A/C | 26-4 | |
| TONS PT | | |

**HOMES**

| TYPE | | |
| FUSE | | |
| TONS AB | | |
| IN SET. | | |
| NO. A/C | | |
| TONS PT | | |

---

**WIND DIRECTION VELOCITY**

| AT ALT. | | |
| SURFACE | | |
| EXPD DEN. | | |
| Remarks | | |

**MISSILES**

<table>
<thead>
<tr>
<th>MISSION</th>
<th>ROLL</th>
<th>PRINTS</th>
<th>DATE</th>
</tr>
</thead>
</table>

**RESULTS**

<table>
<thead>
<tr>
<th>DENSITY</th>
<th>T/A</th>
<th>AREA DAGED</th>
<th>SC. FT</th>
</tr>
</thead>
<tbody>
<tr>
<td>FUNCTION OF DAGE</td>
<td>STRUCTURAL</td>
<td>SQ. FT</td>
<td></td>
</tr>
<tr>
<td>Remarks</td>
<td>SUPPERFICIAL</td>
<td>SQ. FT</td>
<td></td>
</tr>
</tbody>
</table>

---
CONFIDENTIAL

C. I. U.
TWENTIETH AIR FORCE
APO 254, c/o POSTMASTER
SAN FRANCISCO, CALIFORNIA

12 August 1945

DAMAGE ASSESSMENT REPORT NO. 107

MAGASAKI-30-3G-URBAN

20 Air Force Mission SBM-16, 9 August 1945
500th Bomb Group

SUMMARY OF DAMAGE

Built-up area: Sq. M. total - 3.3; Sq. M. destroyed - 1.30
Percent destroyed - 42.4
Total damage to date - 1.45 sq.mi. Percent of built-up area - 45.9
Targets damaged by current strike: 4 numbered; 13 other

DAMAGE WITHIN LIMITS OF BUILT-UP AREA:

<table>
<thead>
<tr>
<th>Area damage from current strike:</th>
<th>Sq. M.</th>
<th>Destroyed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Built-up area (Urban)</td>
<td>2.0</td>
<td>1.0</td>
</tr>
<tr>
<td>Built-up area (Industrial)</td>
<td>.60</td>
<td>.40</td>
</tr>
<tr>
<td>Built-up area (Total)</td>
<td>3.3</td>
<td>1.40</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Area damage from all strikes:</th>
<th>Sq. M.</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Built-up area (Urban)</td>
<td>2.0</td>
<td>35.7</td>
</tr>
<tr>
<td>Built-up area (Industrial)</td>
<td>.60</td>
<td>20.0</td>
</tr>
<tr>
<td>Built-up area (Total)</td>
<td>3.3</td>
<td>42.4</td>
</tr>
</tbody>
</table>

Damage to targets

542 Alumina Engine Works
546 Mitsubishi Steel & Arms Works
629 Mitsubishi Electric Mfg. Co.
1795 Mitsubishi Steel Rolling Mill
1942 Nagasaki & Dejima Charves & RR Yards

Damage: 60% destroyed and gutted
(5% destroyed - cause unknown)
98% destroyed and gutted
(5% destroyed - cause unknown)
100% gutted
60% destroyed

At least 21 small unidentified industries were in the built-up area - of these 10 were destroyed.

DAMAGE OUTSIDE BUILT-UP AREA (within 5 miles radius of center of city)

Area damage: none

Damage to targets

533 Mitsubishi Dockyard
544 Tatégami Shipyard
545 Kozaki Point Oil Storage
532 Negami Point Oil Storage
860 Kawamura Ind. Co. Shipyard
Okagawa Dam
Large barracks area 8 of city
2022 Mitsubishi-Murakami Ordnance Plant

Damage:
None visible
None visible
None visible (partial coverage)
None visible
Not covered
None visible
None visible
100% destroyed

CONFIDENTIAL
D/9 Report 107 - Con't

Reference: AAF Air Objective Folder 90-36

Photos: Pre-strike: 3PRSM56G-3: 01-06 29 July 1945
       Post-strike: 3PRSM56G-2: 9-12 13 August 1945

Inclusions: 1. Annotated mosaic showing damage
            2. Post-strike mosaic

Approved

HAMILTON B. DARBY
MAJOR, AAF

DISTRIBUTION "B"
<table>
<thead>
<tr>
<th>MISSION NO.</th>
<th>SBM-16</th>
</tr>
</thead>
<tbody>
<tr>
<td>DAMAGE</td>
<td>1.4 sq mi (44%)</td>
</tr>
<tr>
<td>WINGS</td>
<td>509th B.G.</td>
</tr>
<tr>
<td>DATE</td>
<td>9 Aug. 45</td>
</tr>
<tr>
<td>DAY/NIGHT</td>
<td></td>
</tr>
<tr>
<td>BOMB TYPE</td>
<td></td>
</tr>
<tr>
<td>AV. LOAD</td>
<td></td>
</tr>
<tr>
<td>A/C AIRBORNE</td>
<td></td>
</tr>
<tr>
<td>A/C BOMB. P.T.</td>
<td></td>
</tr>
<tr>
<td>TONS ON P.T.</td>
<td></td>
</tr>
<tr>
<td>ALTITUDE</td>
<td></td>
</tr>
<tr>
<td>BOMB. METH.</td>
<td></td>
</tr>
<tr>
<td>CLAIMS</td>
<td></td>
</tr>
<tr>
<td>LOSSES</td>
<td></td>
</tr>
</tbody>
</table>

The image contains a map of Nagasaki with a pin indicating the location of the impact point. The text table provides the following details:
- Mission Number: SBM-16
- Damage: 1.4 square miles (44%)
- Wings: 509th B.G.
- Date: 9 Aug. 45
- Day/Night: Not specified
- Bomb Type: Not specified
- Average Load: Not specified
- Aircraft: Not specified
- Tons on Plane: Not specified
- Altitude: Not specified
- Bombing Method: Not specified
- Claims: Not specified
- Losses: Not specified
TARGET INFORMATION SHEET

NAGASAKI URBAN INDUSTRIAL AREA

Latitude: 32° 44' N
Longitude: 129° 52' E
Elevation: Approximately Sea Level

1. LOCATION AND IDENTIFICATION: Kyushu is the southernmost main island of the mountain arc of Japan. It is about 200 miles from north to south and 150 miles across. The Gotto-Retto plus the Danjo-Gunto, extend from just off the northwest tip southwest to nearly 128° E. Off the southern tip of Kyushu the Nansei Shoto and associated islands extend all the way to Formosa.

With the exception of a few restricted alluvial deposits where some of the main streams enter the sea, the entire coast line of Kyushu is of the highly irregular submerged type. The island is composed of some sediments but lava flows and other crystalline rocks prevail. The terrain is hilly or mountainous and is chopped up by deep narrow valleys with but a few isolated lowlands limited for the most part to river mouths and bayheads. Numerous large and small volcanoes are scattered over the entire island. Some of these are active and form pillars of cloud by day and pillars of flame by night. They are symmetrical cones having steep upper slopes covered with lava and ash that descend to broad sloping ash aprons and alluvial fans along the coasts.

The more or less isolated northwest corner of Kyushu may be regarded as the "Northwest Hill Lands". This entire province is intricately cut up by rivers and areas of the sea. In the northern part are low rounded flat-topped hills that go up to 1500 feet. The southern part is rugged, has several large volcanic cones, and is separated by large deep bays into three peninsulas which are joined to the rest of Kyushu by large Tara-dake volcano (3,551 feet) and other associated lava cones. One narrow rugged peninsula swings to the north and nearby joins the mainland just south of Sasebo almost land-lockeding large irregular Omura Bay. Another peninsula extends eastward and its large club-foot shaped east end just about closes off Ariake Bay. It is composed mainly of Unzan-dake volcano (4,488 feet), still active, and a group of smaller cones. The third peninsula is narrow and fairly straight, and juts out to the southwest for about twelve miles. At the west side of its base is short, narrow, and protected Nagasaki Harbor which is almost completely surrounded by rugged hills the ascend abruptly to 900 to 2000 feet.
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The City of Nagasaki, lying along the eastern shore of upper Nagasaki Harbor, is generally thought of as including its industrial suburbs of Inase and Akunoura on the west side of the harbor and Urakami extending northward along both sides of the Urakami River. A combined area of roughly 12 square miles occupies a site similar to an amphitheatre, reaching out from the reclaimed land along the waterfront with tentacle-like growths into the narrow valleys of the surrounding hills. The TARGET AREA (indicated as Zone 1 on the "Incendiary Zone Map of Nagasaki and Vicinity," Map M-4 in Air Objective Folder 90.36) extends from the railroad station at the northeast corner of the harbor southward along the eastern waterfront for approximately 1½ miles, and from a quarter of a mile to a mile inland to the east. Four small rivers flow in a general westerly direction through the city, which is also traversed by several wide avenues.

2. TARGET DESCRIPTION:

a. General -- The Nagasaki area has an estimated population of 255,000 and its average population density of some 7000-8000 per square mile is far below that of Japan's principal industrial cities. However, the congestion within the city (target area) itself is reflected in the jam-packed, cave-to-cave building pattern which has caused Nagasaki to be described as "a sea of roofs". The section of the target area along the waterfront contains all the important port loading and storage facilities, including 30 or more military warehouses. Crowding against this warehouse area on the east is the highly concentrated mercantile district of the city in which are situated the chief harbor/shipping offices and business houses. In the central part of Nagasaki and extending to the NE on either side of the Makushima River are numerous commercial and government buildings, almost engulfed by the mass of densely grouped small shop buildings and residences which press around them from all sides and overflow in terraced confusion up the slopes of the surrounding hills.

Only slightly less congested as a result of wartime expansion than Nagasaki City itself, is the narrow Akunoura-Inase-Urakami strip along the west shore of the harbor and northward along the Urakami River. (Indicated as Zone 2 on the "Incendiary Zone Map of Nagasaki and Vicinity", Map M-4 in Air Objective Folder 90.36). Construction of housing for shipyard and industrial workers has taken place in these sections and in the N Urakami area barracks for troops have been built.

b. Buildings -- While many of the commercial and public buildings in Nagasaki are of stone and reinforced concrete construction, some of them, such as the main railroad station, are wooden tile-roof structures. No statistics are available on the number of wooden buildings compared with the number of relatively modern fireproof construction, but photographic and other evidence indicates that construction in Nagasaki does not vary from that of other Japanese
cities, either large or small. It can be assumed on this basis that at least 90% of the target area is composed of crowded highly inflammable wooden structures.

c. Fire Defenses: The street plan of Nagasaki, conforming mainly to the topographic features of the surrounding hills and the Nakashima River channel, is a negligible factor in controlling the spread of fires. Construction of firebreaks has been made impractical by the limited amount of level space in the city, although a few wide avenues and four river channels and canals running through the city might be partially effective in checking fires. Nagasaki is known to have a plentiful water supply from three reservoirs in the hills to the east, but no information is available on its fire-fighting facilities.

3. IMPORTANCE: Nagasaki's position in western Kyushu has resulted in its becoming vitally important as a port for the trans-shipment of military supplies and the embarkation of troops in support of Japan's operations in China, Formosa, Southeast Asia and the Southwest Pacific. The docks and freight yards adjacent to the target area are believed to be congested with military supplies. Reconnaissance photography and other sources indicate extensive enlargement of these dock and storage facilities.

Industrially the Nagasaki area is most important as a major shipbuilding (estimated 15% of Empire total) and repair center for both naval and merchant vessels, and it is also the location of integrated naval ordnance, marine engine, and marine electrical equipment plants.

Despite the fact that the important industrial targets lie across the harbor to the west, outside the main incendiary zone, the wartime functions of the entire Nagasaki area would be seriously disrupted by a successful incendiary attack on the prescribed target area. Destruction of the freight yards, docks, and military warehouses adjoining Zone 1 would not only cripple the supply-channel facilities, but also would destroy tremendous quantities of valuable military stores. A great many workers from the shipyards and industrial plants across the harbor live in Nagasaki proper, and a general conflagration destroying their housing would have a marked effect on the industrial production of the area.

4. AIMING POINTS: Aiming points will be specified in the Field Order.

28 March 1945
TARGET SECTION, A-2
XXI BOMBER COMMAND

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C. I. U.
TWENTIETH AIR FORCE
APO 234, c/o POSTMASTER
SAN FRANCISCO, CALIFORNIA

10 August 1945

SPECIAL FLASH DAMAGE ASSESSMENT REPORT NO. 10

Mission No.: 3FR5M 395          Target Area: Sasebo (90.36)
Date Flown: 9 August 1945        Airplane Commander: T. C. Kendall
                               1st Lt, AC

20 AF Mission SBM 16, 9 August 1945, 509th Group
TARGET NAGASAKI 90.36 URBAN:

Photos show target completely smoke obscured.

Approved
FRANK E. DELANEY
CAPT, AC, Asst A-2

Approved
HAMILTON E. DABY
MAJOR, AC, In Charge

CONFIDENTIAL
SPECIAL DAMAGE ASSESSMENT
FLASH REPORT NO. 11

DATE: 10 August 1945

Mission No. 3PR5M 398
Target Area: Sasabo (90.36)

Date Flown: 10 August 1945
A/C Commander: W. L. Wris,
1st Lt., AC

Mean Time of Photography: 1010K
Altitude (average): 31,000'

(This tentative report is subject to change
after a more detailed study and is to be
considered strictly as advance information.)

Damage to NAGASAKI - 90.36 - Urban.

20AF SBM 16 - Strike, 9 August 1945. 509th Bomb Group.

Built-up area: Sq. Mi. Total: 3.3  Sq. Mi. Destroyed: 0.98
Percent Destroyed: 30

Targets damaged by current strike: 4 numbered, 9 other.

Quality and limitations of photographs: 25% cloud cover.
Much of city in dark cloud shadow.

Damage confined mainly to NW portion of city. No
damage in South quarter of city.

No damage to shipping noted.

Damage to targets is as follows:

<table>
<thead>
<tr>
<th>Number</th>
<th>Name</th>
<th>Extent of Damage</th>
</tr>
</thead>
<tbody>
<tr>
<td>546</td>
<td>Mitsubishi Steel &amp; Arms Works. (In cloud</td>
<td>Probably destroyed.</td>
</tr>
<tr>
<td></td>
<td>shadow)</td>
<td></td>
</tr>
<tr>
<td>2022</td>
<td>Mitsubishi-Uarakami Ordnance Plant</td>
<td>30% damaged. 70% cloud obscured. One large saw-tooth roof building gutted. 5 smaller buildings gutted.</td>
</tr>
<tr>
<td></td>
<td>Uarakami Branch, Gas Works</td>
<td>90% destroyed. All buildings seem destroyed. Gasometer apparently remains. Photo coverage dark and hazy.</td>
</tr>
<tr>
<td></td>
<td>Mitsubishi Woodworking Plant</td>
<td>100% destroyed.</td>
</tr>
<tr>
<td></td>
<td>Kyushu Gas Works</td>
<td>50% destroyed. 3 buildings destroyed. Two gasometers apparently undamaged.</td>
</tr>
</tbody>
</table>
SPECIAL DAMAGE ASSESSMENT
FLASH REPORT NO. 11, Cont'd.

Target - Name

Nagasaki Station & Freight Yard - 20% destroyed. Hazy photos show numerous small shop-type bldgs. destroyed. 2 possible train sheds - gutted.

Unidentified Industry

100% destroyed or damaged. Partly smoke obscured area seems a mass of crumbled ruins.

Steam Power Plant

90% destroyed. 2 largest bldgs. gutted. Several small bldgs. destroyed. Fire noted still burning in target area.

Several small Unidentified Factories - 100% destroyed or damaged. Partly smoke obscured. Target area seems a mass of crumbled ruins.

Unidentified Small Industry

Target area still afire. Plant area obscured by smoke.

Unidentified Industry

100% damaged. One large bldg. still burning. 5 small bldgs. apparently damaged.

Prison

Probably 100% destroyed. All bldgs. apparently destroyed. Area partly smoke obscured.


542 - Akunoura Engine Works (Mitsubishi Jukogyo KK) - About 65% damage (guttered or structural)

Bldg. No. 12E - 100% destroyed.
" " 12F - 100% Structural Damage.
" " 12G - Minor Damage.
" " 12H - "
" " 15a, b, c, d, e, 100% structural damage.
" " 16 - Minor Damage.

(Reference: J.T.C. Illustration No. 90.36-542 P3/1, 21 March 1945)

Damage is located as follows on XXI: DC Litho-Mosaic, Nagasaki Area, Mitsubishi Steel & Arms Works, 90.36-546, June 1945.

Area bounded by: 075120, 061120, 082113, 080099, 085090, 090095, 118064, 112095, 110055, 104055, 106060, 103065, 100065, 099067, 099070, 099276, 089076, 080085, 078102, 073109, 076110, 075118, 076120, 070120, 075120.

Area bounded by: 065119, 070113, 072110, 073107, 075105, 077100, 077094, 070095, 069102, 064104, 066105, 065111, 061114, 059115, 060116, 069119.

Area bounded by: 077088, 077084, 071084, 073085, 071091, 072092, 073091, 077088.

Area bounded by: 081082, 086075, 089072, 086072, 083074, 079070, 080076, 078078, 061082.

Area bounded by: 084051, 081045, 079044, 077050, 080051, 084051.

APPROVED
HAMILTON D. DARBY, Maj. Gen., Adj. Gen., Chief of Staff

APPROVED

CONFIDENTIAL
CONFIDENTIAL

C. I. U.
THIRTY-THIRD AIR FORCE
APO 234, c/o POSTMASTER
SAN FRANCISCO, CALIFORNIA

10 August 1945

DAMAGE ASSESSMENT REPORT NO. 107

NAGASAKI-90, 3G-URBAN

20 Air Force Mission SBM-16, 9 August 1945 509th Bomb Group

SUMMARY OF DAMAGE

Built-up area: 3.3 sq.mi. total - 8.3; 1.4 sq.mi. destroyed - 42.4
Percent destroyed - 42.4
Total damage to date: 1.46 sq.mi. Percent of built-up area: 45,9
Targets damaged by current strike: 4 numbered; 10 other

DAMAGE WITHIN LIMITS OF BUILT-UP AREA:

<table>
<thead>
<tr>
<th>Area damage from current strike</th>
<th>Sq. Mi.</th>
<th>Destroyed Sq. Mi.</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Built-up area (Urban)</td>
<td>2.8</td>
<td>1.0</td>
<td>35.7</td>
</tr>
<tr>
<td>Built-up area (Industrial)</td>
<td>.60</td>
<td>.40</td>
<td>66.6</td>
</tr>
<tr>
<td>Total</td>
<td>3.4</td>
<td>1.40</td>
<td>42.4</td>
</tr>
</tbody>
</table>

Area damage from all strikes:

<table>
<thead>
<tr>
<th>Area damage from all strikes</th>
<th>Sq. Mi.</th>
<th>Destroyed Sq. Mi.</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Built-up area (Urban)</td>
<td>2.8</td>
<td>1.0</td>
<td>35.7</td>
</tr>
<tr>
<td>Built-up area (Industrial)</td>
<td>.60</td>
<td>.45</td>
<td>75.0</td>
</tr>
<tr>
<td>Total</td>
<td>3.4</td>
<td>1.45</td>
<td>43.9</td>
</tr>
</tbody>
</table>

Damage to targets:

542 Atsumura Engine Works 60% destroyed and gutted
646 Mitsubishi Steel & Arms Works (old damage - cause unknown) 60% destroyed and gutted (old damage - cause unknown)
629 Mitsubishi Electric Mfg. Co. 5% destroyed
1795 Mitsubishi Steel Rolling Mill 100% gutted
1942 Nagasaki & Itojima Harves & RR Yards 60% destroyed

At least 21 small unidentified industries were in the built-up area - of these 10 were destroyed.

DAMAGE OUTSIDE BUILT-UP AREA (within 5 mile radius of center of city)

Area damage: none

Damage to targets:

543 Mitsubishi Dockyard None visible
544 Tatameki Shipyard None visible
545 Kosaki Point Oil Storage None visible (partial coverage)
532 Tajimi Point Oil Storage None visible
60 Kawazumichi Ind. Co. Shipyard Not covered
860 Okamura Dam None visible
Large barracks area 8 of city None visible
2022 Mitsubishi-Murakami Ordnance Plant 100% destroyed

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Reference: AAF Air Objective Folder 00.36

Photos: Pre-strike: SPRSM266-3: 01-08  22 July 1945
        Post-strike: SPRSM296-2: 9-12  13 August 1945

Inclosures: 1. Annotated mosaic showing damage
            2. Post-strike mosaic

Approved:

HAMILTON D. DARBY
MAJOR, AG

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