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G-2 REPORT
on the YAWATA Works
NIPPON Iron & Steel Company, Ltd.

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Prepared by the AC of S, G-2
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HEADQUARTERS 32d INFANTRY DIVISION
APO 32 (Fukuoka, Kyushu)

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Everyone knows that Japan's dream of World Conquest originated long time ago. This sadistic dream promised ultimate victory over the foes of Nippon - over the whole world - mainly through spiritual supremacy. The code of Bushido and inspiring tales of great Samurai Warriors, together with zealous ancestor worship and unswerving faith in the divinity of the Emperor, were deeply planted into the hearts and minds of all Japanese subjects. Deeply rooted were these concepts of "spiritual" supremacy, that until the two atomic bombs had devastated Hiroshima and Nagasaki, did the rulers and the people of Japan realize that material power was equally important - if not more so - as spirit-
tokus-pokus.

However, Japan's war lords did not plunge their nation into war without some materialistic preparations. That dream of world conquest definitely included guns, tanks, ships, planes, and the materials to produce these tools of modern warfare. The industry of western civilization was studied, and later used as a model in planning and expanding the great industrial centers of Honshu and Kyushu. Steel - the greatest single factor in the development of a great war machine - had to be produced, and small Kyushu was best equipped to manufacture this vital product; it used many of the necessary raw materials.

In March of 1896 a bill was drawn up to establish, in the four years ending in 1899, a steel works to produce 90,000 tons of steel per year at the initial cost of ¥ 4,095,793, and an Imperial Ordinance regarding the organization was promulgated. Since the enterprise was brand new in Japan, the government was unable to find supplies of ore or machinery within the Empire, and, despite Imperial Ordinance stipulation "to buy by competitive tenders", it was necessary to make purchases through individual negotiations with foreign manufacturers and sellers.

The little village of Yawata by the Shimonoseki Straits in northern Kyushu was chosen as the site for the new iron and steel works. Construction of this first Iron and Steel Works in Japan proceeded in a rapid way, and in June of 1898 the Imperial Diet voted an appropriation of two years for construction of the Works and an estimated total outlay of ¥ 6,474,056. The following year the governor of the Works, Koreshiro WADA, proceeded to Shanghai and concluded a contract with the Hanyang Iron Administration Bureau for the

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1900 was a banner year for Japan's steel industry. June of that year saw the completion of the Okura River Reservoir and the beginning of production in the first factory - a Wooden Mould. German engineers were hired. From May to November a basic open furnace, a light plate mill, a medium shape mill, and a reheating furnace sprang up in quick succession. In September the Yawata Hospital was opened; and it was in October of that year that the first casting came off the line.

At the turn of the century the Yawata Works expanded rapidly. New furnaces were erected and started operations in 1902; a blast furnace was put up in 1903; and construction and expansion continued at an accelerated pace in the years following. In 1905 the first labor organization was formed - the Worker's Mutual Relief Association. In 1913 an agreement was signed with the Han-Ya-Ping Co. whereby the Japanese government undertook financing the company's expansion of the mines and for redeeming the company's old debt. Another agreement was concluded for the company's employment of Chinese advisors in matters of shipment of contracted ore, marketing, and accounting. The outstanding amounts of iron ore contracts contracted for totalled 15 million tons and 8 million tons respectively.

In April of 1916, at which time Japan was at war with Germany, the Imperial Diet approved the government proposition for an expenditure of ¥ 34,515,450 to achieve the aim of producing 1 million tons of steel materials a year. This extended work was to be completed in five years, but the program was later reduced to four years in view of the pressing needs brought on by the war. However, due to unexpected changes in the world situation the result of the end of World War I, the expansion program again changed and was not actually completed until as late as 1929.

In 1933 all of the equipment of the Anshan Steel Works of Manchuria was turned over to the Yawata Works, and in that same year a new law governing the Nippon Iron and Steel Co., Ltd. was enacted. On January 29th of the year following, the Nippon Iron and Steel Co., Ltd. was duly formed by amalgamation of the Imperial Steel Works, the Wanishi Works, the Mitsubishi Steel Works, the Kamaichi Works, the Kyushu (West Yawata) Works, and the Yawata Works. The new company with a subscribed capital of ¥ 40,000 commenced work on February 1, 1934.

Nippon Iron and Steel Co., Ltd., now the greatest in the world, continued to expand with the Osaka Iron Co., Ltd. being merged in 1936. In 1939 the Worker's National Service Law was created, and in 1941 the company's shareholder's rights were widely extended by law in order to keep the company's

During World War II the Yawata Works was raided three times by American aircraft. Small raids on 16 June and 20 August of 1944.

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considerable damage in some areas of the Yawata Works but not seriously hamper operations in the plant.

The Yawata Iron Works, as it stands today, is a huge plant which is spread out along the Shimonoseki Straits in the neighborhoods of Yawata and Tobata. (See Inclosure #1, Map of the Yawata District with index, and Inclosure #2, Map of the Tobata District with index). The Works presently employs a total of 19,000 employees of which 16,000 are laborers, and 3000 are members of the staff. Of these employees many were formerly in the Military Service of Japan. According to the plant supervisor, Mr. Kitamura, the policy of the Yawata Works to reemploy returning servicemen who were employed in the Works prior to their entry into the service. He stated that approximately 1200 of the present staff consist of 3000 of the laborers were formerly in the armed forces of Japan.

Inclosure #3 is a listing of all the furnaces and plants of the Yawata Works, Nippon Iron & Steel Company, Ltd. In most cases the dates of erection or commencement of work are given. From this listing it is possible to note the vast amount of construction and expansion which has been undertaken since 1900.

Inclosure #4 is a list of all the shareholders of the Nippon Iron and Steel Company, Ltd. as of 26 May 1943 which illustrates the financial expansion of the company since it was established in 1906 with an initial outlay of ¥ 4,095,793.

The Yawata plant consists of eight major departments, which are: (1) the Business Department, (2) the Transportation and Shipping Department, (3) the Engineering Department, (4) the Production Department, (5) the Educational Bureau, (6) the Technical Research Institute and Chemical Industry Department, (7) the Health Department, and (8) the Plant Hospital. A detailed description of these various departments was made by 1st Lt. J. O'Hara of the 120th FA Bn in the latter part of October and early November of 1945, and his findings are recorded in Inclosure #5, Report on Detailed Investigation of the Various Departments of the Yawata Iron Works.

The manufacturing process for the main products of the Yawata Works is illustrated by Inclosure #6, Manufacturing Process; the amount of "Rolling Stock" (locomotives, freight cars, automobiles) is shown in Inclosure #7; the monthly outputs of pig iron and ingot iron in gram tons from January 1937 to September 1944 are listed in Inclosure #8, and the amount of steel sold by the Works from January 1937 to June 1946 is tabulated in Inclosure #9.

Inclosure #10, a blue print of the harbor area illustrates and Inclosure #11 describes the harbor facilities of the Yawata Works.

At the present time the plant is manufacturing steel for

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The chief use for the medium carbon steel is in making steel for use in buildings, while the high carbon steel is primarily in the manufacture of train axles, train wheels, and tracks. The main consumers to whom the raw steel is now sent are railroad factories, agriculture tool manufacturers, metal plants, and wire nail manufacturers. The plant now depends entirely on ore mined in Japan, whereas prior to the war the iron ore supply was imported from China and Malaya. The steel being produced today is made by melting Japanese scrap and equipment. The control, disposition, and actual melting of these former Japanese war weapons is under the direct supervision of American Occupation personnel. During the month of September 1945 approximately 1000 tons of Japanese weapons were melted in furnaces at the Yawata Works and converted into low-carbon steel.

Whereas the wartime weekly output of the plant was approximately 42,000 tons, the present output is now only about 2000 tons weekly. Most of the transporting of the raw steel to the consumers is now done by rail. Due to the mines which are available in the harbor, 1000 ton ships are now the largest which can be accommodated, whereas during the war 10,000 ton ships could be used. Presently, ships carry only about 30 per cent of the shipments, the rest being transported by rail.

The living conditions for the employees of the Yawata Iron Works are not satisfactory at the present time. In the first place the wages are very low. The highest rate paid for skilled labor is ¥100 per day, while unskilled labor receives as low as ¥1 for a day's work. The monthly wage of the staff employees ranges from ¥65 to a maximum of ¥500. According to the plant officials, the wage scale is soon to be increased, however. Another factor contributing to the poor living conditions is the critical housing shortage. Only 10 per cent of the present working personnel can be accommodated by the Factory Housing Project which, during the war, accommodated nearly 100 per cent of the workers. The aerial bombing of 8 August 1945, while not severely damaging the Factory, did destroy most of the houses and buildings adjacent to the plant. Finally, the food problem confronting the workers is extremely critical. The present food ration is not enough on which to subsist, and the laborers must supplement this ration by home vegetable gardening and buying from the "blackmarket". The "blackmarket" in Yawata and Tobata is now known as a "free market", but the prices are nonetheless actual blackmarket prices and are prohibitive to the small wage earner. According to the plant officials, price control existed during the war, but at the present time there is no control whatsoever.

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INDEX FOR YAWATA DISTRICT

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- Administration building.
- Laboratory building.
- No. 2 open hearth plant.
- No. 7 blooming and No. 2 heavy steel plant (thick plate) rolling.
- No. 3 small shape steel mill (rods), No. 2 medium steel mill, and No. 3 blooming mill.
- No. 2 & 3 large shape steel mill and No. 4 & 5 blooming mill.
- Coal making plant.
- Igashida Coke oven plant.
- By-product plant (naphthaline, benzine, tar, pitch, etc.).
- Igashida repairing plant.
- Igashida blast furnace plant.
- Roll casting plant
- Stockyard for manufactured steels
- Testing and inspection section
- Building, casting, piping and repairing section.
- Electrical repairing section.
- No. 1 heavy and medium steel plate rolling mill.
- No. 1 small shape steel mill.
- No. 1 blooming, No. 1 large shape steel and rail, and rod rolling mill.
- No. 1 open hearth plant.
- Two No. 1 open hearth plant.
- Universal mill (sheet bar mill).
- Wire mill (for locomotive and trains).

- No. 7 electric furnace plant.
- Igashida power plant.

- Heat steel plant.
- No. 2 medium steel plant-rolling mill.
- No. 6 blooming mill.

- No. 3 open hearth plant
- Ukioka coke oven plant.
- Ukioka By-product plant.
- Ukioka blast furnace plant.
- Element and sulphuric acid plant.
- No. 2 electric furnace plant.

- Line finished medium steel plant mill (art metal).
- Allicon sheet steel mill (for transformer cores, etc.).
- Ukioka tin plate mill.

- No. 2 Refractory brick plant.
- No. 3 blooming, No. 3 large, No. 4 medium shape steel, and No. 3 heavy steel plate mill.
- No. 4 open hearth mill.

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INDEX FOR TOBATA DISTRICT

akabaru Steel Casting and Forging Plant
akabaru Roll Casting and Grinding Plant
akabaru Pattern, Casting, and Machine Shop
eat Treating Plant
akabaru Dormitory and Training School
akabaru Rivet and Welding Rod Shop
akabaru Forging Plant
aboratory (Experiment Blast Furnace)
itch, Coke, and Carbon Black Plant
afractory Brick Plant
ire drawing Plant
riquetting Plant
obata Coke Oven Plant
obata Electrical Repairing Section
obata Strip Mill
obata Power Plant
obata Blast Furnace Plant
obata Repairing Shop
obata Sintering Plant

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R E S T R I C T E D

FURNACES AND PLANTS OF THE YAWATA WORKS

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<u>CAST FURNACES (PIG IRON)</u>	<u>Date of Erection</u>
gashida No. 1	Feb. 5, 1901
Ditto 2	Feb. 23, 1905
Ditto 3	Oct. 18, 1909
Ditto 4	Apr. 30, 1914
Ditto 5	Dec. 6, 1918
Ditto 6	Apr. 23, 1921
kioka No. 1	June 17, 1930
Ditto 2	Oct. 11, 1933
Ditto 3	Feb. 15, 1937
Ditto 4	Apr. 27, 1938
yabata No. 1	Nov. 24, 1924
Ditto 2	May 12, 1919

SINTERING FURNACES

kioka			
Ditto 1)			Oct. 4, 1929
Ditto 2)	These four making		(April 1937
Ditto 3)	a unit.		{ " "
Ditto 4)			{ " 1939
			{ " "

STEEL MAKING HEARTH

<u>Distribution.</u>			
Dead Mixer No. 1, of which No. 1			Sept. 8, 1903
Ditto 2			Mar. 30, 1926
Dead Mixer No. 2			Mar. 31, 1942
Ditto 3, of which No. 1			Dec. 1, 1926
Ditto 2			Aug. 30, 1930
<u>0.1 Steel Refining Department.</u>			
<u>No. 1 Open Hearth:</u>			
Basic Open Hearth No. 2			1901
Ditto Nos. 3 & 4			1902
Ditto Nos. 5 & 6			1905
Ditto Nos. 9, 10 & 11			1909
Ditto No. 12			1912
Oxidic Open Hearth			May 30, 1901
<u>No. 2 Open Hearth:</u>			
Active Mixer			Sep. 9, 1935
Basic Mixers, of which No. 1			1935
Ditto No. 2			"
<u>0.2 Steel Refining Department.</u>			
<u>Active Mixer</u>			
Ditto No. 1			Feb. 8, 1925
Ditto No. 2			Oct. 4, 1922
Active Mixer			Apr. 22, 1939
Basic Open Hearths, of which No. 1			1920

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	<u>Date of Erection</u>
Basic Open Hearths	No. 7 & 8 1919
Ditto	No. 9 1921
Ditto	No.10 1922
<u>3 Steel Refining Department</u>	
Active Mixer	Jan.14, 1928
Ditto	Mar.8, 1939
Tablet Open Hearth No.1	Feb.22, 1929
Ditto No.2	Dec.14, 1925
Basic Open Hearth Nos.1,4,5,&6	1925
Ditto Nos.2,&3	1923
Ditto No.7	1927
<u>4 Steel Refining Department</u>	
Active Mixer	Dec.16, 1936
Ditto	Sep.17, 1939
Basic Open Hearth Nos. 1,2 & 3	1928
<u>Special Steel Department</u>	
<u>No. 1 Electric Furnace Section.</u>	
Yale type basic electric ore furnace	Jan.30,1921
Ditto	June30,1923
Ditto	Sep.30,1927
Ditto	Dec.8,19 23
Ditto	Jan.9, 1940
Ditto	Mar.28,1943
Induction H.F.acidic furnice	Oct.22,1937
Ditto	Oct. 1,1939
<u>No.2 Electric Furnace Section.</u>	
Yale type basic electric ore furnace	Mar.18,1941
Ditto	Mar.31,1941
Ditto	Sep.1, 1941
Ditto	Dec.27,1941
Ditto	Mar. 1,1944
Talbot open hearth	under construction
<u>1 Steel Rolling Mill.</u>	
1 Mill	
2 Mill	
3 Mill	
4 Mill	
5 Mill	
6 Mill	
7 Mill	
arge shape mill	
edium shape Mill	
all shape Mill	
re and rod mill	
avy plate mill	
iversal steel mill	
ium plate mill	

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2 Steel Rolling Mill.
in plate mill.
obata Strip mill
rt metal mill
ilicon sheet-steel mill
teel forging mill

cial Steel Department.

orging mill (steel forging)
ire mill
obata forging mill
gura tire mill
orging mill (wire, bar, etc. drawer)
obata wire mill (ditto)
olt :
spike machine
rivet
cold rivet
friction press
nut machine

Iron Department.

lgashida	Coal washer plant	No.1	May 29, 1943
Ditto	Ditto	No.2	Aug 18, 1935
Ditto	Ditto	No.3	Feb. 1, 1920
Ditto	Ditto	No.4	Sep. 23, 1923
kioka	Cremble (?)		Mar. 21, 1930
	Strong cremble (?)		" " "
lgashida	Coke Oven	No.1	June 1, 1943
Ditto		No.2	Aug. 18, 1935
Ditto	No.3	Dec. 12 &	Nov. 7, 1933
kioka	Coke Oven	No.1	Aug. 4, 1941
Ditto		No.2	May 24, 1932
Ditto		No.3	Jan. 18, 1937
Ditto		No.4	Mar. 18, 1937
Ditto		No.5	Oct. 13, 1938
Ditto		No.6	Aug. 3, 1938

ncial By-product Department.

Sulphuric Acid Plant.

lgashida	Plant	Sep. 6, 1926
kioka	No. 1 Plant	May 1, 1930
Ditto	No. 2 Plant	Oct. 1, 1935
Ditto	No. 3 Plant	Jan. 15, 1937

Sulphate of Ammonia Plant.

lgashida	No. 1 Plant	Aug. 31, 1943
Ditto	No. 2 Plant	Oct. 1, 1935
Ditto	No. 3 Plant	Nov. 7, 1933
kioka	No. 1 Plant	May 24, 1932 & Apr. 1932

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	<u>Date of Erection</u>
<u>Light Oil Plant</u>	
ashida No. 1 plant	Sep. 25, 1943
itto No. 2 plant	Oct. 1, 1921
itto No. 3 plant	Nov. 13, 1923
loka plant	May 1, 1916
<u>Benzine Plant</u>	
ashida plant	Oct. 9, 1916
loka Plant	Dec. 28, 1933
ashida Pyridin plant	
itto Coridin plant	
itto Quinolin plant	
itto Benzoil resin plant	
<u>Tar Plant</u>	
ashida Plant	Oct. 11 and
loka Plant	Apr. 1, 1907
	Feb. 13, 1937
<u>Pitch Plant</u>	
ashida Plant	
loka Plant	
<u>Pitch Coke and Asphalt Plant</u>	
ashida Pitch Coke Plant	
itto Asphalt Plant	
<u>Crude Naphthalene Plant</u>	
ashida Plant	
loka Plant	
<u>Crude Anthracene Plant</u>	
ashida Plant	
loka Plant	
<u>Fine Anthracene Plant</u>	
loka Fine Anthracene Plant	
ata Fine Calbasol Plant	
<u>Kreosolt Oil Plant</u>	
ashida Plant	
loka Plant	
<u>Water Gravel Plant</u>	
1 Blast Furnace Section Plant	Nos. 1 & 2 March 1927
Ditto	Nos. 3 & 4 May 1909
Ditto	Nos. 5 & 6 Oct. 1921
2 Blast Furnace Section Plant	Nos. 1 & 2 June 1931
Ditto	Nos. 3 & 4 Sept. 1940
<u>Blast Furnace Cement Plant</u>	
ada Plant	1921
loka Plant	Jan. 28, 1936
<u>Glass Gravel Plant</u>	
ada Plant	Nov. 1, 1925
loka Plant	June 1937
ata Plant	Feb. 1928

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<u>Slag Wool Plant</u>	
Yashida Nos. 1 & 2 Plants	June 1941
Ditto 2 & 4	Aug. 1914
Ditto 5 & 6	Sep. 1921
Yokoka No. 1	Mar. 1918
Ditto 2	July 1920
Ditto 3 & 4	Feb. 1926
Yokota Plant	Aug. 1924
<u>Dolomite Plant</u>	
Yokota plant	May 18, 1936
Another	Sep. 1931
<u>Magnesite Plant</u>	
Yokota Plant	July 12, 1939
Another	Nov. 2, 1941
<u>Caustic Lime Plant</u>	
Yokota Plant	Aug. 1, 1920
Yokomitsu Plant	Sep. 1919
<u>Refractory Brick and Powder Plant</u>	
Yokomitsu brick plant	May 12, 1904
Yokomitsu brick plant	" " "
Yokomitsu brick plant	" " "
Yokomitsu brick powder plant	" " "
Yokomitsu brick powdr. Plant	" " "
Yokomitsu brick powder plant	" " "
<u>Gas Producer for Open Hearth</u>	
1 open hearth	
2 " "	
3 " "	
4 " "	
4 rolling mill	
4 Control Section	
<u>Power Plant</u>	
Yokomitsu	
Yokomitsu	
Yokomitsu	
Yokomitsu	
Yokomitsu	

