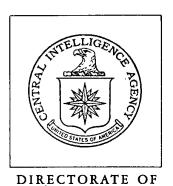
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INTELLIGENCE

Industrial Facilities (Non-Military)

Basic Imagery Interpretation Report

Iron and Steel Plants
North Korea

25X1

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RCS 13/0021/7

DATE APRIL 1971

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CENTRAL INTELLIGENCE AGENCY Directorate of Intelligence Imagery Analysis Service

ABSTRACT

This report updates the Basic Imagery Interpretation Report on two iron and steel plants and two steel plants in North Korea. An initial report on a sponge iron plant is also included. These five plants comprise all of North Korea's known iron and steel production capability. This report covers the period from mid-1969 to late 1970.

Construction activity was observed at all of the previously reported plants. The major additions include a basic oxygen furnace section at the Chongjin Iron and Steel Plant Kimchaek and an air separation plant at the Songnim Iron and Steel Plant Hwanghae. A high level of activity was observed at all of the previously reported plants during the reporting period. Construction of the new Kiyang Sponge Iron Plant was started between November 1968 and October 1969. The plant was complete and operating when last observed in September 1970.

The four updates describe construction and level of activity and include more recent photography of the Chongjin and Kimchaek plants. The report on the new sponge iron plant includes an annotated photograph, mensuration of significant features, and a discussion of plant status and activity.

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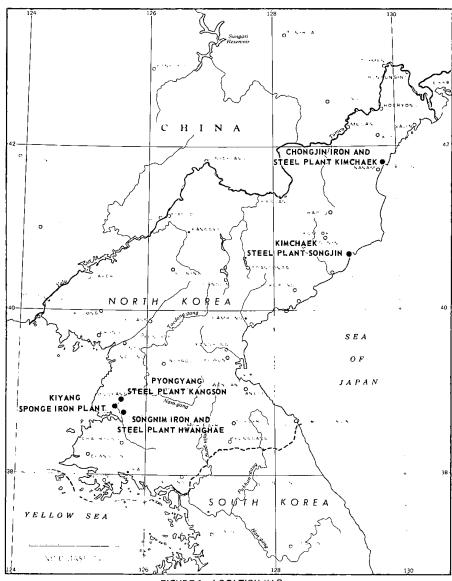


FIGURE 1. LOCATION MAP.

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INTRODUCTION

This report includes studies on the following five plants: Chongjin Iron and Steel Plant Kimchaek, Kimchaek Steel Plant Songjin, Kiyang Sponge Iron Plant, Pyongyang Steel Plant Kangson, and Songnim Iron and Steel Plant Hwanghae.

The plants at Chongjin and Songjin are on the east coast, on the Sea of Japan. The other three plants, at Kangson, Kiyang and Songnim, are in the western part of the country, southwest of Pyongyang along the Taedong River (see Figure I). All five plants are served by road, rail, and water.

Four processes are used in North Korea to produce steel from pig iron or sponge iron: side-blown converter, open-hearth, electric, and basic oxygen. Air separation facilities at four of the plants produce oxygen for use in all of the various types of furnaces. Oxygen improves the quality of the steel by reducing impurities and shortening reduction time.

The approximate sizes and capacities of the blast furnaces were determined by comparing them with similar furnaces of known capacities in China. Blast furnaces are described as small (up to 200 tons a day), medium (200-700 tons a day), and large (700-1,300 tons a day).

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Construction has been observed in the northern section of the Kimchaek	
teel Plant Songjin since June 1969, the date of the latest photography used	
revious report. The addition previously reported under construction at the	e
orge/foundry complex (Figure 3, Item I) was completed by February 1970. Co as progressing on the new section at the rolling, blooming and slabbing mi	
probable rolling mill (Item 3), previously reported as an unidentified bu	
onstruction, remained unchanged. A new unidentified building (Item 4), mea	asuring
pproximately 310 by 130 feet, was externally complete when last observed in	n October
970. Initial ground scarring for this building was observed in March 1969 onstruction activity was observed in the southern section of the plant.	. No
short deriver a control of the promit	
A high level of activity was observed at both sections of the plant from	
ctober 1969 to October 1970. On the latest imagery, which was typical of r f the referenced coverage, the following facilities were observed operating	nost
hree of the five probable open-hearth furnaces, the electric furnace build	ing.
wo large rolling mills, two forge/foundry shops, one foundry, and one forge	e shop.
oth of the materials storage yards were filled with ingots and finished pro	oducts.
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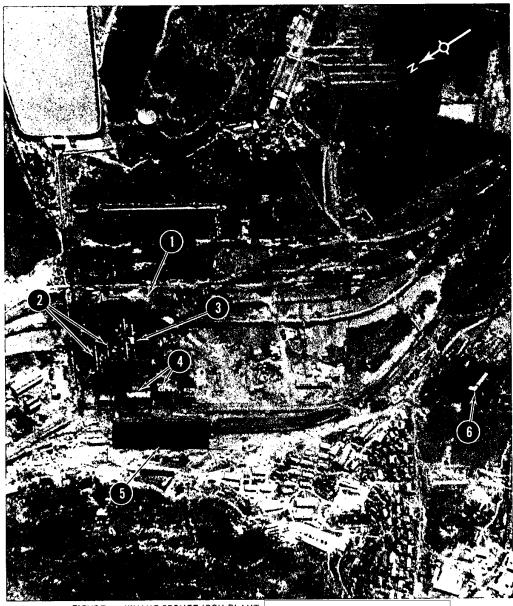


FIGURE 4. KIYANG SPONGE IRON PLANT,

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	Key to	Annotations	
1tem	Description	Dimensions (Ft)	Roof Cover (Sq Ft)
1	Sponge Iron Separation and Shipping Building	350 × 85	29,750
2	Rotary Kilns (2)		-
3	Rotary Kilns (2)	240 × 10	
4	Ore Preparation and Mixing Facilities	-	_
5	Ore Receiving Building	460 × 85	39,100
6	Probable Producer Gas Plant	-	-

25X1,

78-25X1 25X1 TOP SECRET 25X1

UTM CORDRINATES GEOGRAPHIC COORDINATES SISYD212075 38-53-1 IN 125-33-50E MAR REFERENCE USNOO, USATC, Series 200, Sheet M0380-7HL, 4th ed. Nov 68, Scale 1:200.000 (SECRET) ATEST IMAGERY USED REGATION DATE (If required) SASIC DESCRIPTION The Kiyang Sponge Iron Plant is located 0.5 nautical miles (nm) northeast of he village of Posan on the west bank of the Taedong River, and 2.6 nm southeast of layang. It is road and rail served and occupies an unsecured area approximately 200 by 2,800 feet. The plant will have direct access to the river for shipping hen a wharf under construction, 0.5 nm to the southeast, and the connecting rail purs are completed. This plant probably employs the Krupp-Renn process which is designed to process high-silica ore. The primary product of this process is an iron module pursongly iron which will be shipped to an iron or steel plant. The plant contains no ore receiving building, ore preparation and mixing facilities, four rotary kilns, not a sponge iron separation and shipping building. A probable producer gas plant is located nearby. Construction of this plant started between November 1968 and October 1969, the was complete and operating when last observed in September 1970. REFERENCES 25X 25X 25X AREFERENCES	UTM COORDINATES SEOGRAPHIC COORDINATES 38-53-11N 125-33-50E SE NUMBER COMMIREX NO. None None None						COUNT	RY	_
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