TAKATSUKI PLANT OF KAWASAKI AIRCRAFT INDUSTRIES, INC.

RX-12

This plant is located on the Western outskirts of Takatsuki, midway between Osaka and Kyoto. The area is about two miles from the Western bank of the Katsura River. It consists of rambling two and three story buildings which were formerly the Kanegafuchi Spinning Mill. One large three story building is of reinforced concrete construction, the remainder of the buildings are of wood-stucco type with tyle roofs. Floors in most of the buildings are wood. The facilities cover a ground area of about 1,000,000 sq. feet of which 300,000 sq. ft. are productive floor area. The plant had never been raided.

The plant inspection was made on 25 October 1945. Mr. K. Tominaga, the Plant Manager, conducted the team through the buildings and later to the underground dispersal area.

This plant came into use through the January 1945 raid on the Engine division which dictated immediate dispersal of undamaged machinery. It was decided by the company management at this time to transfer manufacture of their liguid Cooled engines to Takatsuki. This eggine known as Type Two (1350 HP at takeoff), HA-140 was of a design purchased from Germany in 1939. Although the company had succeeded in upping the rated horsepower from 1100 to 1350, it had never been a successful engine due to leaks in the cooling system.

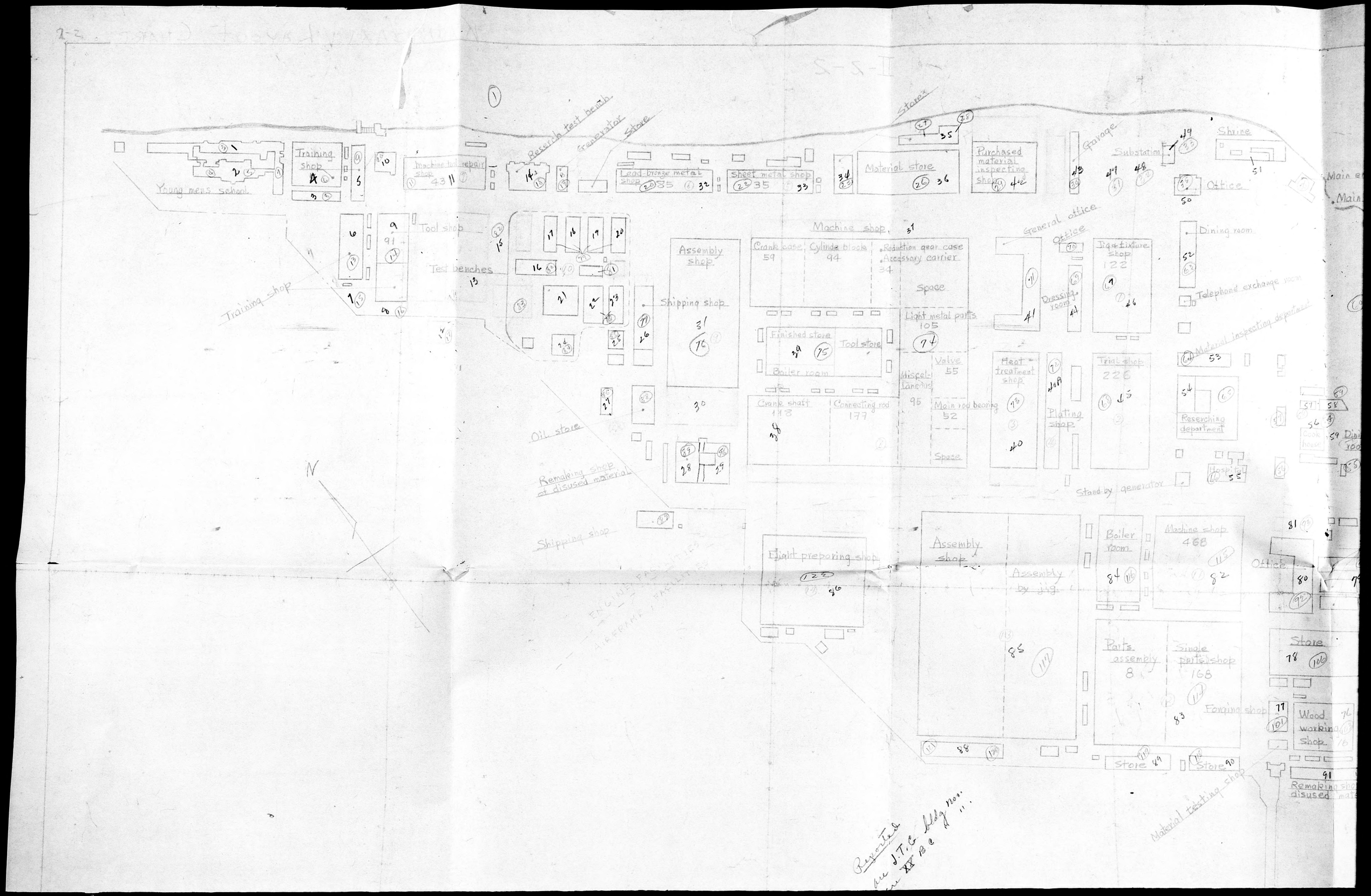
By February 1945 the move to Takatsuki was well underway and by the end of the war on August 15 this plant had produced 13 complete engines. It was scheduled by thecompany management to reach a production of 200 per month but the Plant Manager stated that 180 per month was the best that they could have achieved with the existing floor area. There were 691 machines assigned to the Takatsuki facilities. Of these 651 were still in good operating condiction in the spinning mill and 40 had been moved to the underground dispersion site. A row of rusting machines which had arrived from the manufacturers shortly after the war ended stood in the yard of the factory. Many of the machines were of German design with later models having Japanese adaptations. A few of the machine tools were of American design.

The plant employed 4600 men and women at peak production. A large proportion of these workers had been imported from Akashi and were housed in barracks which had formerly housed the spinning mill workers.

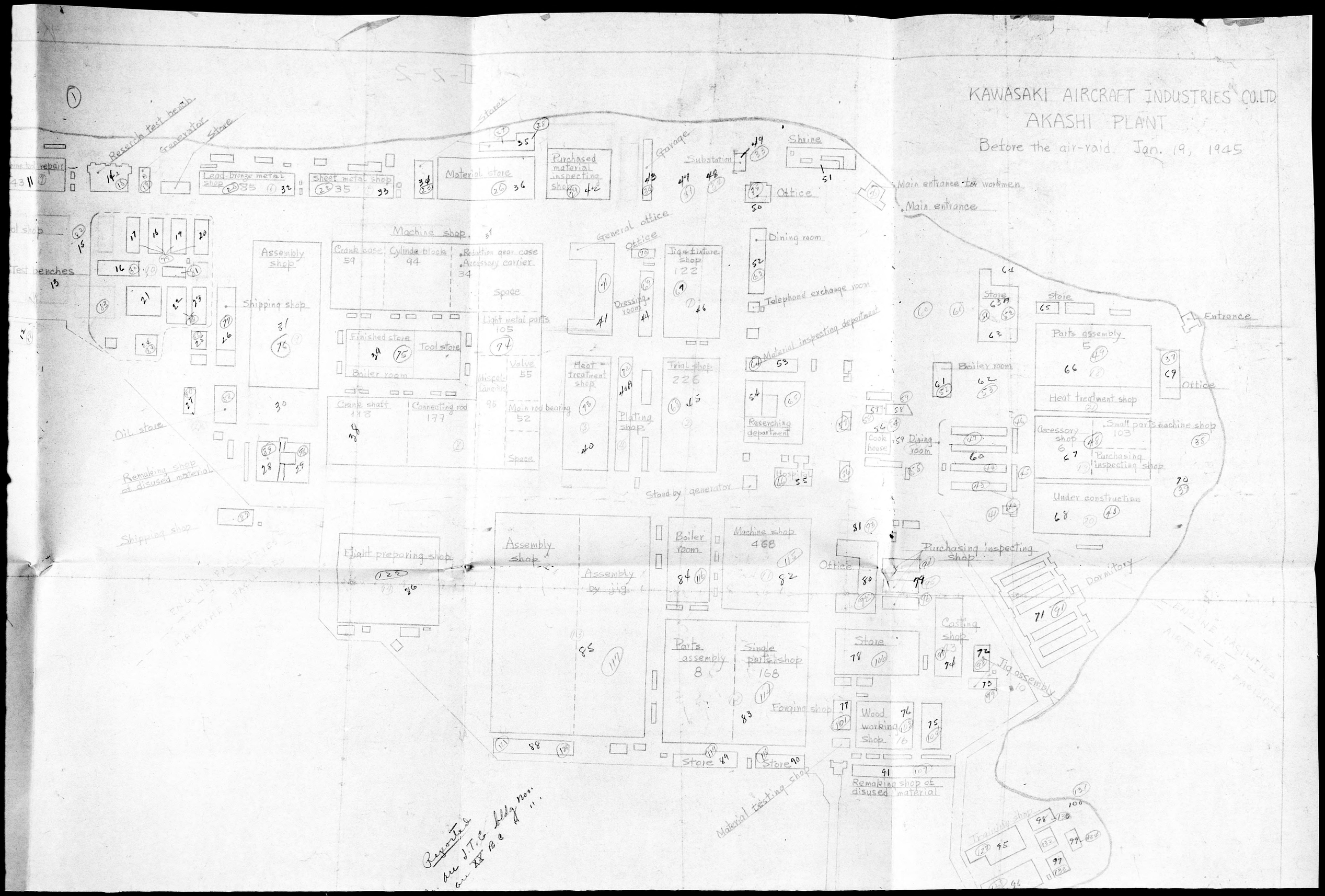
Most of the castings for this plant came from Sumitomo Light Metals, Negoya; Kobe Steel Works, Kawasaki Casting Works, Sakai; and from Toya Aircraft Works in the same vicinity.

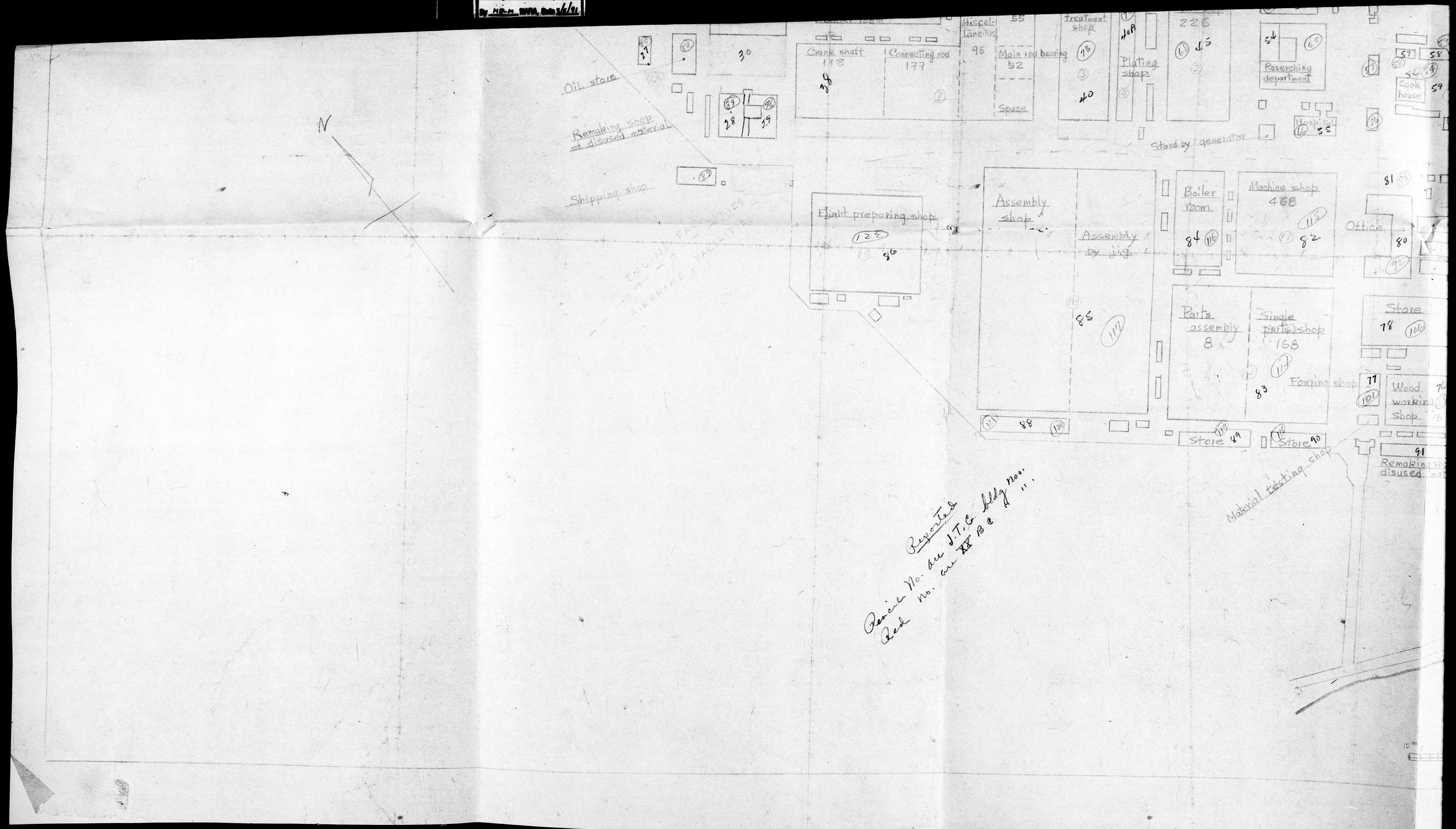
After inspecting the spinning mill buildings the group drove over a narrow winding road to the underground plant site about 2½ miles away. It was over this same road that 40 heavy machine tools had been dragged up to their underground installations. The tunnel system was halfway up a roughly circular hill about 1681 feet in height. Laid out in a cross-hatch network the tunnels have 16 entrances laid out in a semi-circular pattern. They offer about 100,000 square feet of productive floor area and were to house 550 machines in all. Tunnel mouths had been covered with camouflaged rope netting. The tunnels are fairly dry. Size varied from 20 to 8 feet in diameter. Several tunnels were faced with concrete. Even the unfaced tunnels were fairly dry.

In the valley below 3500 Koreans are living in barracks. These laborers dug the tunnel system toward the beginning of the war as part of a government project to create underground muntions storage depots. With the saturation bombing



Young mens school
Training shop
Machine tool repair shop
Reserch test bench
Generator
Store
Lead-bronze metal shop
Sheet metal shop
Material store
Purchased material inspecting shop
Garage
Substation
Shrine
Office
Tool shop
Test benches
Training shop
Assembly shop
Shipping shop
Machine shop
Crank case
Cylinde block
Reduction gear case
Accessory carrier
Space
Light metal parts
Finished store
Tool store
Boiler room
Miscellaneous
Valve
Main rod bearing
Crank shaft
Connecting rod
Space
General office
Office
Dressing room
Jig & fixture shop
Dining room
Telephone exchange room
Material inspecting department
Heat treatment shop
Plating shop
Trial shop
Reserching department
Hospital
Stand by generator
Oil store
Remaking shop of disused material
Shipping shop
Flight preparing shop
Assembly shop
Assembly by jig
Boiler room
Machine shop
Office
Parts assembly
Single parts shop
Forging shop
Store
Wood working shop
Store
Store
Remaking shop disused material
Material testing shop
ENGINE FACILITIES
AIRFRAME FACILITIES
N


KAWASAKI AIRCRAFT INDUSTRIES CO.LTD.
AKASHI PLANT
Before the air-raid. Jan. 19, 1945
Research test bench
Generator
Store
Stores
Lead-bronze metal shop
Sheet metal shop
Material store
Purchased material inspecting shop
Garage
Substation
Shrine
Office
Main entrance for workmen
Main entrance
Machine shop
Assembly shop
Crank case
Cylinder block
Reduction gear case
Accessory carrier
Space
General office
Office
Jig & fixture shop
Dining room
Telephone exchange room
Dressing room
Shipping shop
Test benches
Light metal parts
Finished store
Tool store
Boiler room
Valve
Miscellaneous
Main rod bearing
Crank shaft
Connecting rod
Heat treatment shop
Plating shop
Trial shop
Material inspecting department
Reserching department
Hospital
Cook house
Store
Parts assembly
Heat treatment shop
Office
Entrance
Boiler room
Accessory shop
Small parts machine shop
Purchasing inspecting shop
Under construction
Oil store
Remaking shop of disused material
Stand by generator
Shipping shop
Flight preparing shop
Assembly shop
Assembly by jig
Boiler room
Machine shop
Office
Purchasing inspecting shop
Dormitory
Parts assembly
Single parts shop
Store
Casting shop
Jig assembly
Forging shop
Wood working shop
Store
Store
Remaking shop of disused material
Material testing shop
Training shop
ENGINE FACILITIES
AIRFRAME FACILITIES
Reported
are J.T.C. bldg nos.
are XX B.C. " "


N
Oil store
Remaking shop of disused material
Shipping shop
ENGINE FACILITIES
AIRFRAME FACILITIES
Crank shaft 118
Connecting rod 177
Miscellaneous 95
Main rod bearing 52
Space
Treatment shop
Plating shop
226
Reserching department
Cook house
Hospital
Stand by generator
Flight preparing shop
Assembly shop
Assembly by jig
Boiler room
Machine shop 468
Office
Parts assembly 8
Single parts shop 168
Forging shop
Store
Wood working shop
Store
Store
Material testing shop
Remaking shop disused material
Reported
Rencile No. are J.T.G bldg nos.
Red no. are XX B.C " "

Oil store

Remaking shop of disused material

Shipping shop

Crank shaft 118

Connecting rod 177

Miscel-laneous 95

Main rod bearing 52

Space

Heat treatment shop

Plating shop

226

Reserching department

Stand by generator

Hospital 55

Cook house

Dining room

Boiler room

Heat treatment shop

Accessory shop 67

Small parts machine shop 103

Purchasing inspecting shop

Under construction 68

Ottice

Assembly shop

Assembly by jig

Boiler room 84

Machine shop 468 82

Ottice 80

Purchasing inspecting shop 79

Dormitory

Dismantling preparing shop 86

Parts assembly 8

Single parts shop 168 83

Forging shop

Store 78

Casting shop 74

Jig assembly 10

Wood working shop 76

Store 89

Store 90

Material testing shop

Remaking shop of disused material 91

Training shop 95 96 98 99

100

1/2000

10m 100 200m

Reported
Resident No. on J.T.C. bldg nos.
Rest no. on XII B & A "

RX-2

90.25-1547 - KAWASAKI A/C Co, Akashi 19 October 1945

Conducted through plant by Mr Ito, Chief Engineer.

Plant was one of the larger producers of eingines and airframes. Produced both in line and radial engines.

Well constructed phant. Steel frame with corrugated metal siding.

Concrete floors. Damage more pronounced than what was observed on areal photos, but in cases such as buckling of trusses it would be almost impossible to observe in aerial photos.

Office buildings were of reinforced concrete construction but had suffered severe damage in HE raids. Photos will show this.

Main airframe assemb. building was not too severely damaged structurally though almost all siding on side walls and parts of roof had been torn off. Air raid shelters had been dug under the existing concrete floors. These were done after the Jan. bombing. Bays in this building spanned about 45 meters and according to Mr. Ito, it was planned to build large bombers here. The largest plane ever built however was the twin engine (Nick)??

Steps were taken for dispersal of the Engine Plant (This is all the bldgs compromising the North half of property) after the Jan. 19th bombing. This bombing was concentrated on the engine plant.

Dispersed to Futami; Takatsuki, in the Kanegefuchi Spinning Mill and in underground tunnels about 2½ miles from Takatsuki (This will be visisted and investigated).

According to Mr. Ito, near misses with (250 kilogram) bombs were not very effective. Hits near the hangar door of the airframe assem. bldg did not damage the metal doors.

Engine test cells were of concrete construction and sound proofed. Last group of buildings at NW end of property were a training school.

PI identifications of buildings as to functions were generally correct. This will be more thoroughly checked as soon as functional plan is available (See Lt. Sullivan of A/C Team #1 !!)

Mr. Ito said the Jan. 19th bombings stopped production of engines entirely. Machinery was dispersed. This came under PI observation at the time but it was thought that repairs were being made to buildings and that secondary roofs were being built under the wrecked shell of the building. It was in the A/C engine machine shop that the activity was noted.

Sheet metal and sub assembly shops of Airframe section were not too severely damaged structurally.

Final adjustment building was about 50% destroyed - from effects of several heavy bombs (4000 lb?).

Heat treatment building suffered almost 100% damage.

Though most of the buildings here had not suffered heavy structural damage it was felt that more raids were coming and rather than effect repairs they took steps for dispersal.

AKASHI AIRFIELD

Adjoining Target 1547 - used as fly-away field only by A/C Co. Sod field - poorly drained, rough sufface. Covered revetments NW of firing butt used by government inspectors in inspection of finished A/C. Ito said firing butt rarely used.

Guns at all batteries around field had been [redacted] removed. Judging from measurement of revetments, PI identification was O.K. All guns were removed in June '45

RX-2 90.25-1547 - Kawasaki A/C Co. Akashi

This plant was one of the larger producers of engines and airplane. Produced both radial and in-line engines.

Conducted through plant by Mr. Ito, the chief engineer.

Ground survey shows more pronounced damage to buildings than is revealed by aerial photos, that is, in this respect: Trusses and large framing members which have buckled 6 or 8 feet do not show up in some cases.

Mr. Ito stated that after the January bombings, steps were taken to disperse the engine plant to various under ground plants (This phase is again left to the Aircraft Team). Photo-interpretation at the time revealed some activity, but it was assumed that repairs were beeing made.

The bays of the main assembly building had a span of 45 meters, and according to Mr. Ito, was one of the largest in Japan. Mr. Ito said that it was planned to produce large planes here.

90.25 - 2650 - Akashi A/F

This was used only as a fly-away field. Sod surface, poorly drained. The covered revetments on N side of field not dispersal as was supposed, but were used by Government Inspectors for inspection of planes.

After the June raids all AA batteries were removed and set up at Kobe and Osaka. However, it is believed that P.I. identification of guns were correct--the sites were visited and measurements taken of the revetments.

Several dummy guns were found on the roof of the office building, but these were never seen in aerial photos.

PIC-R-Report No. 2 19 October 1945

RX-2 90.25-1547 - Kawasaki A/C Co. Akashi

This plant was one of the larger producers of engines and airplane. Produced both radial and in-line engines.

Conducted through plant by Mr. Ito, the chief engineer.

Ground survey shows more pronounced damage to buildings than is revealed by aerial photos, that is, in this respect: Trusses and large framing members which have buckled 6 or 8 feet do not show up in some cases.

Mr. Ito stated that after the January bombings, steps were taken to disperse the engine plant to various under ground plants (This phase is again left to the Aircraft Team). Photo-interpretation at the time revealed some activity, but it was assumed that repairs were beeing made.

The bays of the main assembly building had a span of 45 meters, and according to Mr. Ito, was one of the largest in Japan. Mr. Ito said that it was planned to produce large planes here.

90.25 - 2650 - Akashi A/F

This was used only as a fly-away field. Sod surface, poorly drained. The covered revetments on N side of field not dispersal as was supposed, but were used by Government Inspectors for inspection of planes.

After the June raids all AA batteries were removed and set up at Kobe and Osaka. However, it is believed that P.I. identification of guns were correct--the sites were visited and measurements taken of the revetments.

Several dummy guns were found on the roof of the office building, but these were never seen in aerial photos.

U. S. CONFIDENTIAL
(British Confidential)

42651

PHOTO INTELLIGENCE SECTION
EVALUATION BRANCH
PHOTOGRAPHIC DIVISION
AC/AS, INTELLIGENCE
FUNCTIONAL ANALYSIS REPORT No. F/A-27

20 22

Date 4 January 1945

TARGET: 90.20/240 KAWASAKI AIRCRAFT WORKS
KAGAMIGAHARA PLANT

LOCATION: GIFU, HONSHU, JAPAN COORDINATES: 35° 24' N 136° 52' E

PHOTOGRAPHY:	Date	Mission	Print Nos.
	23 Nov 1944	3PR-4M17	Roll 3R 43,44,45 Roll 2V 33,34,35

I. Plant Function

This plant assembles complete Aircraft and produces many of the necessary Components including wings and fuselages. The following types of aircraft are reported to be assembled here: Tony, Lily, and Nick.

II. Site and Location

The plant occupies a site 2,200' x 3,000' irregularly rectangular. The original plant is located on the S. side of the Takayama RR. which runs W. to GIFU and E to OTA. Plant buildings of more recent construction are located to the N. of the RR. The two parts of the plant are connected by a 35' wide underpass and a grade crossing approximately 60' wide. The RR passes through the site approximately 3,300' N of the E.- W. runway on the A/F of the Army Branch A/C Depot (Target 90.20/249) and the Mitsubishi A/C Works, (Target 90.20/1833). The OGAKI IRON WORKS, (Target 90.20/1811) adjoins the W. boundary of the original plant.

III. Building Functions

Bldg. No.	Function
*1 thru 4.	Post-Assembly and Pre-Flight testing
5.	Unidentified
6.	Mess Hall
7.	Main Office Building (three story)
8,9.	Offices
10 - 14.	Storage (Raw materials)
15.	Gasometer, probably used for heating and heat treatment furnaces
16.	Probable Boilerhouse
17 - 20. inc	Storage
* 21.	Machine Shop; includes boiler room with two boilers, Two (2), 2000 ton drop hammers, lathes, drills, planers etc.
22 - 23.	Storage
* 24.	A/C Final Assembly Bldg.
(a)	Paint Shop and Fabric Dept. Machine Shop occupies E. bay of this bldg. Two types of A/C assembled in this building
* 25.	A/C Final Assembly, some Sub-Assembly of wings, tails, Fuselages
* 26 - 27.	Experimental Dept.
* 28.	Wind Tunnel Dept.
(a)	Office Unit
(b)	Probable wind tunnel
(c)	Carpenter (Model) Shop
29.	Transformer Station
30.	Welding Shop

*31.	Wing and Fuselage parts Mfg. Drafting Dept. at W. end of bldg. Products: Small parts, wing tips, wind shields Canopies etc., some wing and fuselage assembly at W. end of Bldg.
*32.	Wing and Fuselage Assembly
33.	Prob. Boiler House and Power Plant
34.	Mess Hall
*35.	Wing and Fuselage parts Mfg. includes Sheet Metal Department
36.	Probable, personnel offices, time office etc, is connected to RR station by pedestrain over-pass.
37 - 46 inc) 47 - 56 inc)	Probable School
57.	Possible foundry
58.	Unidentified
*59.	A/C Assembly
*60.	Shop bldg, prob. Sub-Assembly
61.	Storage
62.	Offices
63.	Offices

IV. Notes

Propellers and many other supplies and parts are reported to be furnished to this plant from The Army Branch A/C Depot nearby. Engines for one of A/C (Lily) assembled are reported to be installed at the Depot.

V. Activities

Approximately 65-70 "Tony" type A/C are visible near Bldgs. #1,2,3,4, Four (4) more of the same type are in front of Bldg. #24.

10-12 S.E. A/C with 38-40' wing span are seen in front of Bldg. #59.

* Denotes buildings annotated on P.T.I.

INTERPRETER:

J. E. Sweet
Capt. AC

JTG CONSULTANT:
G. Shaskan
Ensign USNR

APPROVED BY:

L. E. STEVENS
Major, Air Corps
Chief, Photo Intelligence Section
Evaluation Br., Photographic Division
Office of the Asst Chief of Air Service
Intelligence

JOINT TARGET GROUP
WASHINGTON, D. C.

KAWASAKI AIRCRAFT WORKS
KAGAMIGAHARA PLANT
GIFU JAPAN

0 500 1000 1500 2000 2500 3000 FEET
0 1/4 1:6000 APPROX. 1/2 MILE

CONFIDENTIAL

SHEET	90:20-240 P3
DATE	19 April 1945
TARGET	90:20-240
COORDINATES	35 24'N 136 52'E
PHOTOGRAPHED	23 November 1944

LEGEND

1-4. Post Assembly and Pre Flight testing
5. Unidentified
6. Mess Hall
7. Main Office Building (three story)
8, 9. Offices
10-14. Storage (Raw materials)
15. Gasometer, probably used for heating and heat treatment furnaces
16. Probable Boilerhouse
17, 20. Storage
21. Machine Shops, includes boiler room with two boilers. Two (2) 2,000 ton drop hammers, lathes, drills, planers etc.
22, 23. Storage
24. A/C Final Assembly Building
24a. Paint Shop and Fabric Dept.
Machine Shop occupies E bay of this building
Two types of A/C assembled in this building
25. A/C Final Assembly, some Sub assembly of wings, tails, fuselage
26, 27. Experimental Department
28. Wind Tunnel Department
28a. Office Unit
28b. Probable wind tunnel
28c. Carpenter (Model) Shop
29. Transformer Station
30. Welding Shop
31. Wing and fuselage parts Mfg. Drafting Dept. at W end of building. Products: Small parts, wing tips, wind shields, canopies etc., some wing and fuselage assembly at W end of building.
32. Wing and Fuselage Assembly
33. Probable Boiler House and Power Plant
34. Mess Hall
35. Wing and fuselage parts manufacture includes Sheet Metal Department
36. Probable, personnel offices, time office etc. is connected to RR station by pedestrain overpass
37, 56. Probable School
57. Possible foundry
58. Unidentified
59. A/C assembly
61. Shop building, probable sub assembly
61. Storage
62, 63. Offices

PUBLISHED IN OFFICE OF AC/AS INTELLIGENCE, AAF, BY COMBINED PERSONNEL OF UNITED STATES AND BRITISH SERVICES FOR THE USE OF ALLIED FORCES

第二神野寮
第一神野寮
給廚所
第#2 Assembly Shop
第二組立工場
試作組立工場
Trial Assembly Shop
各務寮
工員食堂
設計室
DESIGNING ROOM
職員食堂
WORKERS MESS HALL
工員宿舎予定地
SITE PLANNED FOR EMPLOYEES LODGING
倉庫
WAREHOUSE
第一研究室
To Gifu
岐阜
To GIFU
岐阜
利武工場
第一素材倉庫
外註検査
石炭置場
第二倉庫
プレス工場
第二組構工場
材料配給工場
部品工場
第二食堂
第二研究室
第一組構工場
機械工場
第一倉庫
第二倉庫
第一事務室
高山線
名鉄各務ヶ原線

川崎航空機工業株式会社
岐阜工場全般配置図

イロハニホヘトチリヌルヲワカヨタレソツネ
ABCDEFGHIKLMNOPQRSTU

被爆直前並ニ停戦時、工務課職場利用状況図

Chart showing usability of surrounding buildings immediately before bombing and at the end of the war.

Scale 縮尺 = 1/2500

N

工員寄宿舎予定地 SITE PLANNED FOR EMPLOYEES LODGINGS

至各務原 To KAGAMIGAHARA

KAGAMIGAHARA Line 各務原線

Nagara River 長良川

Yanagase Line 柳瀬線

Mitake Line 美濃線

Yamato Line 大和線

Kano Line 加納線

Nishiki Line 錦線

Takashima Line 高島線

Meitetsu Line 名鉄線

Nagoya 名古屋

Gifu 岐阜

Kano 加納

Yanagase 柳瀬

Mitake 美濃

Yamato 大和

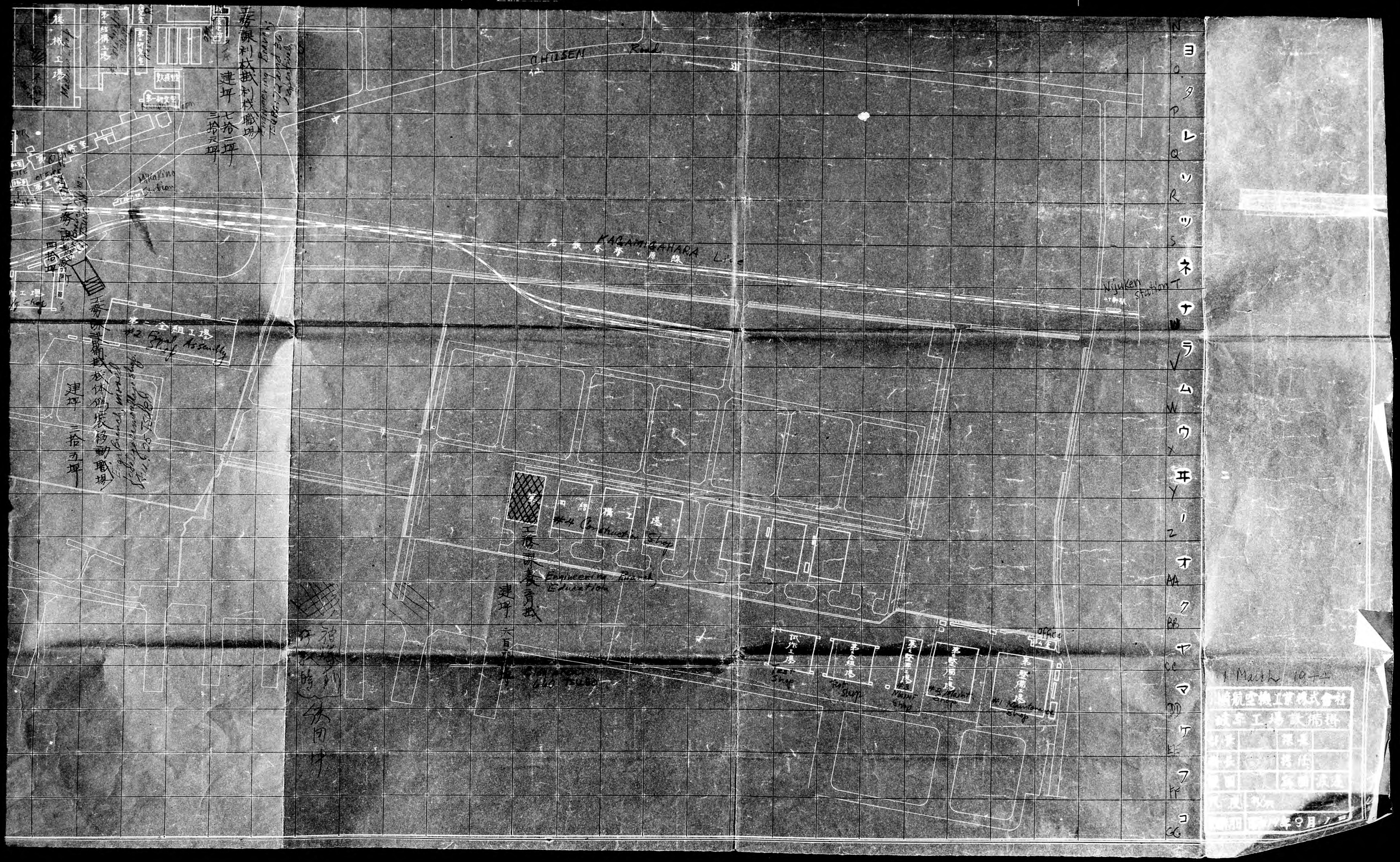
Nishiki 錦

Takashima 高島

Meitetsu 名鉄

Wiuken Hart

To GIFU
CHUSEN Road
KAGAMIGAHARA L
WAREHOUSE
第一倉庫
OFFICE
GARAGE
Mikakino Station
第一全組工場
#1 Final Assembly Plant
機械工場
Machine Shop
第一研究室
試作工場
Trial mfg. shop
第二全組工場
#2 Final Assembly Shop
#4 Construction Shop
工務課養育場
Engineering Branch, Education
Bldg area: 660 TSUBO
Burnt down
For bldg materials



CHUSEN Road
KAGAMIGAHARA Line
Nijuken Station
Mikakino Station
#2 Equal Assembly Shop
#4 Construction Shop
Engineering Branch Education
Office
Test Shop
Maint Shop
#1 Maintenance Shop

TEAM LOG SHEET

TEAM No. PIC-S **TEAM COMDR.** Lieut. Keir

TARGET No. SX-5 **TARGET LOCATION** Kawasaki A/C Wks. 90.20-240

DATE 8 Nov. 1945

*Photo No.	Description	Requested By	
Roll No. PIC-S-5			
1	Final Assembly building - JTG No. 24 Showing damage to steel frame	SX-5	NW
2	Final Assembly building (center bay) JTG No. 24	do	N
3	Destroyed parts mfg. building - JTG No. 31	do	NW
4	Exp't. final assembly building - JTG No. 60 Showing framing	do	NE
5	Assembly building - JTG No. 59 showing framing	do	N
6	Exp't. final assembly building - JTG No. 60 showing framing	do	NW
7	Underexposed JTG No. 7	do	
8	Underexposed JTG No. 7	do	

***Photo No. must correspond with Photographers Photo No.**

TEAM LOG SHEET

TEAM No. PIC - D

TEAM COMDR. Ens. Barnekov

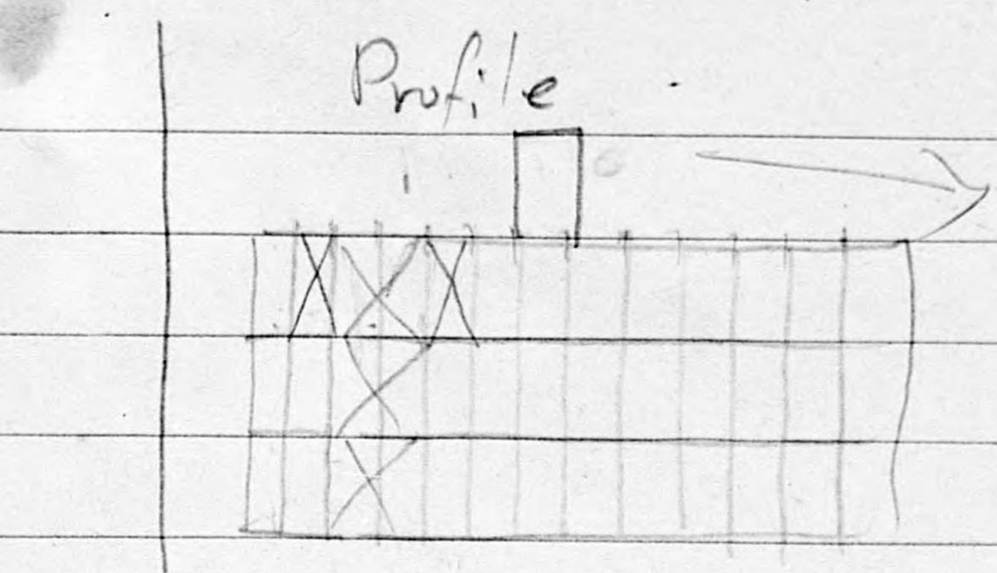
TARGET No. PIC - DX1, ~~DX2~~

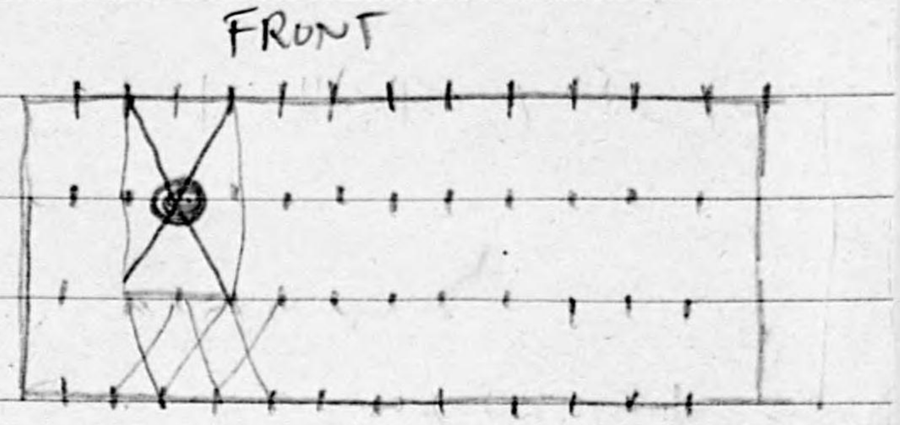
TARGET LOCATION 90.20 - 240 Kawasaki A/C Works

DATE 18 Nov 1945

*Photo No. ~~PACK NO.~~	Description	Requested By INTELL-SUBJ. NO.
PIC-D-1:		
1.	Irrevelant	
2.	Irrevelant	
3.	Irrevelant	
4.	Irrevelant	
5.	Storage in shrine near JTG Target 90.20 - 240	PIC-DX-1
6.	" " " " " " " "	"
7.	Interior of Bldg. #24 showing construction (240)	PIC-DX-2
8.	Bomb damage in Bldg. #7 from ground floor	"
9.	Bomb damage in Bldg. #7 from roof	"
10.	Exterior of Bldg. #24 from roof of Bldg. #7	"
11.	" " " " " " " " "	"
12.	Interior of Bldg. #19A showing damage.	"
	# Building numbers are taken from JTG	

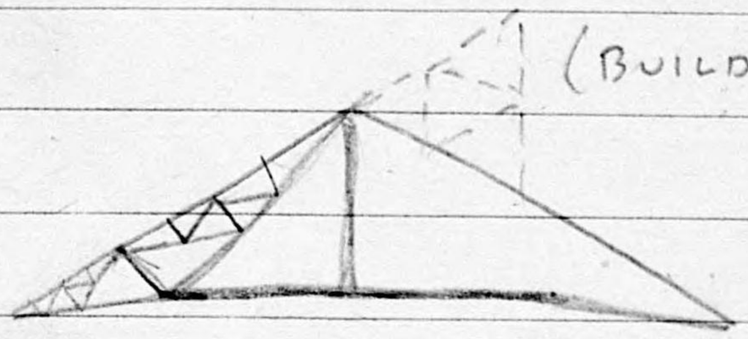
*Photo No. must correspond with Photographers Photo No.



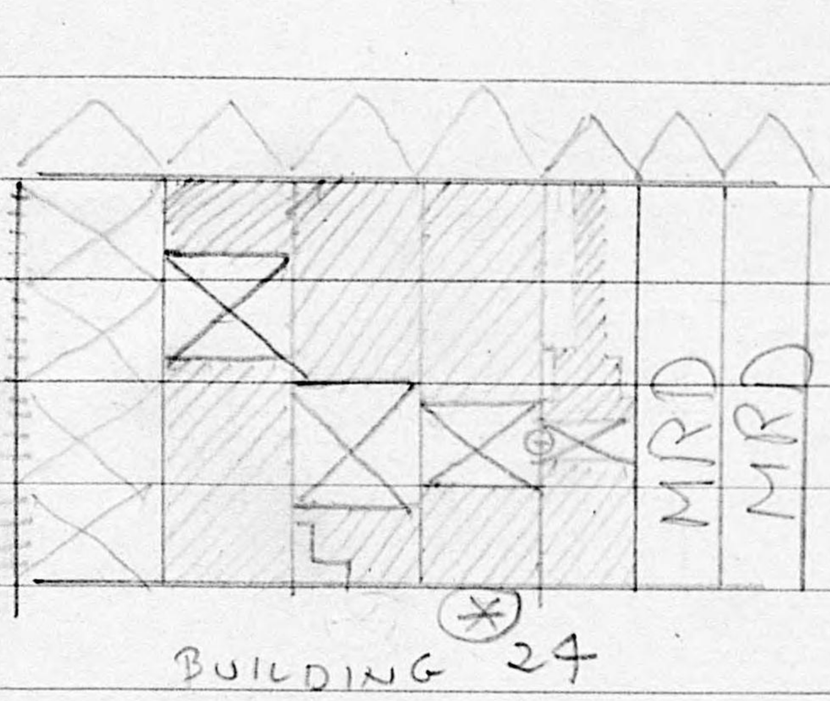


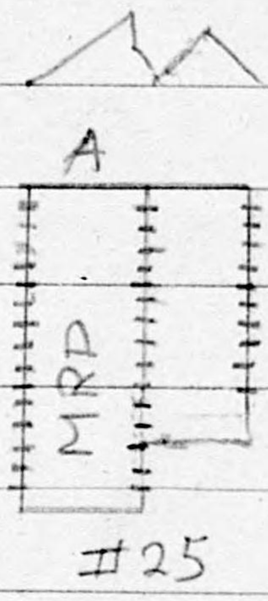
Building No. 7

Reinforced concrete
3 story



Building 8
Destroyed





#25

BUILDING 24

Steel frame
Wood roofing

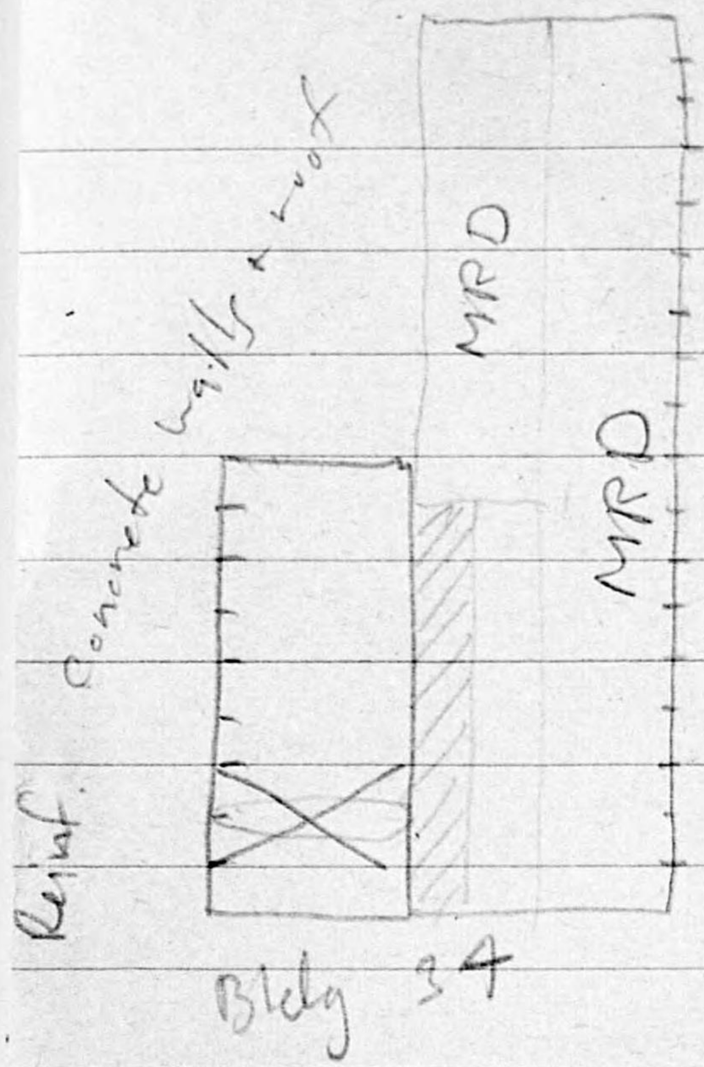
PIC-D-1:5 PIC-DX-1
PIC-DX-2

(*) PIC-D-1:7 PIC-DX-2 Building 24

● PIC-D-1:8,9 PIC-DX-2 Building 7

PIC-D-1:10,11 PIC-DX-2 Building 24 from Roof of Bui

Building 60

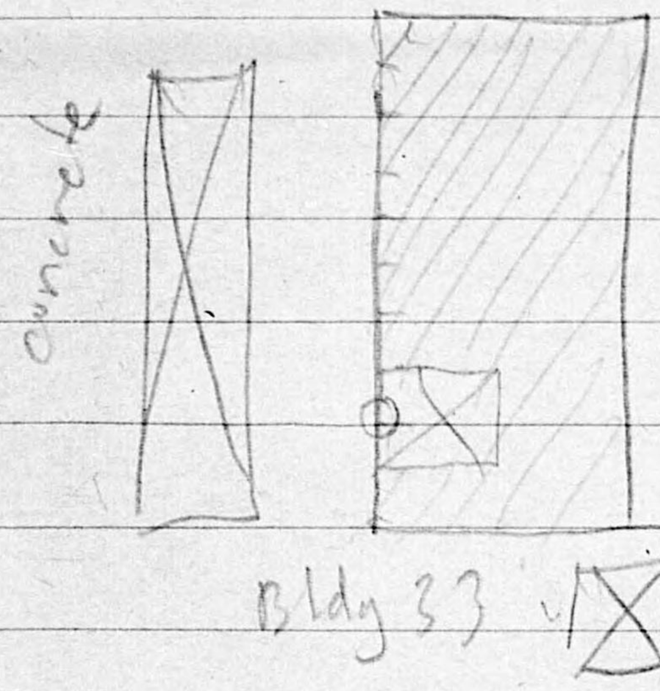


Bldg 34

concrete walls
Type 24 frame
& roof

A/K

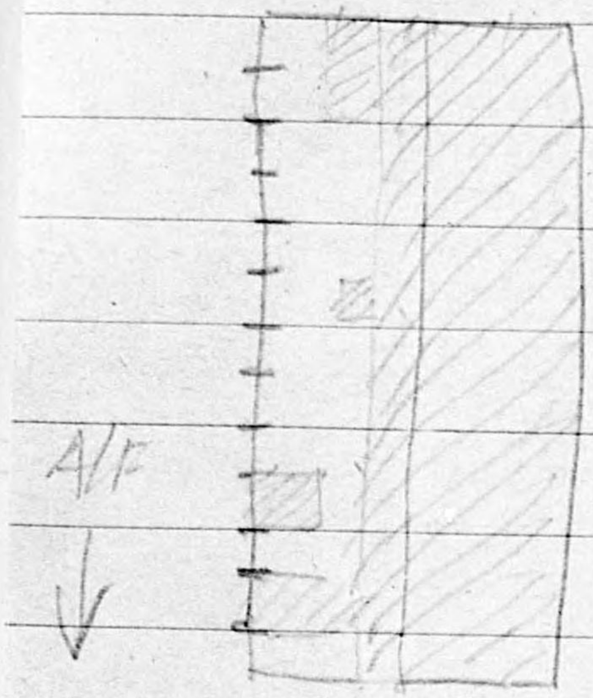
Ref. concrete walls
Type 24 frame
& roof



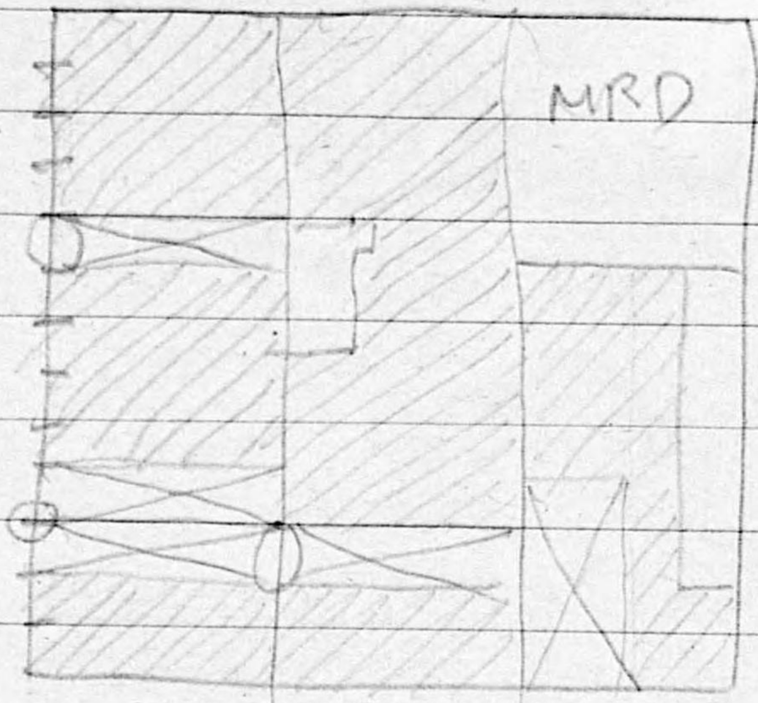
Bldg 33

BUILDING 59

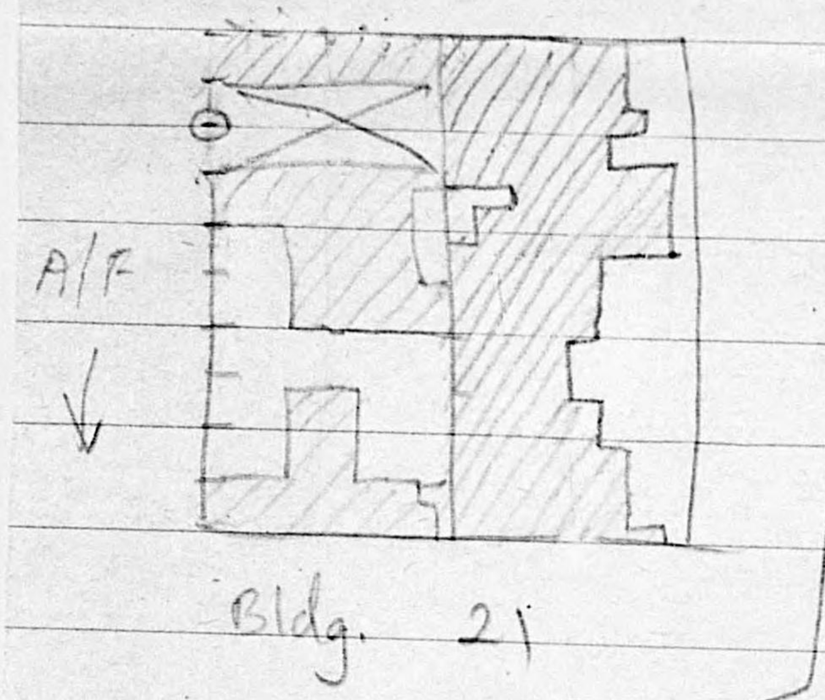
Bldg 23 destroyed



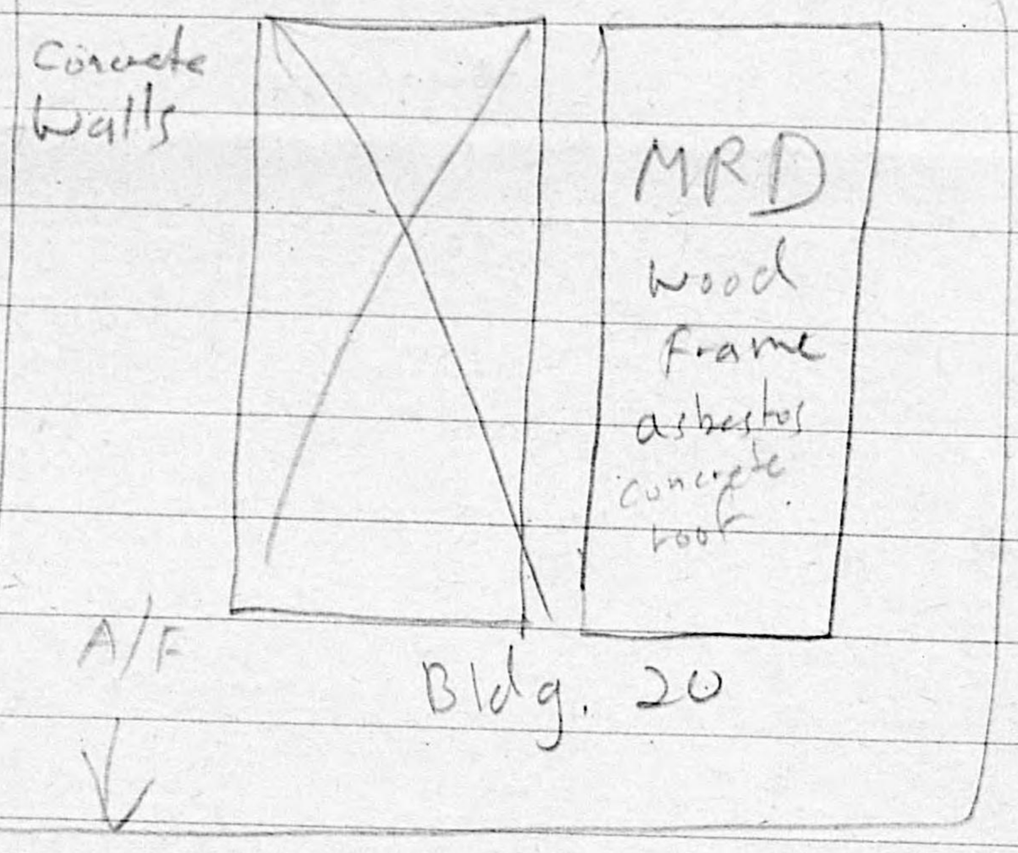
Bldg. 22



Bldg 35



Bldg. 21



Bldg. 20

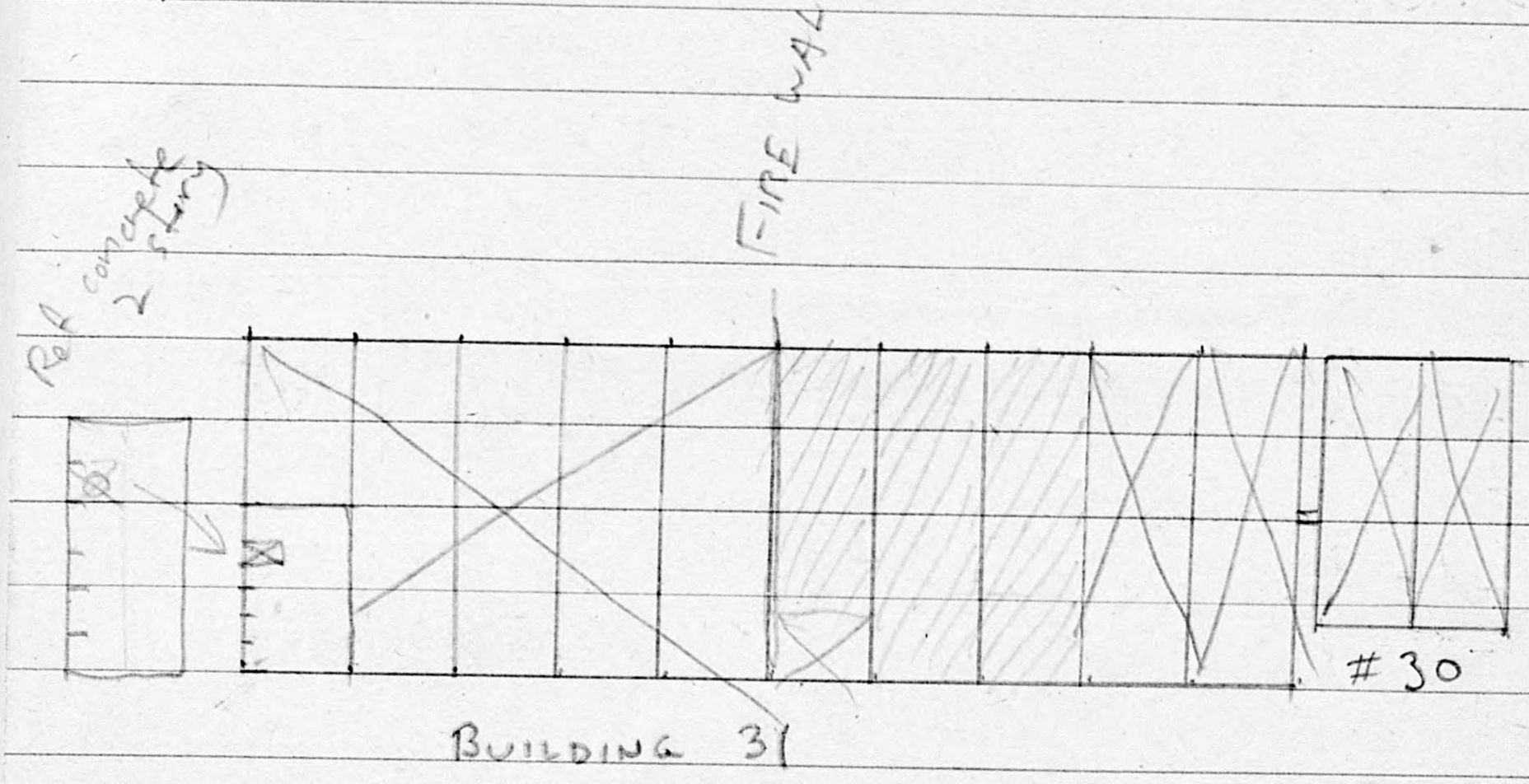
Bldg 36 destroyed

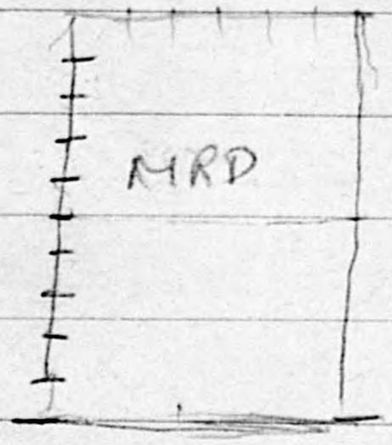
16
8
128

11 MAY

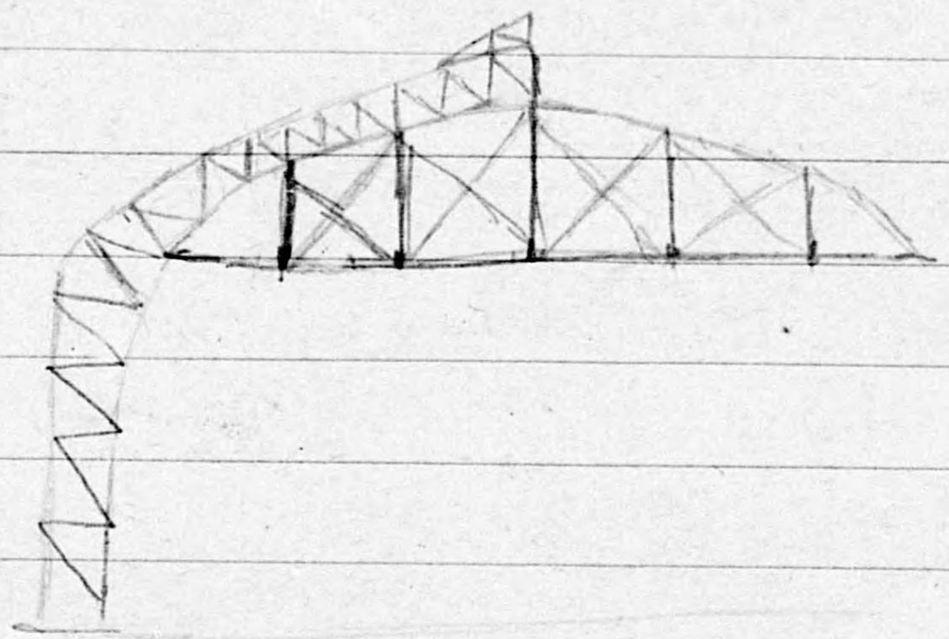
3 2
8
256

3 2
8

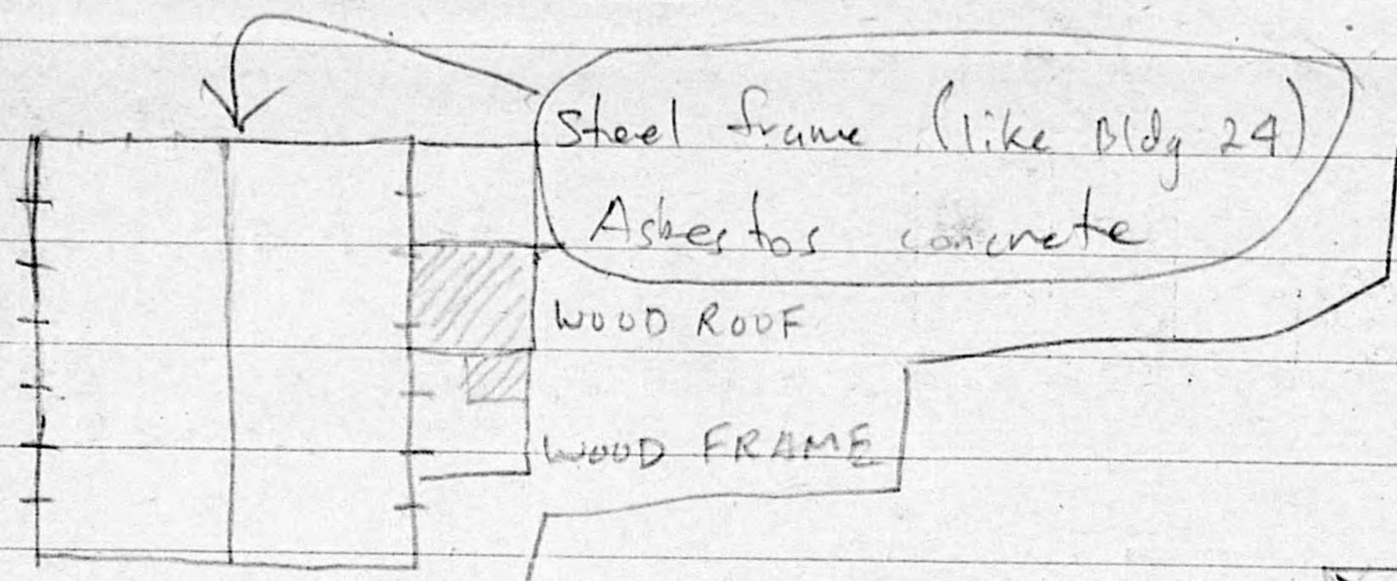




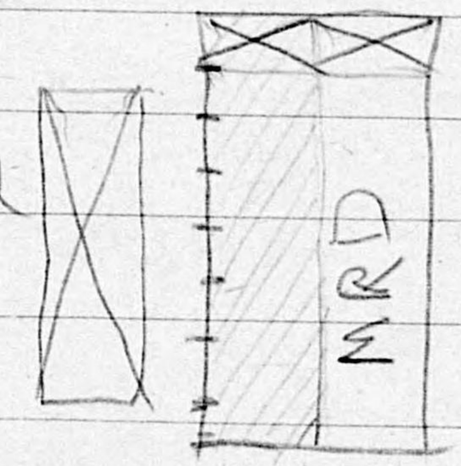
Wood with asbestos concrete
Steel frame



Building #1
A/F



Building #2
A/F



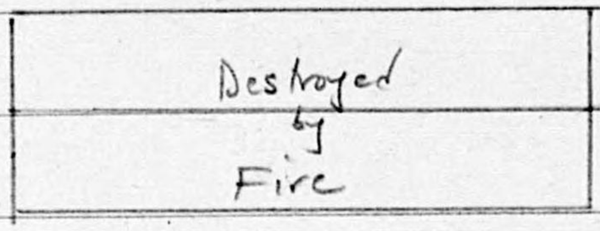
Building #3
Wood frame
Wood roofing

10.4
20 | 208

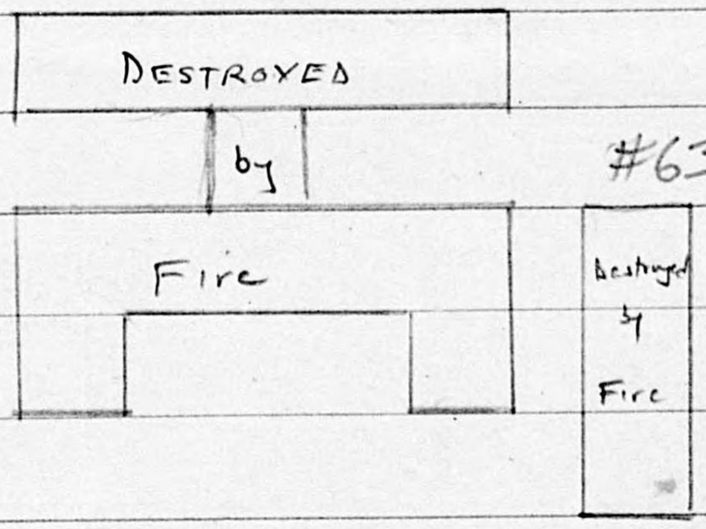
26
8/8
20.8

5 | 216

#61



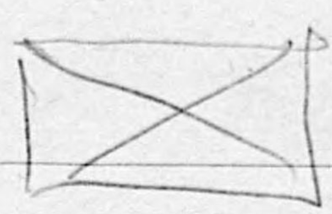
#62



#63

= Design office

(Apparently wood construction

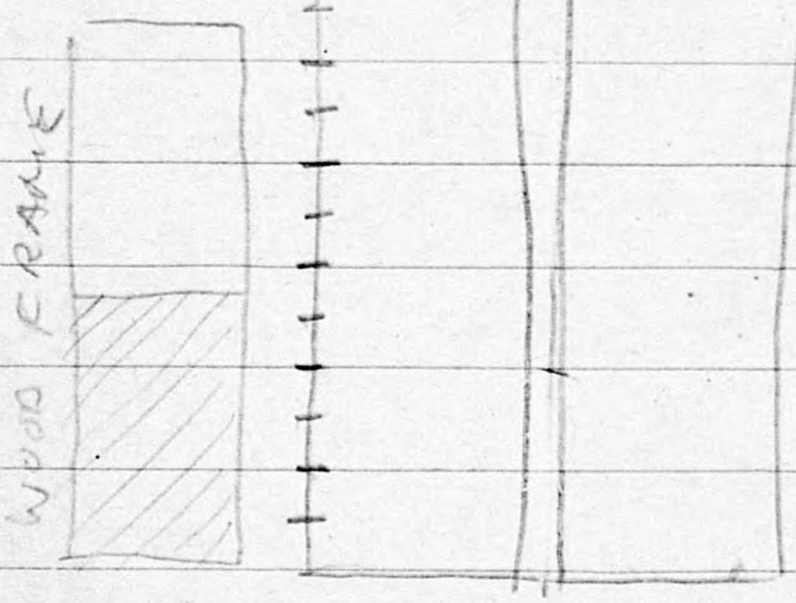


wood frame

Wood frame roof
Reinforced concrete stanchions + walls

Asbestos concrete and metal pieced roof.

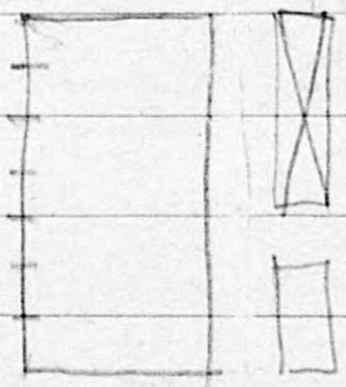
Bldg 15 is metal tank



Bldg # 17

A/F

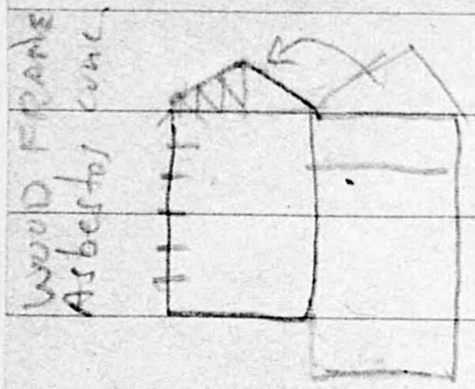
Bldg 24 type



wood frame

A/F

Bldg 17

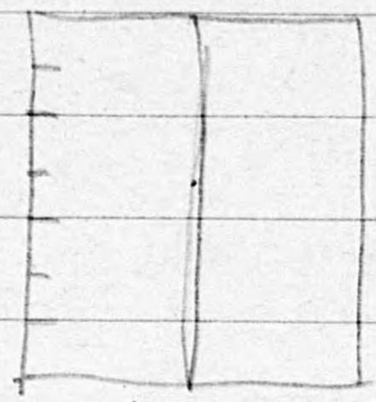


asbestos concrete roof

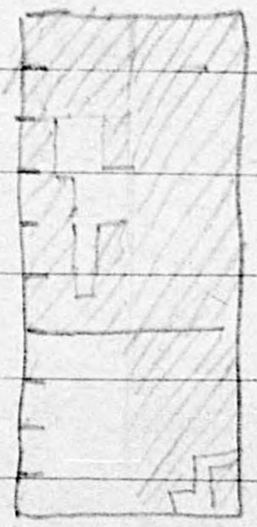
A/F

Bldg. 16

Bldg 24 type



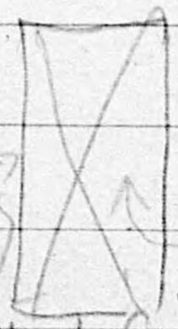
Bldg 18



Concrete surfaced brick walls
steel frame (24)
Wood & asb-conc roof

Bldg. 19

steel floor



concrete walls

steel frame
Type 24

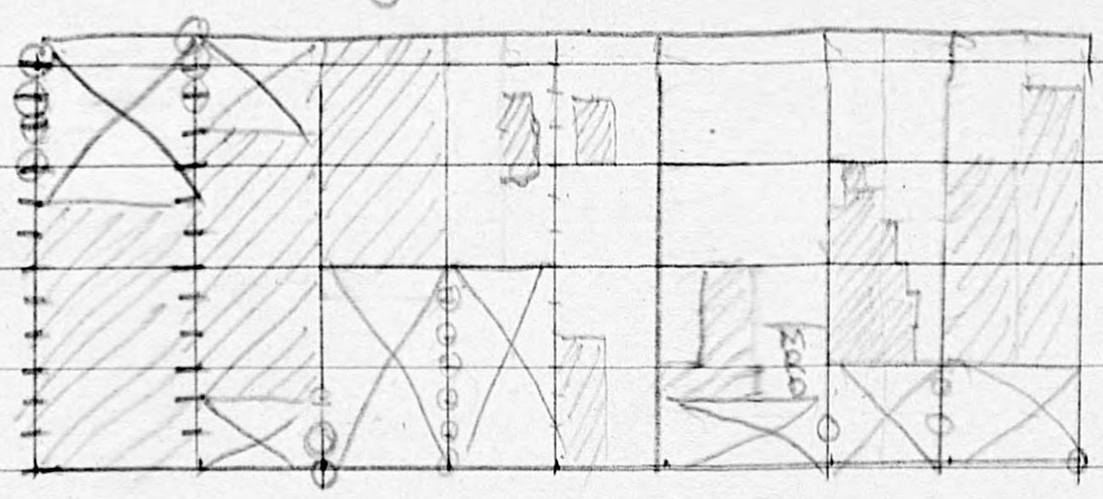
19A

13
8
10 7

13 12 8

13

Type 24



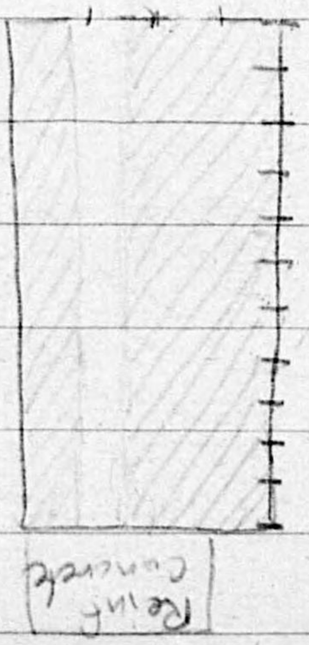
BUILDING 32

32
8
256

A/E →

← A/E

Bldg #13



Buildings 10, 11, 12
destroyed - wood frame

Cin.-X frame
Wood roof
steel frame

61

AC/AS, INTELLIGENCE - PHOTOGRAPHIC DIVISION

KAWASAKI AIRCRAFT WORKS

GIFU, JAPAN

TARGET NO. 90.20-240 REPORT NO. F/A 27

Approximate Scale

1000' 0' 1000'

CONFIDENTIAL

MISSION
3PR/4M17

PRINTS
2V 33-34-35

193.284

PHOTOGRAPHY OF 23 NOV. 1944

▨ - structurally damaged

▨ - superficially damaged

▭ - MINOR ROOF DAMAGE

Notes on Target 240

(See FA in folder 5X12 Kagamigahara A/F)

Bldg Nos.	Actual Use
Bldg. 24	Final Assembly Shop – put out of operation June 22 – Peggy assembled here (K1-67)
	E. Bay – 2 machine shop
Bldg. 25	Formerly engine assembly – converted to final assembly when Bldg. 24 knocked out.
Bldgs 26 + 27	Exp't. Laboratory
(26)	Reinforced concrete – 2 stories
(27)	Steel framed – one story – asbestos cement on wood plank roof.
Bldg 31	Parts shop for all planes. Wood framing, Asbestos cement on wood roof.
Bldg 4	Final Assembly Ki-100

U. S. S. B. S.
DAMAGE ASSESMENT WORK SHEET

FUNCTION

STRUCTURAL ANALYSIS

YEAR BUILT	ORIGINAL USE	REMARKS
FLOOR	TYPE	THICKNESS
FLOOR	TYPE	THICKNESS
WALLS	TYPE	THICKNESS
ROOF MATERIAL	TYPE	THICKNESS
TRUSS	TYPE	SPAN
CRANES NO.	TYPE	LOAD CAPACITY
MACHINERY REMOVED TO		REASON
REPAIRS AND CLEARANCES		
NEW CONSTRUCTION		

NAME OF PLANT: KAWASAKI A/C IND-GIFU

TYPE OF INDUSTRY: A/C ASSEMBLY PLANT

CITY	TARGET NO.	BLDG. NO.
E. of GIFU	240	
LAT. LONG	AREA: 90.20	
INTEL. SUBJECT NUMBER: SX5		DATE
PHOTOGRAPHY: PIC-D-1, PIC-5-5		ROLL-NEG NUMBER
INTERIOR	EXTERIOR	
STRUCT. DETAIL	NO. OF EXPOSURES	

TEAM

DAMAGE ASSESMENT

DESTROYED

STRUCTURAL DAMAGE

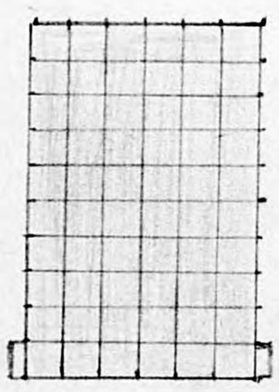
SUPERFICIAL DAMAGE

ROOF DISTURBANCE

MINOR DAMAGE

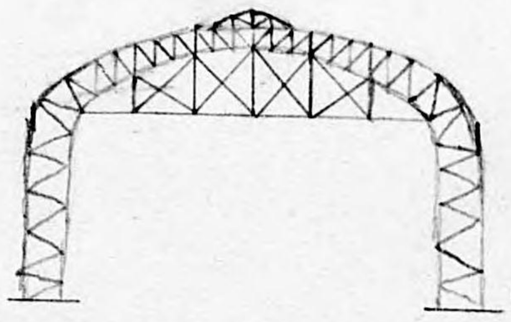
GENERAL NOTES - SECTIONS - PLANS - ETC

BLDG #1



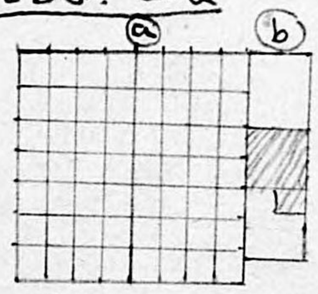
SCALE .001' = 2 ft

a. steel frame



b. Wood roofing covered with asbestos-concrete

BLDG. #2

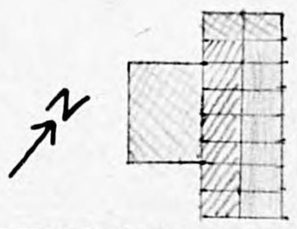


SCALE .001' = 2 ft.

(a) - steel frame like Bldg. 24, asbestos-concrete roof

(b) - WOOD ROOF & FRAME

BLDG. #3

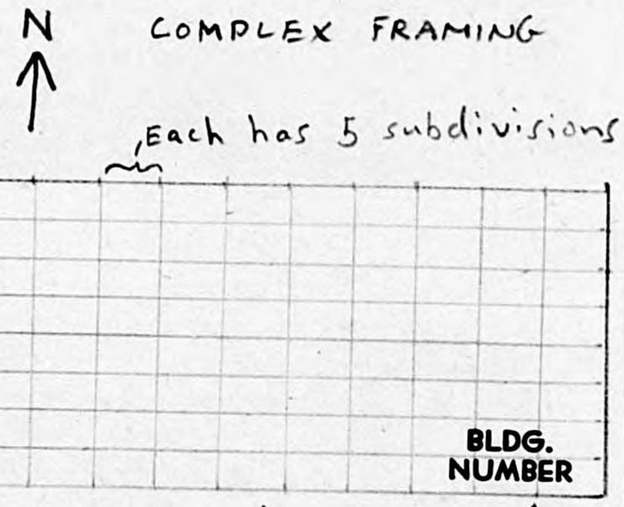


WOOD FRAME
WOOD ROOFING

SCALE .001' = 2 ft

BLDG 4

STEEL FRAME
WOOD ROOF
COMPLEX FRAMING



SCALE .001' = 2 ft.

U. S. S. B. S.
DAMAGE ASSESMENT WORK SHEET

FUNCTION

STRUCTURAL ANALYSIS

YEAR BUILT	ORIGINAL USE		REMARKS
FLOOR	TYPE	THICKNESS	
FLOOR	TYPE	THICKNESS	
WALLS	TYPE	THICKNESS	
ROOF MATERIAL	TYPE	THICKNESS	
TRUSS	TYPE	SPAN	
CRANES NO.	TYPE	LOAD CAPACITY	
MACHINERY REMOVED TO		REASON	
REPAIRS AND CLEARANCES			
NEW CONSTRUCTION			

NAME OF PLANT: KAWASAKI A/C IND-GIFU

TYPE OF INDUSTRY: A/C ASSEMBLY PLANT

CITY	TARGET NO.	BLDG. NO.
E. of GIFU	240	
LAT. LONG	AREA: 90.20	
INTEL. SUBJECT NUMBER: SX5		DATE

PHOTOGRAPHY: PIC-D-1, PIC-5-5

INTERIOR EXTERIOR

STRUCT. DETAIL NO. OF EXPOSURES

ROLL - NEG NUMBER

TEAM

DAMAGE ASSESMENT

DESTROYED

STRUCTURAL DAMAGE

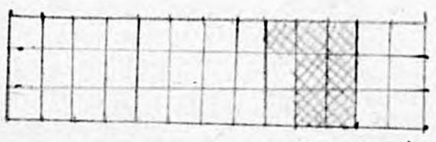
SUPERFICIAL DAMAGE

ROOF DISTURBANCE

MINOR DAMAGE

GENERAL NOTES - SECTIONS - PLANS - ETC -

BLDG. 7 PHOTOS: PIC-S-5:7,8

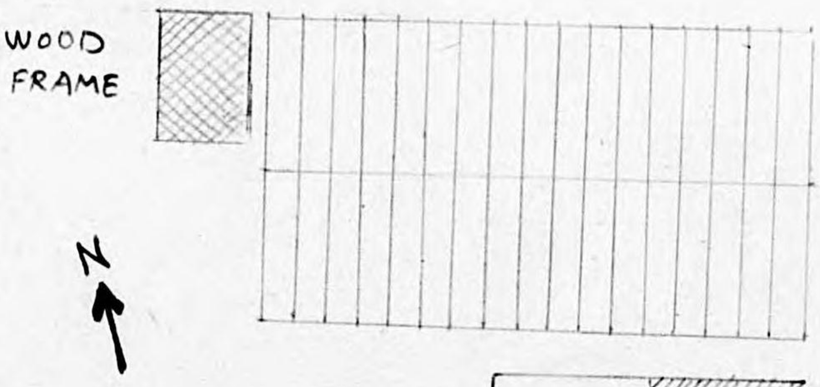


SCALE .001' = 2 ft.

PHOTOS: PIC-D-1:8,9

HEAVY REINFORCED CONCRETE 3 Story Administration Bldg.

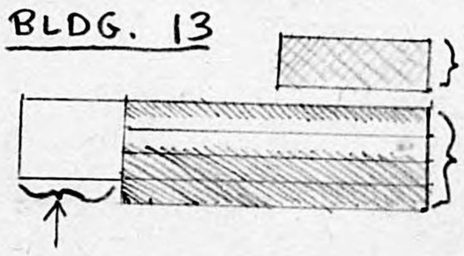
BLDG. 14



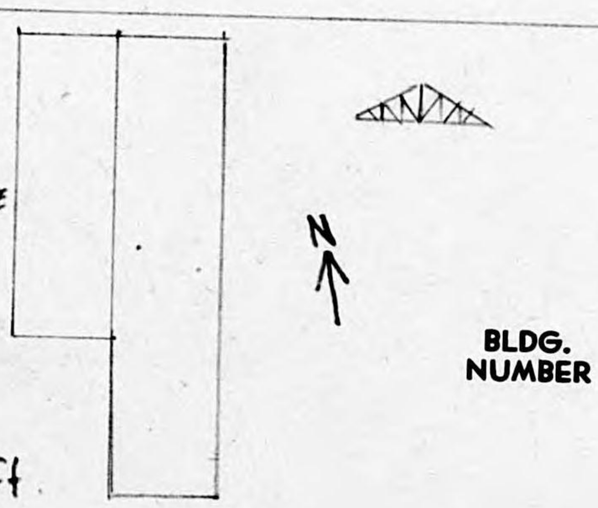
BLDG. 8, 10, 11, 12 DESTROYED.

BLDG. 15 IS A METAL TANK (GASOMETER)

BLDG. 13



BLDG. 16



U. S. S. B. S.
DAMAGE ASSESMENT WORK SHEET

FUNCTION

STRUCTURAL ANALYSIS

YEAR BUILT	ORIGINAL USE		REMARKS
FLOOR	TYPE	THICKNESS	
FLOOR	TYPE	THICKNESS	
WALLS	TYPE	THICKNESS	
ROOF MATERIAL	TYPE	THICKNESS	
TRUSS	TYPE	SPAN	
CRANES NO.	TYPE	LOAD CAPACITY	
MACHINERY REMOVED TO		REASON	
REPAIRS AND CLEARANCES			
NEW CONSTRUCTION			

NAME OF PLANT: KAWASAKI A/C IND. - GIFU

TYPE OF INDUSTRY: A/C ASSEMBLY PLANT

CITY: E. of GIFU

TARGET NO.: 240

BLDG. NO.:

LAT. LONG AREA:

INTEL. SUBJECT NUMBER: 5X5

DATE:

PHOTOGRAPHY: PIC-D-1; PIC-5-5

ROLL-NEG NUMBER:

INTERIOR EXTERIOR:

STRUCT. DETAIL NO. OF EXPOSURES:

TEAM:

DAMAGE ASSESMENT

DESTROYED

STRUCTURAL DAMAGE

SUPERFICIAL DAMAGE

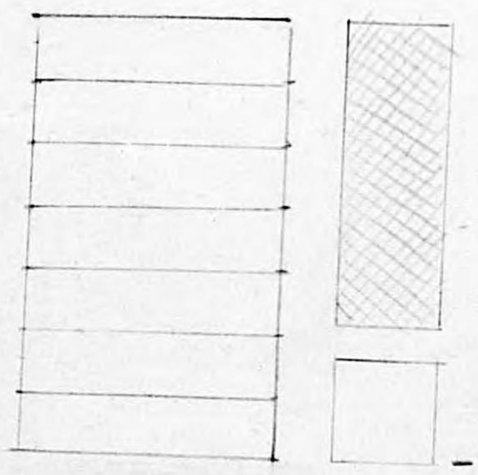
ROOF DISTURBANCE

MINOR DAMAGE

GENERAL NOTES - SECTIONS - PLANS - ETC -

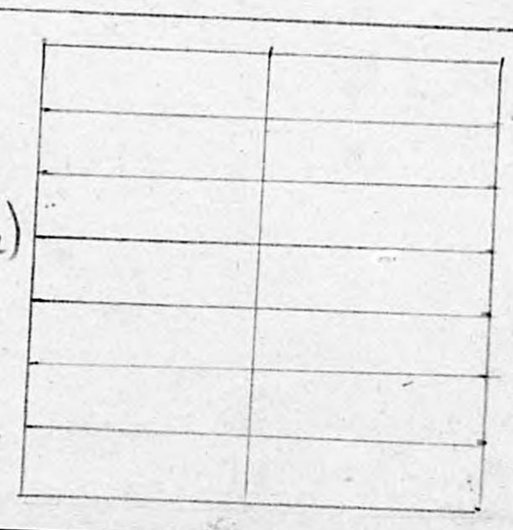
BLDG. 17

STEEL FRAME LIKE BLDG. 24

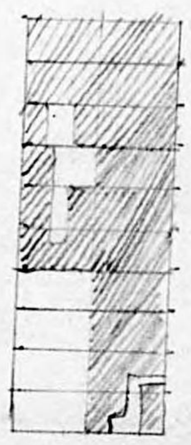


BLDG. 18

STEEL FRAME (BLDG. 24 type)



BLDG. 19



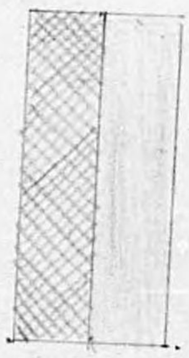
a. Concrete surfaced brick walls
b. Steel frame like Bldg. 24
c. Wood roof covered by asbestos-concrete.

SCALE: .001' = 1 ft.

BLDG. 19A

a. Complete structural damage
b. Steel plate flooring
c. Steel frame like Bldg. 24.
d. Concrete walls.

BLDG. 20



a. CONCRETE WALLS
b. WOOD FRAME, ASBESTOS-CONCRETE ROOFING

SCALE: .001' = 2 ft

BLDG. NUMBER

U. S. S. B. S.
DAMAGE ASSESMENT WORK SHEET

FUNCTION

STRUCTURAL ANALYSIS

YEAR BUILT	ORIGINAL USE	REMARKS
FLOOR	TYPE	THICKNESS
FLOOR	TYPE	THICKNESS
WALLS	TYPE	THICKNESS
ROOF MATERIAL	TYPE	THICKNESS
TRUSS	TYPE	SPAN
CRANES NO.	TYPE	LOAD CAPACITY
MACHINERY REMOVED TO		REASON
REPAIRS AND CLEARANCES		
NEW CONSTRUCTION		

NAME OF PLANT: KAWASAKI A/C IND. - GIFU

TYPE OF INDUSTRY: A/C ASSEMBLY PLANT

CITY	TARGET NO.	BLDG. NO.
E. of GIFU	240	
LAT. / LONG	AREA: 90.20	
INTEL. SUBJECT NUMBER: 5X5		DATE

PHOTOGRAPHY: PIC-D-1, PIC-5-5 — ROLL - NEG NUMBER

INTERIOR / EXTERIOR

STRUCT. DETAIL / NO. OF EXPOSURES

TEAM

DAMAGE ASSESMENT

DESTROYED

STRUCTURAL DAMAGE

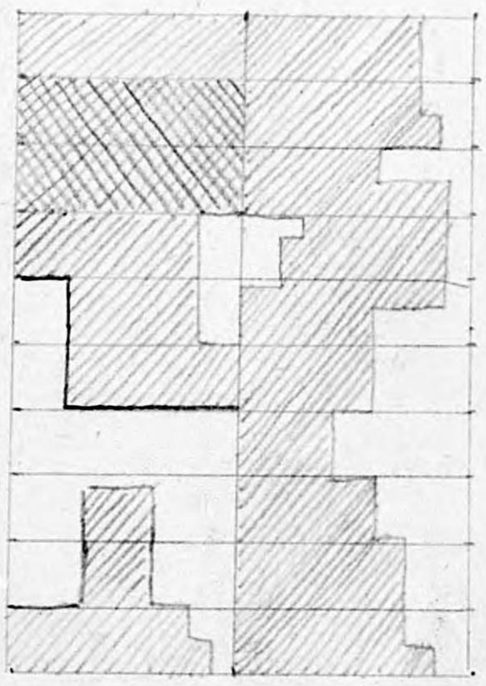
SUPERFICIAL DAMAGE

ROOF DISTURBANCE

MINOR DAMAGE

GENERAL NOTES - SECTIONS - PLANS - ETC -

BLDG. 21



SCALE .001' = 1 ft

N

BLDG. 22

a. CONCRETE WALLS

b. ROOF + FRAMING LIKE BLDG. 24.

SCALE: .001' = 1 ft.

N

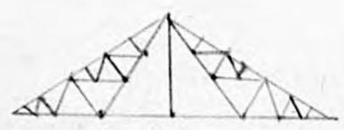
BLDG. 23

DESTROYED

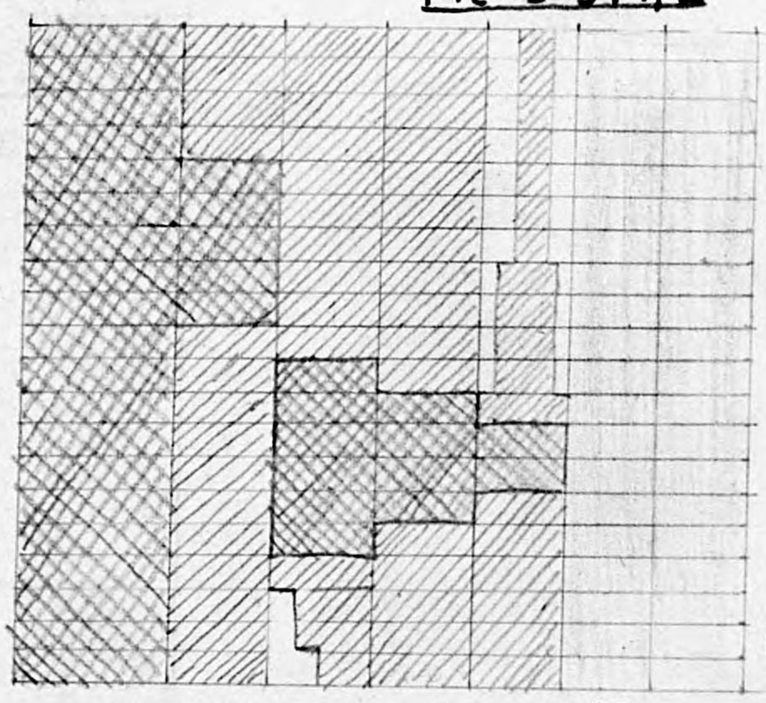
BLDG. 24

WOOD ROOFING

STANDARD TYPE STEEL FRAME FOR THIS FACTORY



PHOTOS: PIC-D-1 : 7, 10, 11
PIC-5-5 : 1, 2



SCALE .001' = 2 ft

N

BLDG. NUMBER

U. S. S. B. S.
DAMAGE ASSESMENT WORK SHEET

FUNCTION

STRUCTURAL ANALYSIS

YEAR BUILT	ORIGINAL USE	REMARKS
FLOOR	TYPE	THICKNESS
FLOOR	TYPE	THICKNESS
WALLS	TYPE	THICKNESS
ROOF MATERIAL	TYPE	THICKNESS
TRUSS	TYPE	SPAN
CRANES NO.	TYPE	LOAD CAPACITY
MACHINERY REMOVED TO		REASON
REPAIRS AND CLEARANCES		
NEW CONSTRUCTION		

NAME OF PLANT: KAWASAKI A/C IND. - GIFU		
TYPE OF INDUSTRY: A/C ASSEMBLY PLANT		
CITY: E. OF GIFU	TARGET NO.: 240	BLDG. NO.
LAT. / LONG / AREA: 90.20		
INTEL. SUBJECT NUMBER		DATE
PHOTOGRAPHY: PIC-D-1, PIC-5-5		ROLL - NEG NUMBER
INTERIOR	EXTERIOR	
STRUCT. DETAIL	NO. OF EXPOSURES	

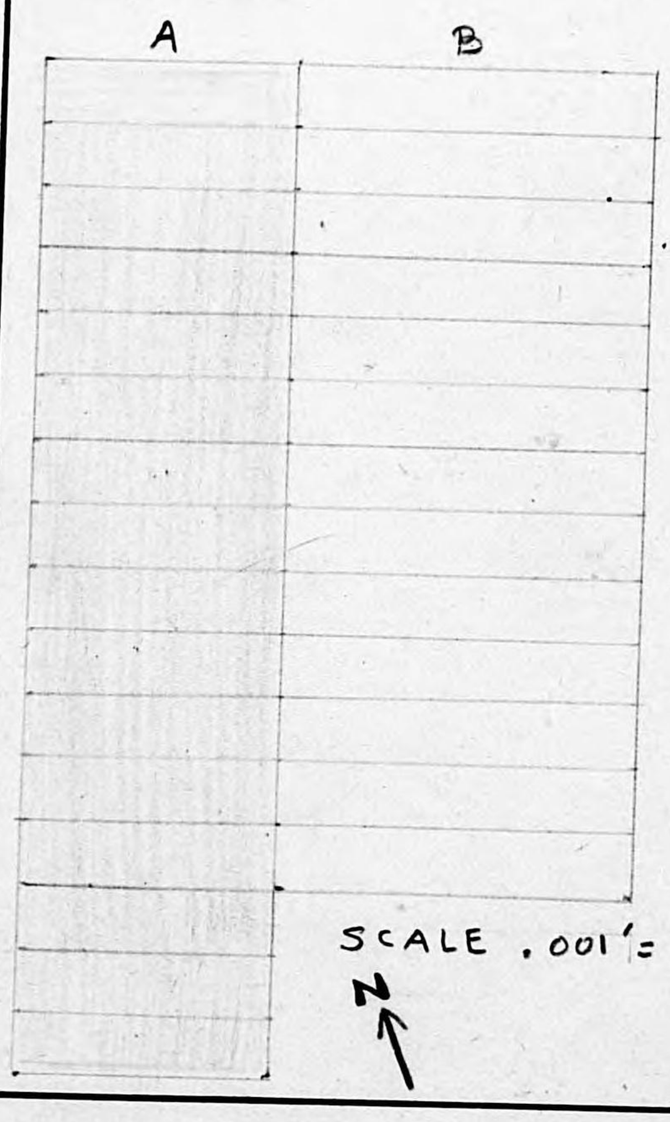
TEAM

DAMAGE ASSESMENT

DESTROYED
STRUCTURAL DAMAGE
SUPERFICIAL DAMAGE
ROOF DISTURBANCE
MINOR DAMAGE

GENERAL NOTES - SECTIONS - PLANS - ETC -

BLDG. 25



SCALE .001' = 1 ft

N

SECTION A

STEEL FRAME

LIKE BLDG. 24
WITH WINDOW LIGHT

SECTION B

LIKE BLDG. 24

PHOTOS:

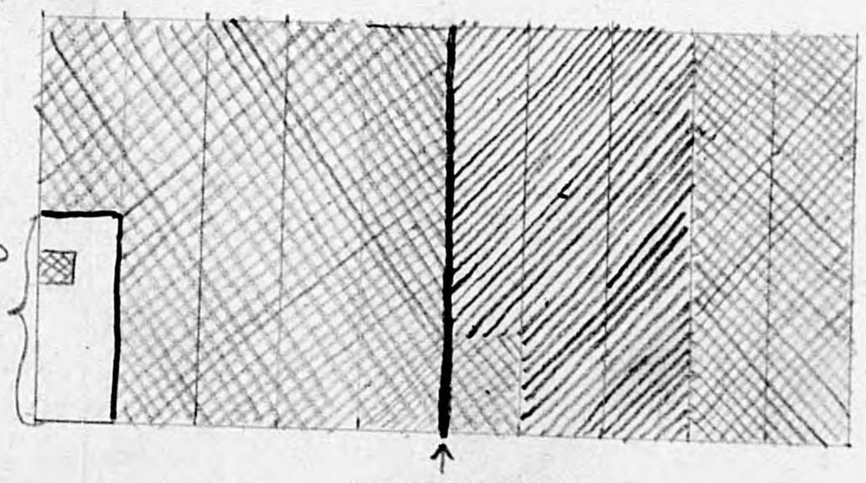
PIC-S-5:3

BLDG. 30

N

SCALE :
.001' = 2 ft

BLDG. 31



SCALE .001' = 2 ft

N

BLDG. NUMBER

U. S. S. B. S.
DAMAGE ASSESMENT WORK SHEET

FUNCTION

STRUCTURAL ANALYSIS

YEAR BUILT	ORIGINAL USE		REMARKS
FLOOR	TYPE	THICKNESS	
FLOOR	TYPE	THICKNESS	
WALLS	TYPE	THICKNESS	
ROOF MATERIAL	TYPE	THICKNESS	
TRUSS	TYPE	SPAN	
CRANES NO.	TYPE	LOAD CAPACITY	
MACHINERY REMOVED TO		REASON	
REPAIRS AND CLEARANCES			
NEW CONSTRUCTION			

NAME OF PLANT: KAWASAKI A/C IND - GIFU		
TYPE OF INDUSTRY: A/C ASSEMBLY PLANT		
CITY: E. of GIFU	TARGET NO.: 240	BLDG. NO.
LAT.	LONG	AREA: 90.20
INTEL. SUBJECT NUMBER		DATE
PHOTOGRAPHY: PIC-D-1, PIC-5-5		ROLL - NEG NUMBER
INTERIOR	EXTERIOR	
STRUCT. DETAIL	NO. OF EXPOSURES	

TEAM

DAMAGE ASSESMENT

DESTROYED

STRUCTURAL DAMAGE

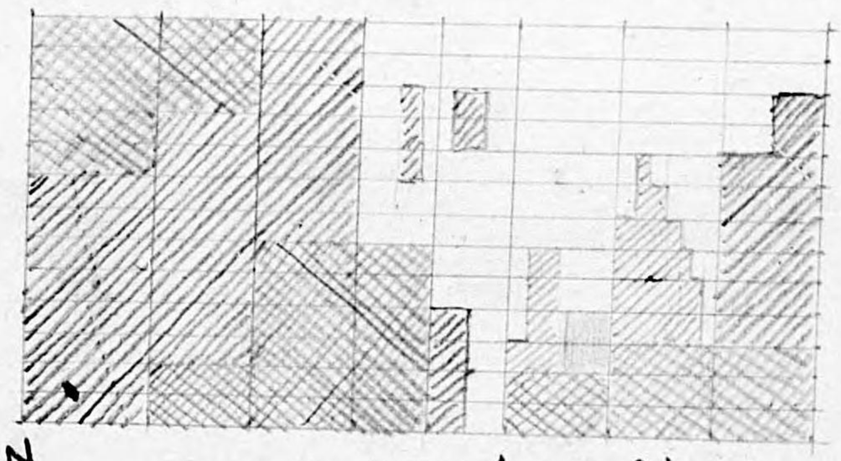
SUPERFICIAL DAMAGE

ROOF DISTURBANCE

MINOR DAMAGE

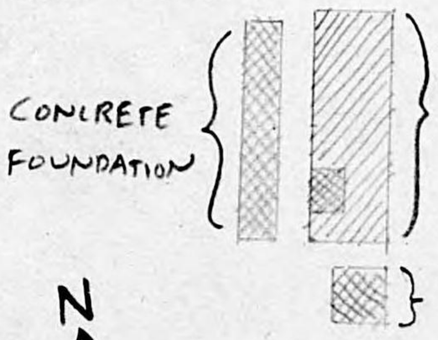
GENERAL NOTES - SECTIONS - PLANS - ETC -

BLDG. 32 STEEL FRAME LIKE BLDG. 24.



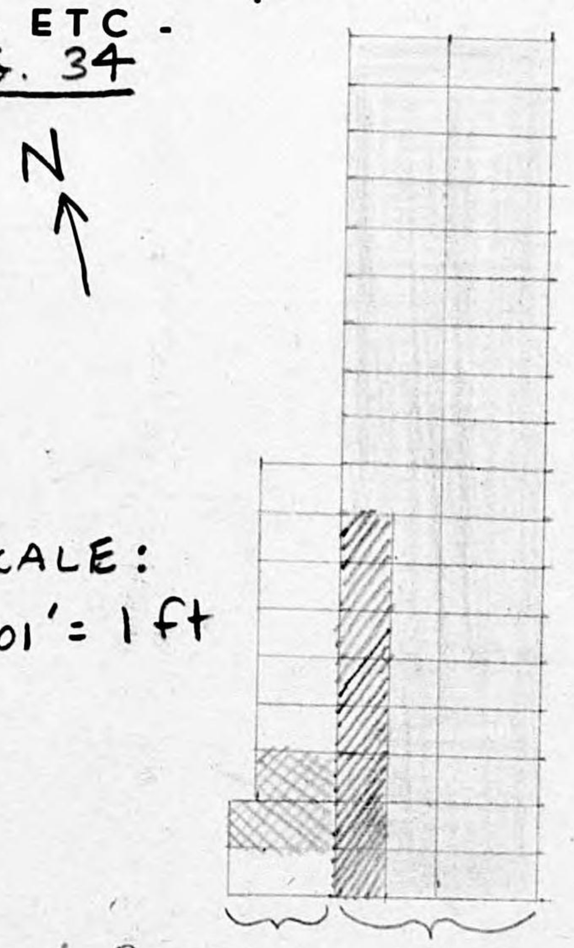
N ↑ SCALE .001' = 2 ft

BLDG. 33



N ↑ SCALE: .001' = 2 ft.

BLDG. 34



U. S. S. B. S.
DAMAGE ASSESMENT WORK SHEET

FUNCTION

STRUCTURAL ANALYSIS

YEAR BUILT	ORIGINAL USE		REMARKS
FLOOR	TYPE	THICKNESS	
FLOOR	TYPE	THICKNESS	
WALLS	TYPE	THICKNESS	
ROOF MATERIAL	TYPE	THICKNESS	
TRUSS	TYPE	SPAN	
CRANES NO.	TYPE	LOAD CAPACITY	
MACHINERY REMOVED TO		REASON	
REPAIRS AND CLEARANCES			
NEW CONSTRUCTION			

NAME OF PLANT: KAWASAKI A/C IND. - GIFU

TYPE OF INDUSTRY: A/C ASSEMBLY PLANT

CITY	TARGET NO.	BLDG. NO.
E. of GIFU	240	
LAT. LONG	AREA: 90.20	
INTEL. SUBJECT NUMBER		DATE

PHOTOGRAPHY: PIC-D-1; PIC-5-5

INTERIOR EXTERIOR

STRUCT. DETAIL NO. OF EXPOSURES

ROLL - NEG NUMBER

TEAM

DAMAGE ASSESMENT

DESTROYED

STRUCTURAL DAMAGE

SUPERFICIAL DAMAGE

ROOF DISTURBANCE

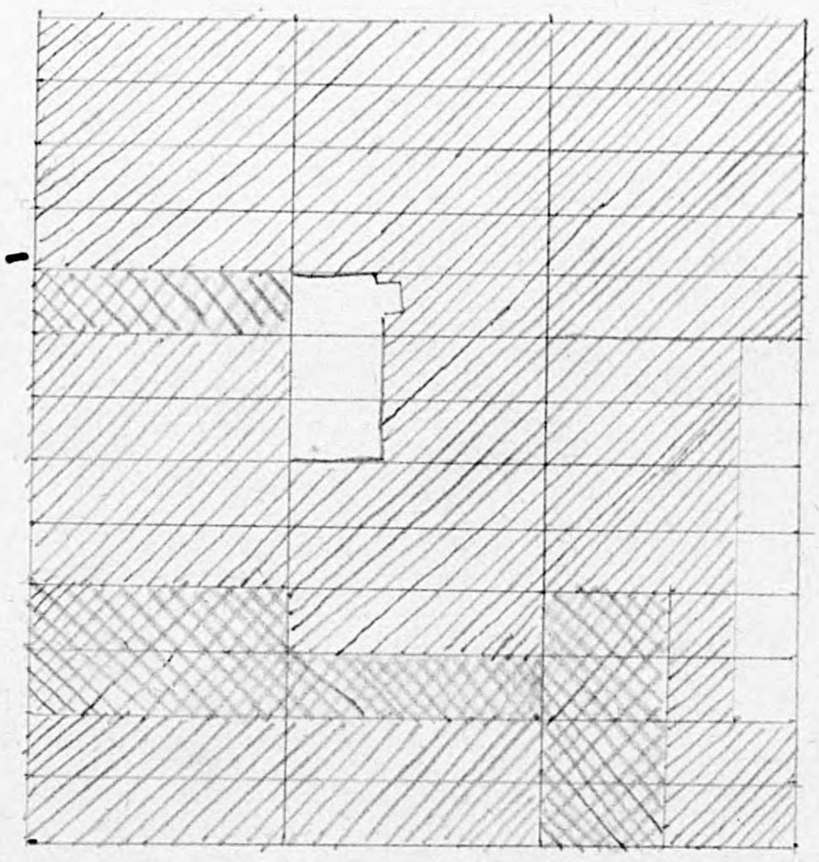
MINOR DAMAGE

GENERAL NOTES - SECTIONS - PLANS - ETC -

BLDG. 35

a. WOOD & STEEL FRAME

b. WOOD & ASBESTOS - CONCRETE ROOF CONSTRUCTED LIKE BLDG. 25 A.



SCALE: .001' = 1 ft.

BLDG 36

DESTROYED

BLDG. NUMBER

U. S. S. B. S.
DAMAGE ASSESMENT WORK SHEET

FUNCTION

STRUCTURAL ANALYSIS

YEAR BUILT	ORIGINAL USE		REMARKS
FLOOR	TYPE	THICKNESS	
FLOOR	TYPE	THICKNESS	
WALLS	TYPE	THICKNESS	
ROOF MATERIAL	TYPE	THICKNESS	
TRUSS	TYPE	SPAN	
CRANES NO.	TYPE	LOAD CAPACITY	
MACHINERY REMOVED TO		REASON	
REPAIRS AND CLEARANCES			
NEW CONSTRUCTION			

NAME OF PLANT	KAWASAKI A/C IND. – Gifu
TYPE OF INDUSTRY	A/c Assembly Plant
CITY	E. of Gifu
TARGET NO.	240
BLDG. NO.	
LAT.	
LONG	
AREA	20.20
INTEL. SUBJECT NUMBER	SX5
DATE	
PHOTOGRAPHY	PIC-D-1; PIC-5-5
INTERIOR	
EXTERIOR	
STRUCT. DETAIL	
NO. OF EXPOSURES	
ROLL - NEG NUMBER	

TEAM

DAMAGE ASSESMENT

DESTROYED
STRUCTURAL DAMAGE
SUPERFICIAL DAMAGE
ROOF DISTURBANCE
MINOR DAMAGE

GENERAL NOTES - SECTIONS - PLANS - ETC -

Bldg. 59 (Wing Assembly + Final Assembly)

@ Light steal framed hangar – "Lamella" principle of construction.
(b) Asbestos cement on wood planking roof.
(c) Steel trusses at each end of hangar bays.
(d) All wood sheds at each side of hangars
(e) Concrete floor

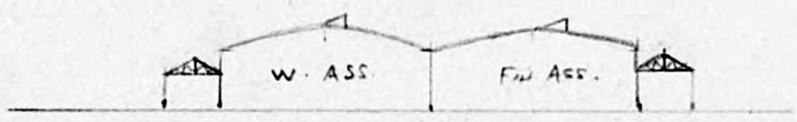


Photo: PIC-5-5:5
Looking N.

Bldg. 60 (Exp't Plane Const.)

@ Steel framing
(b) Asbestos cement on wood planking roof
(c) Concrete floor

For framing see photos:
PIC-5-5:4 (Side view) Looking N.E.
PIC-5-5:6 (Front view Looking N.W.

BLDG. NUMBER

KAWASAKI A/C WKS - (90.20 -240)

KAGAMIGAHARA A/F

A/C Assembly Plant.

1. FA obtained from Jap plant layout diagram + from talk with Lt(JS) Shannon - A/C Team. Spot checked by visit to plant.

2. Structural analysis made but not drawn up in complete form.

3. Damage Assessment made by trip through plant. Not yet drawn up in final form.

90.25-1547

Kawasaki A/C Co., Akashi

A/C Frames and Engines

I Subjects Investigated:

(a) Functional Analysis
1. JTG published material
2. Complete functional plan obtained
3. Functional analysis substanctially correct

(b) Structural analysis
1. As above
2. Structure from phys. damage team.
3. No conclusions

(c) Damage assessment
1. Damage assessment published
2. Complete damage report can be obtained from phys. damage team. Photos obtained
3. No conclusions at this time.

90.25-1547

Kawasaki A/C Co., Akashi

A/C Frames and Engines

I Subjects Investigated:

(a) Functional Analysis
    1. JTG published material
    2. Complete functional plan obtained
    3. Functional analysis substanctially correct

(b) Structural analysis
    1. As above
    2. Structure from phys. damage team.
    3. No conclusions

(c) Damage assessment
    1. Damage assessment published
    2. Complete damage report can be obtained from phys. damage team. Photos obtained
    3. No conclusions at this time.

90.25-1547

Kawasaki A/C Co., Akashi

A/C Frames and Engines

I Subjects Investigated:

(a) Functional Analysis
1. JTG published material
2. Complete functional plan obtained
3. Functional analysis substanctially correct

(b) Structural analysis
1. As above
2. Structure from phys. damage team.
3. No conclusions

(c) Damage assessment
1. Damage assessment published
2. Complete damage report can be obtained from phys. damage team. Photos obtained
3. No conclusions at this time.