DECLASSIFIED E.O. 11652 SECTION 3 (E)(2) NARS DATE

factory.

KURASHIKI RAYON & STAPLE F
OKAYAMA PLANT
1-CHOME KAIGAN-DORI

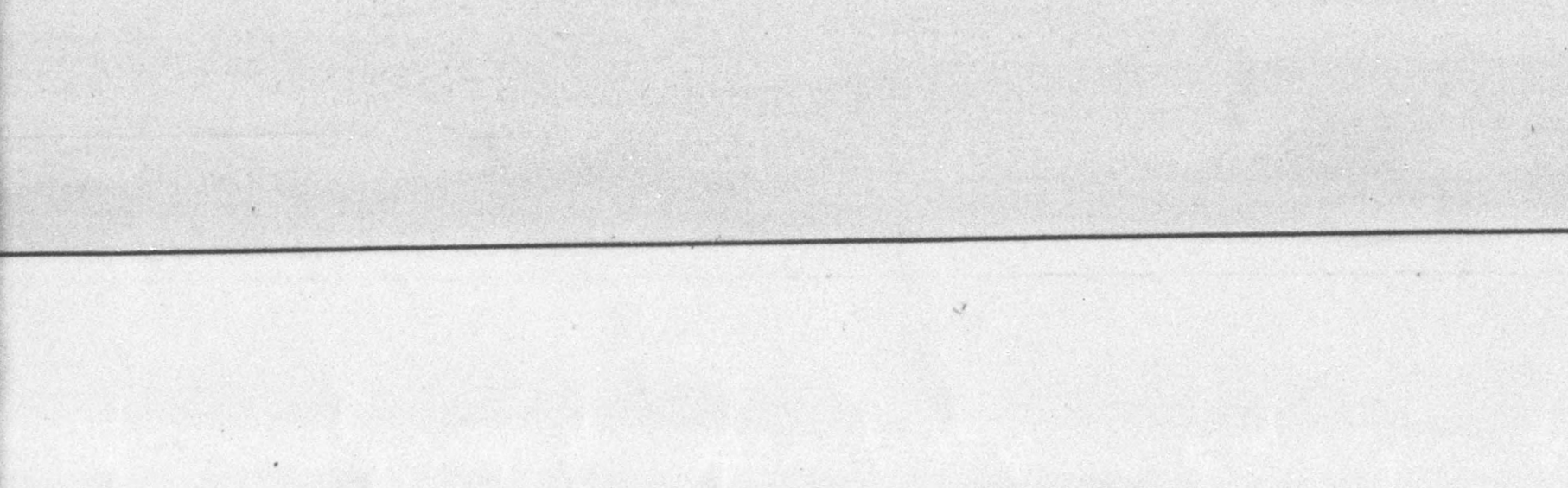
Landing place

tion

N

DECLASSIFIED E.O. 12065 SECTION 3 402/MDS NO.

PLE FIBRE MFG. Co..



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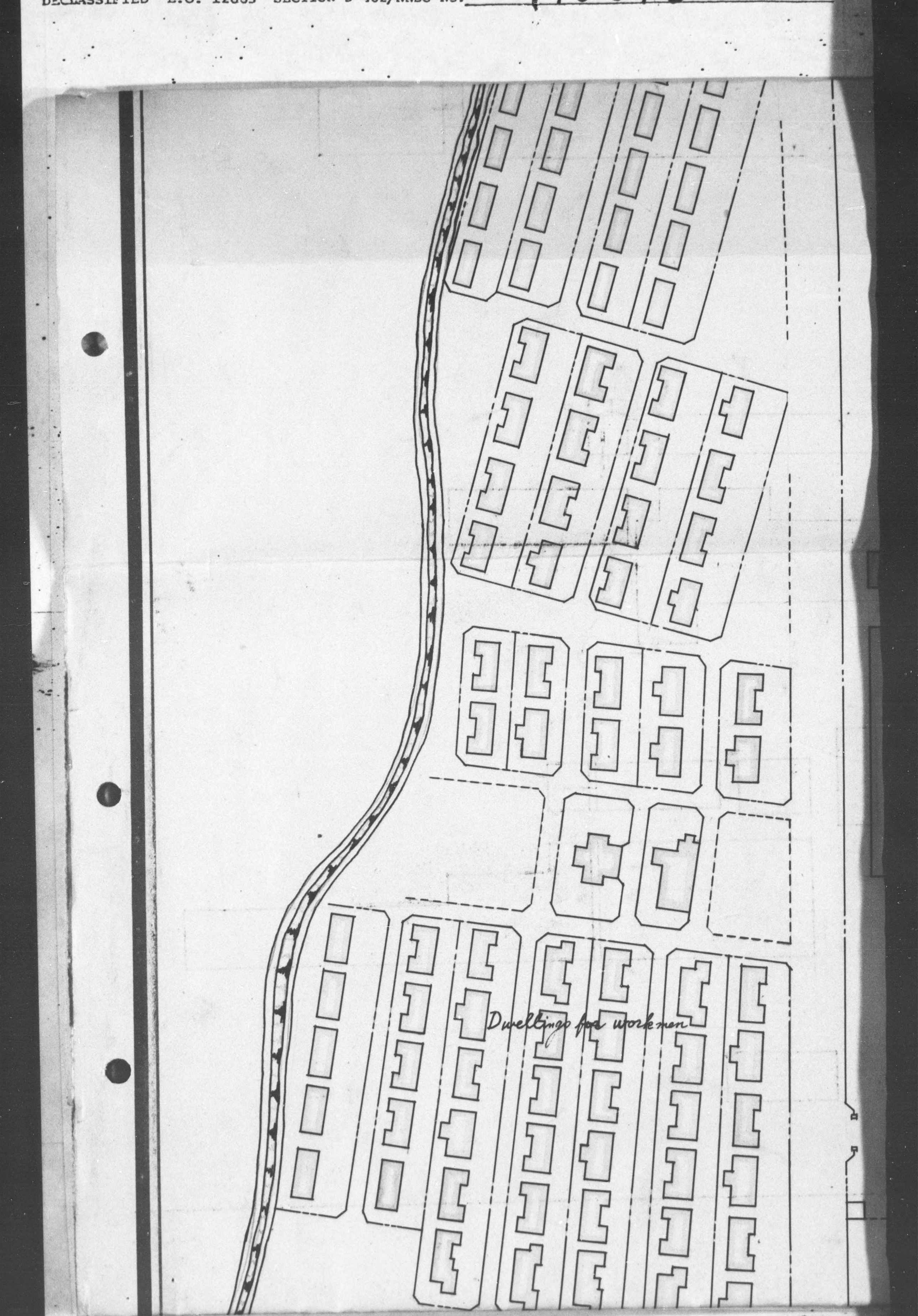

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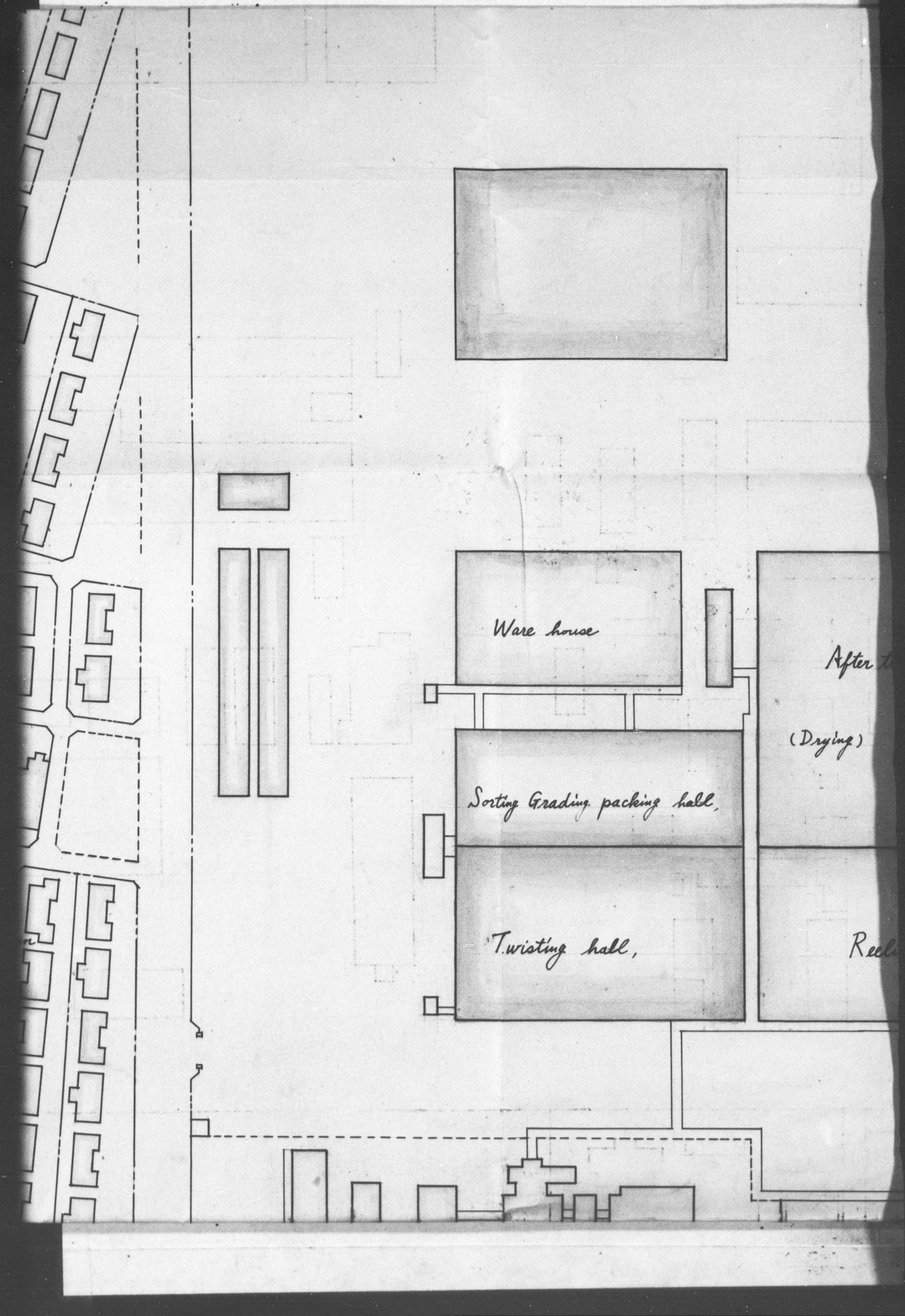

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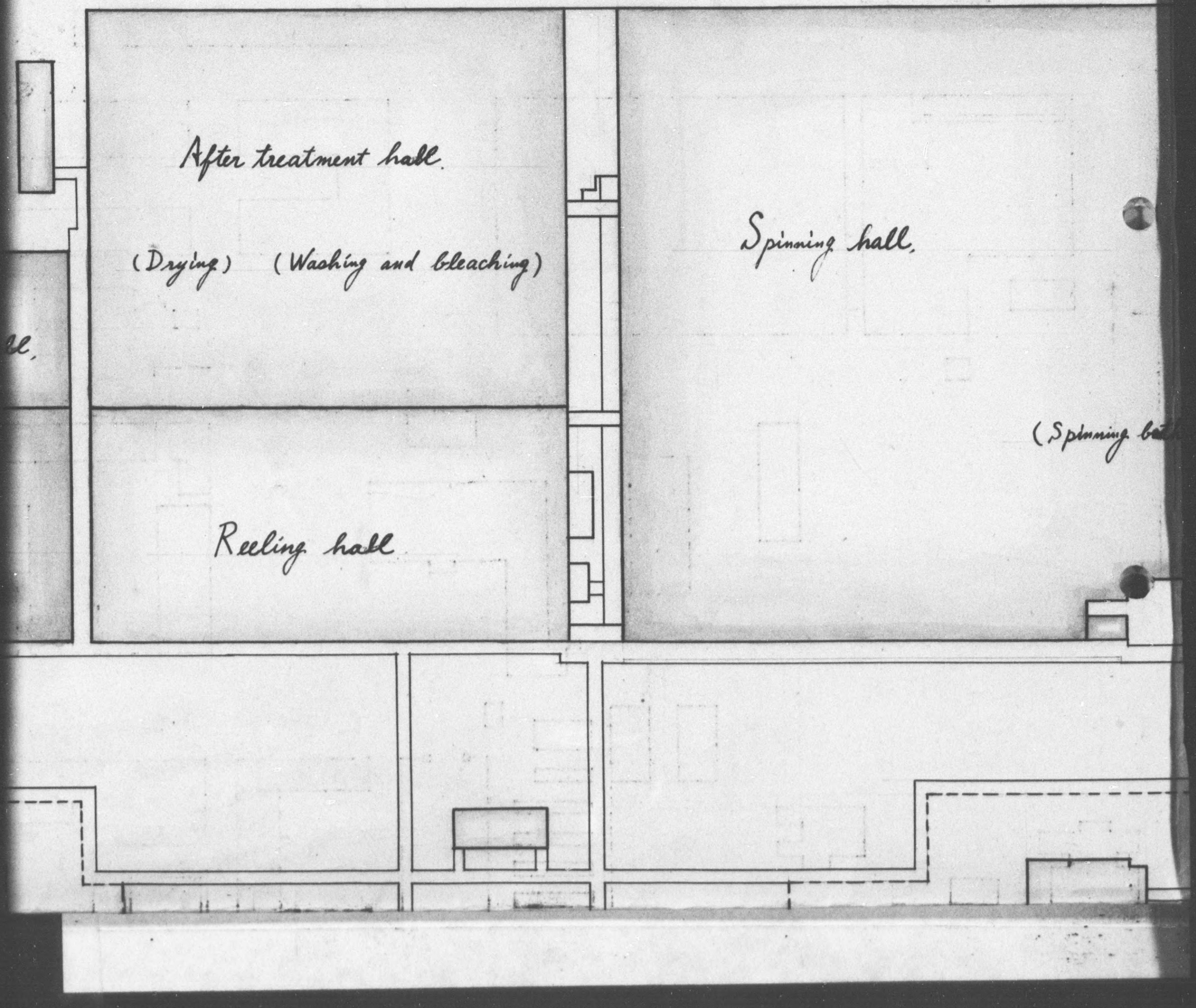

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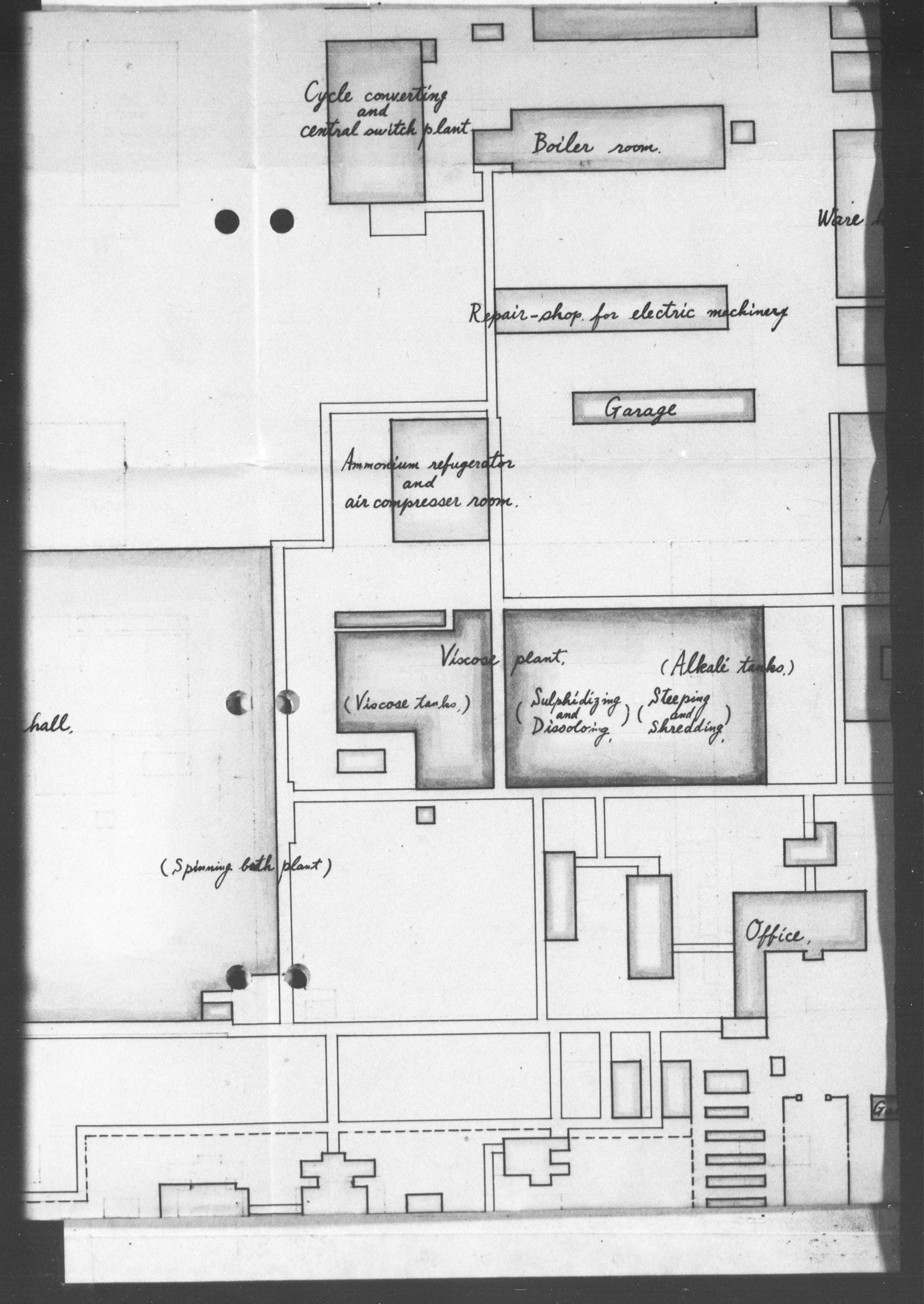

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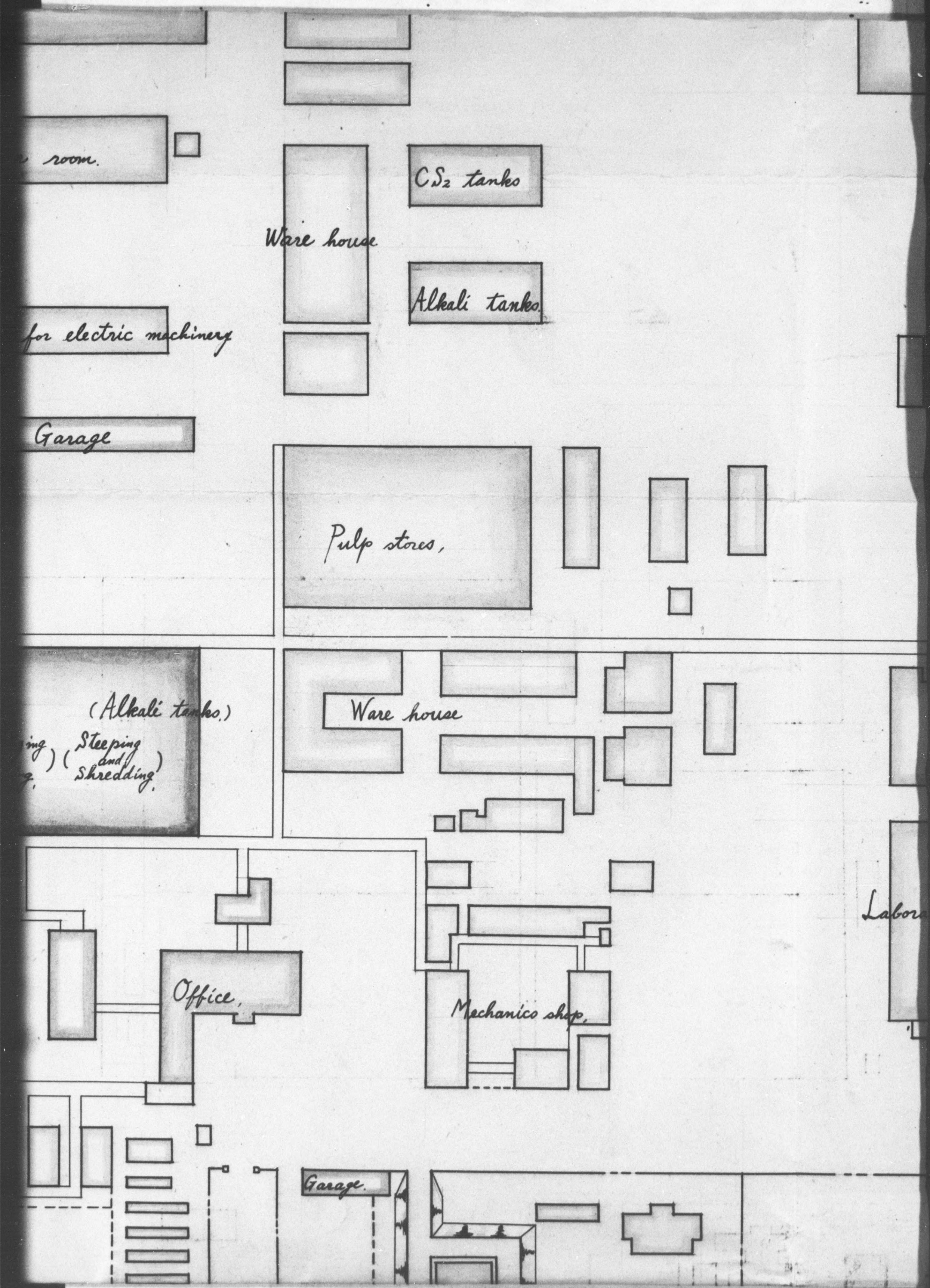

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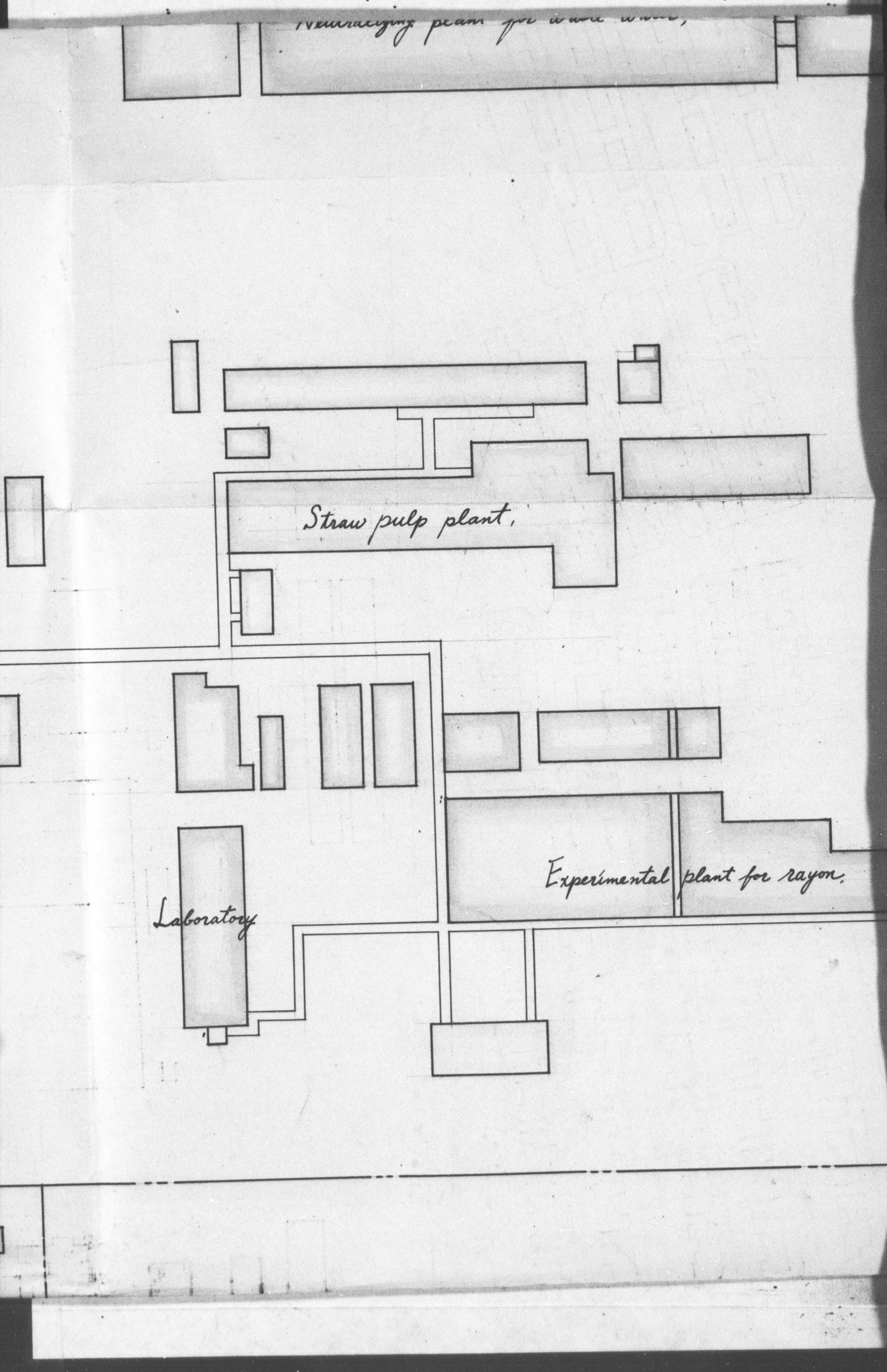

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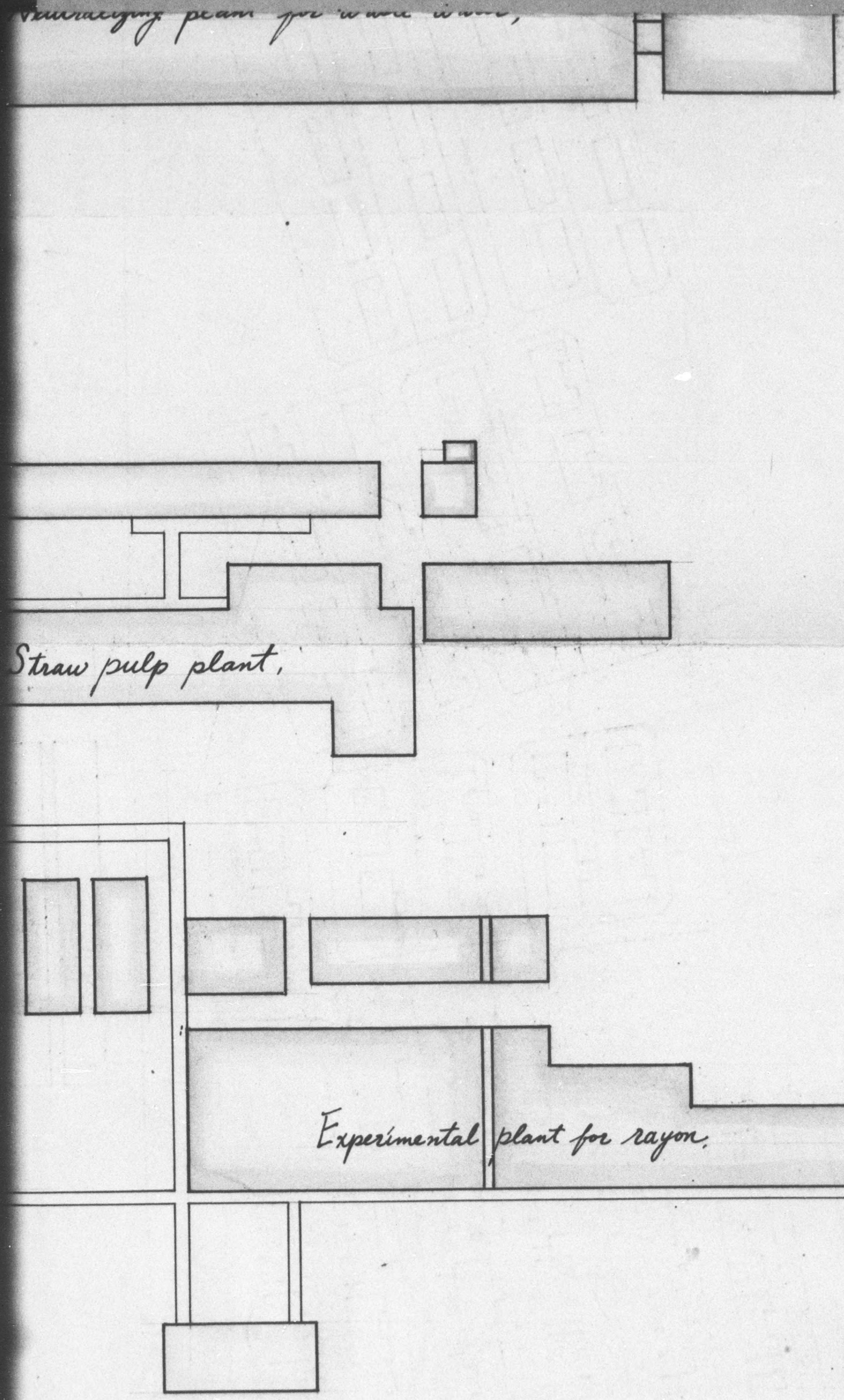

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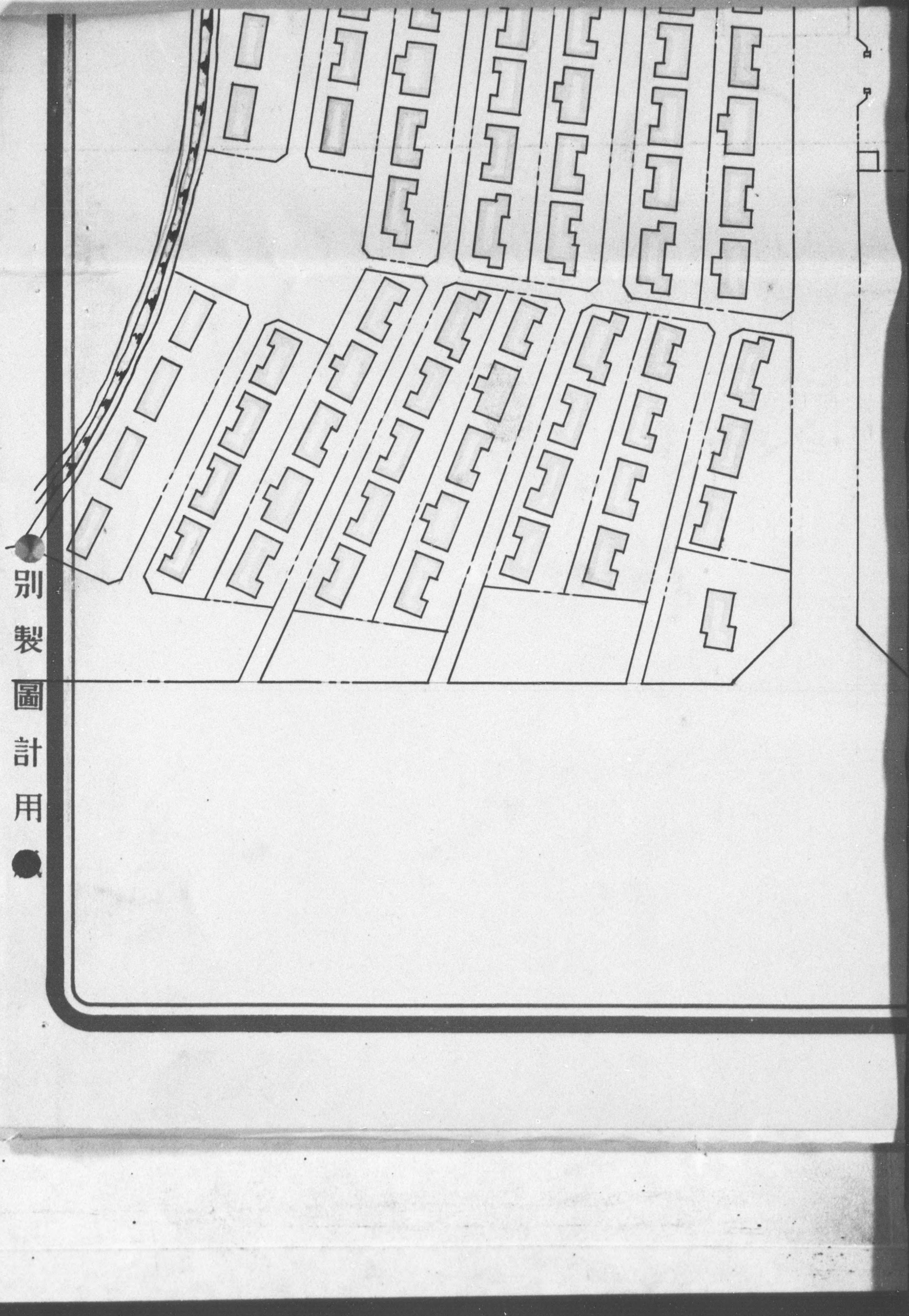

別製圖計用

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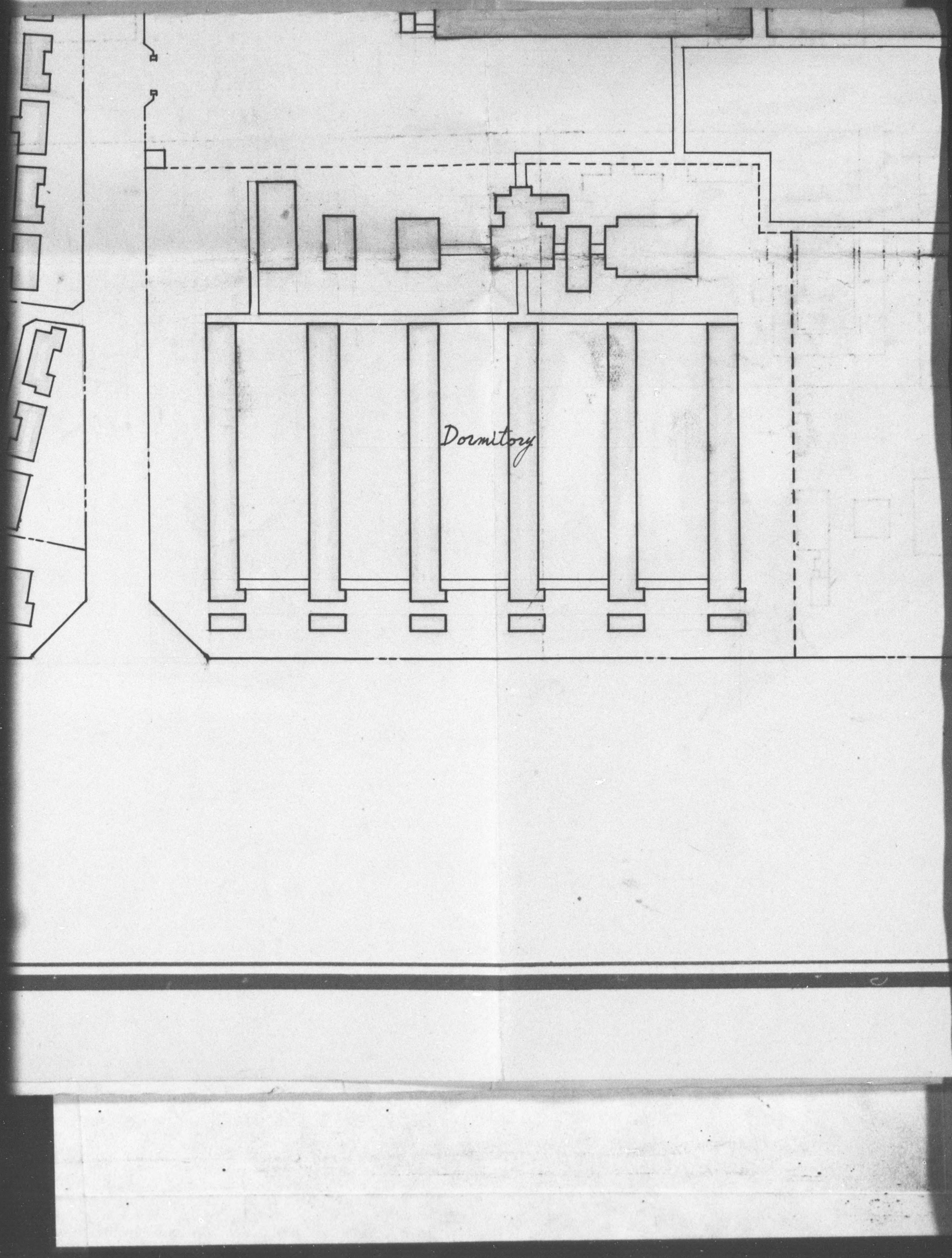

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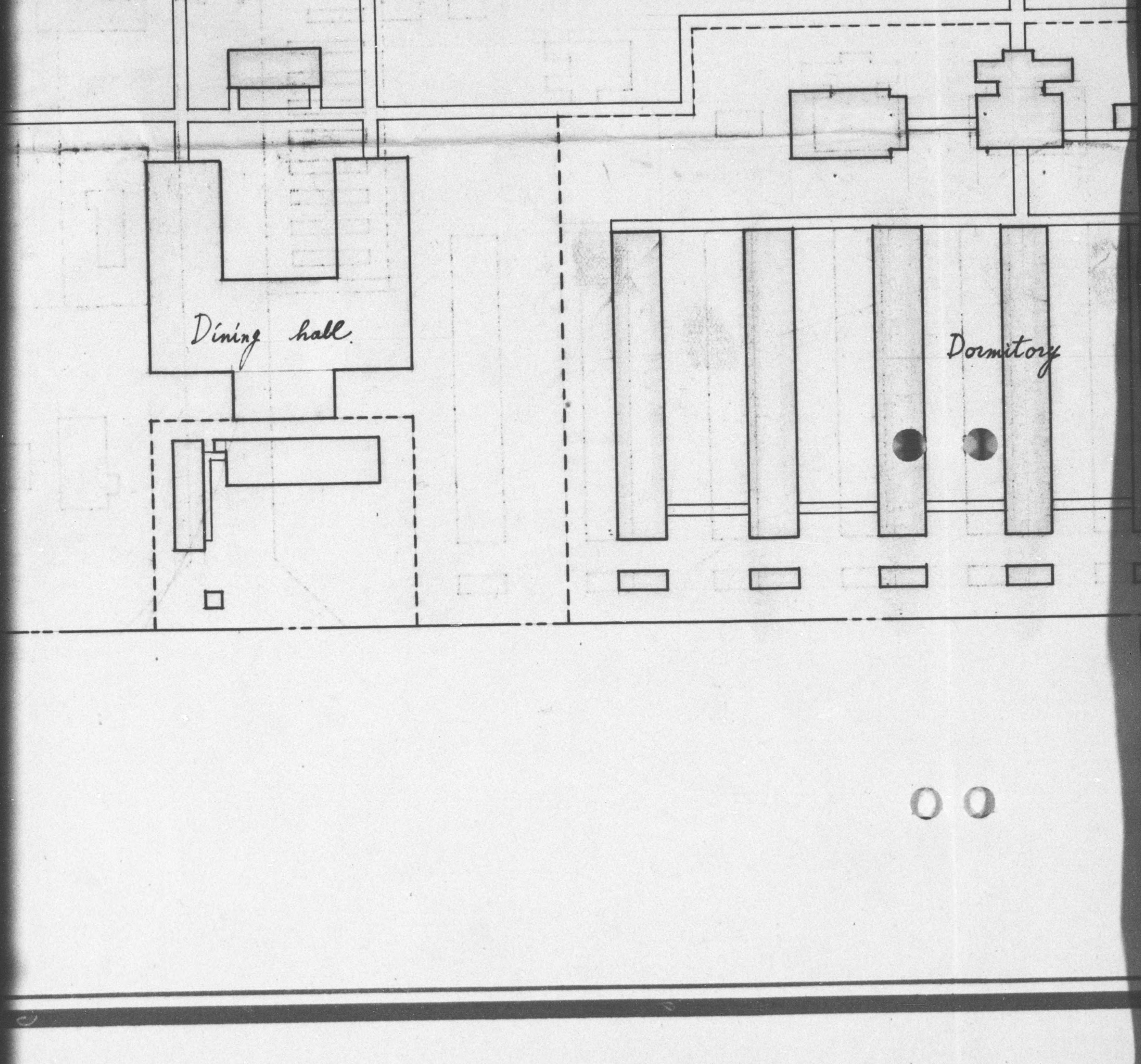

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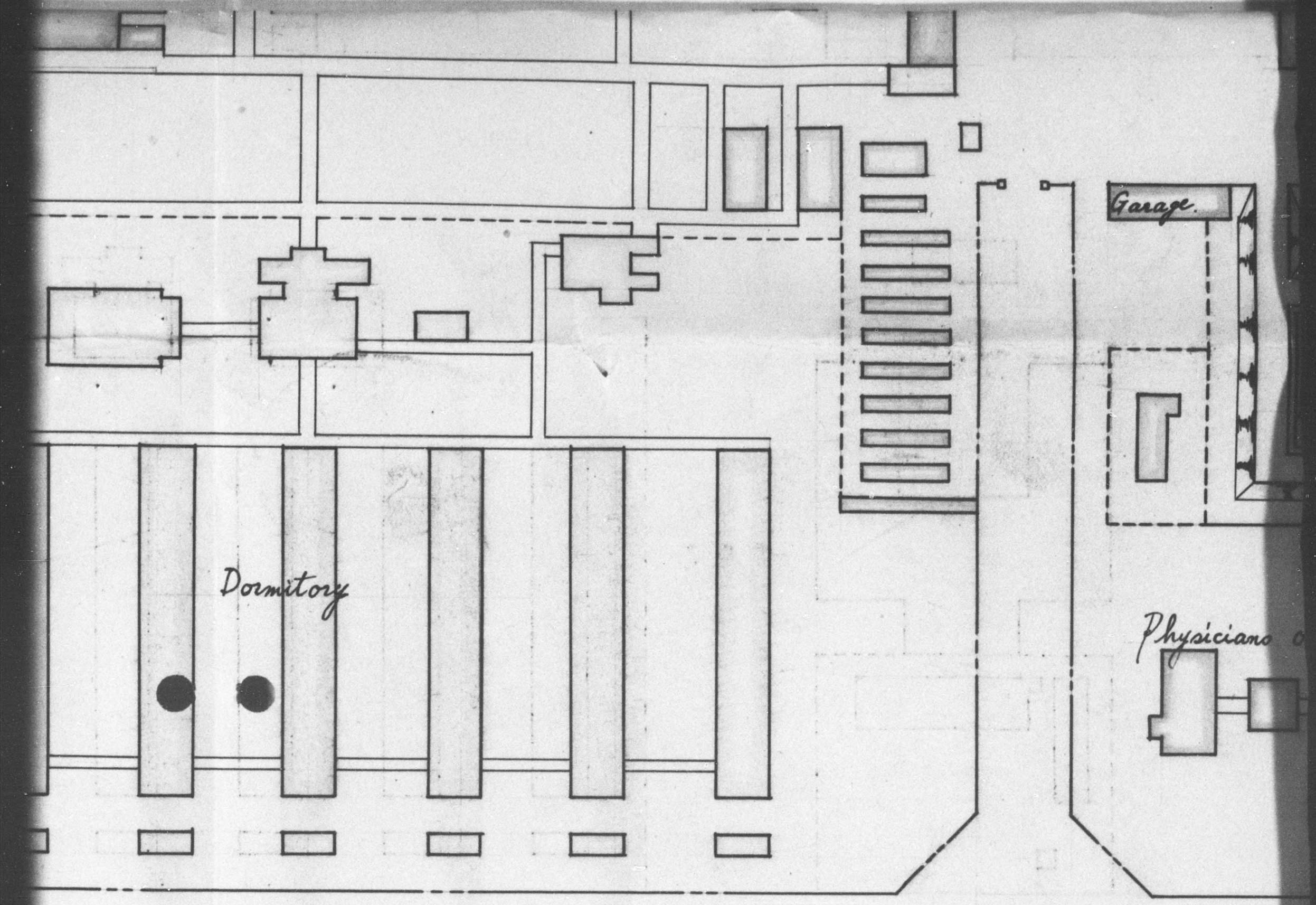

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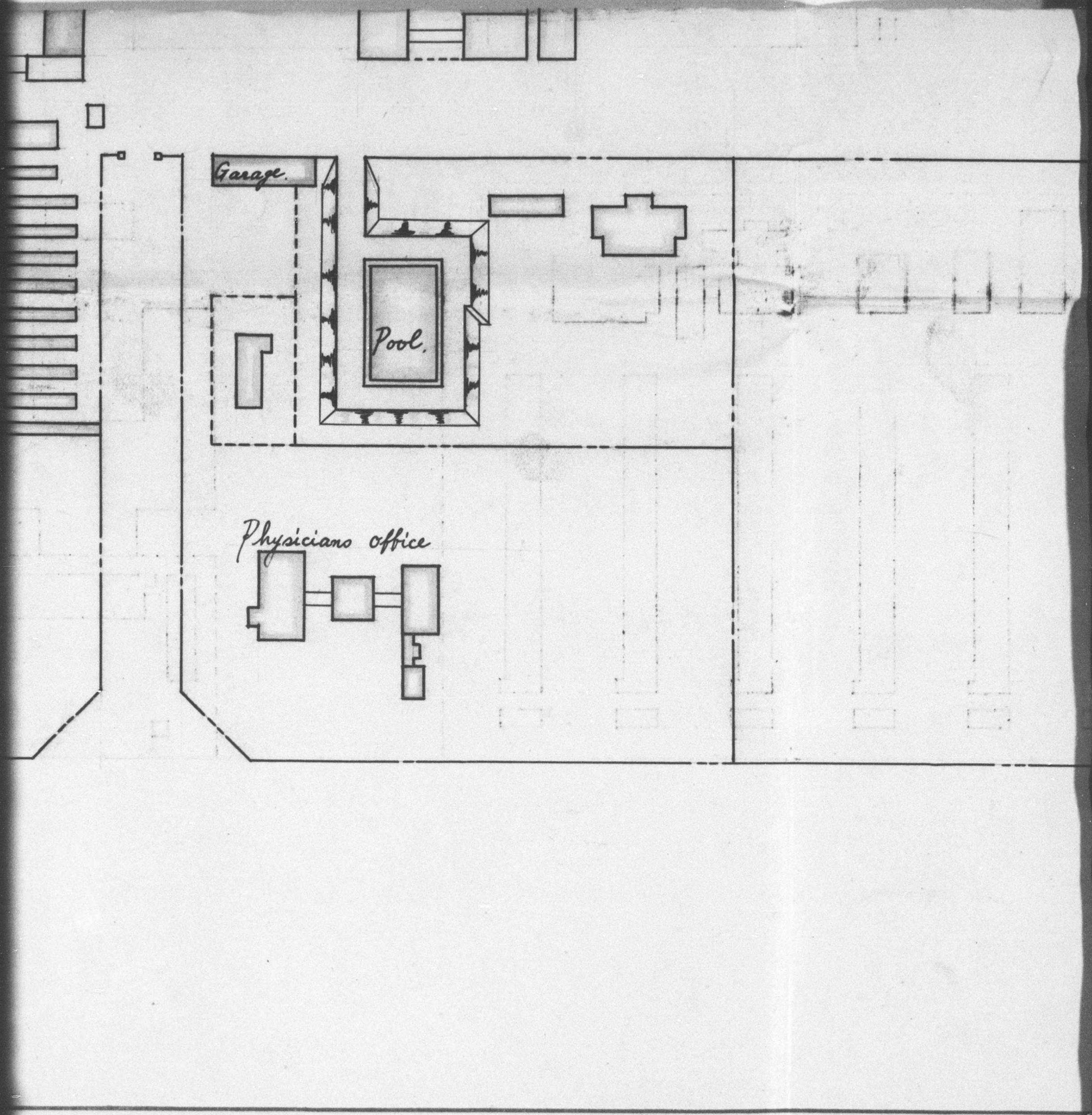

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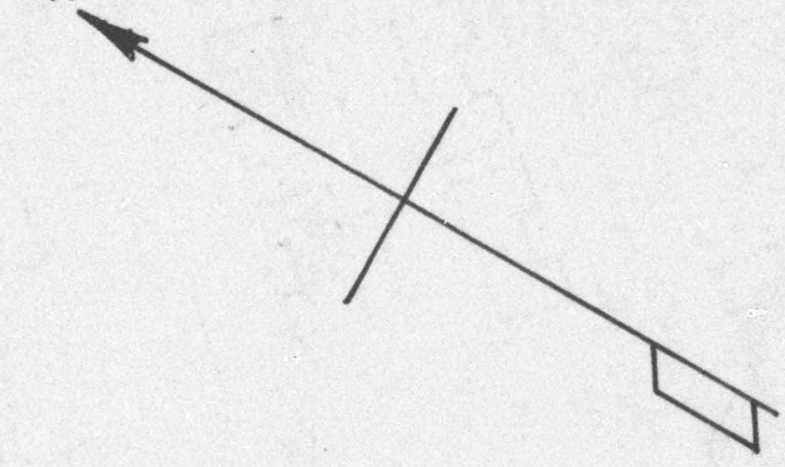

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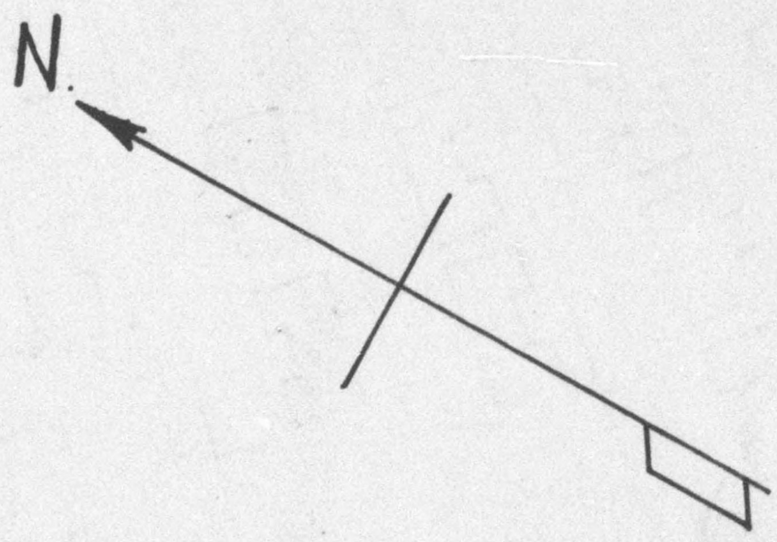

DECLASSIFIED E.O. 12065 SECTION 3 402/NNBS NO:

FIELD TRIP REPORT

R.P. LORD

22 June 1950

1. Purpose:

Inspection of Kurashiki Rayon Co., Okayama Plant.

2. Background:

Surveillance in accordance with O.D. 11, 10 April 1950.

3. Discussion:

a. (1) Production schedule for July, August, September is as follows:

	July	August	September
Rayon Yarn	200,000 lbs	200,000lbs	200,000 lbs
Vinylon Yarn	26,000 "	26,000 "	26,000 "

(2) Facilities: Spindles - 23,420

(3) Stockpiles: (as of 30 May)

Rayon staple fiber - 148,800 lbs(supplied by Saijyo Plant, Ehime Pref.)
Vinylon fiber - 17,385 lbs(supplied by Kurashiki Rayon, Kurashiki city)

b. Considerable work is now underway to outfit part of the plant for the production of "Vinylon" - a synthetic fiber recently introduced on the Japanese market.(detailed information concerning development, production and uses of "Vinylon" is available in our file). New machinery for this undertaking is now being manufactured and tenative plans are to open the "Vinylon" plant in September 1950. An application for permission to increase the number of spindles to 60,000 was submitted to MITI in February 1950, this however has not yet been approved.

c. Electric Power:

Allocation and consumption for March, April and May.

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	Allocation	Consumption	Additional Power Supplied from Kurashiki Plant, Kurashiki city
March	166,000 KWH	206,000 KWH	50,000 KWH
April	181,000 KWH	211,125 KWH	30,000 KWH
May	216,000 KWH	221,000 KWH	-

Efforts are being made to conserve electric power, according to company officials, by curtailing the use of the electric cooling system in the plant. The amount of power this will save is not known at present but in the opinion of this writer it will be a negligible amount. Officials of this plant feel that the allocation of electric power is unfair and inadequate to fulfill their demands. They were reminded that the Hiroshima Bureau of International Trade and Industry is, in cases where additional power allocations are justified, taking the necessary steps to procure additional allocations.

4. Conclusion:

With the opening of the "Vinylon" plant in September an additional four hundred (400) persons will be employed increasing the number of employees to 1250. No major problems, with exception of supposed power shortage, are confronting plant management.

5. Recommendation:

None.

R. P. LORD, DAC
Industry Division

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RAYON PULP

KURASHIKI RAYON

KURASHIKI PLANT

RAYON PULP
0-14

DECLASSIFIED E.O. 12065 SECTION 3 NLJ/MAS NO.

b. **Industry**

Kurashiki Plant, Kurashiki Rayon K.K., Kurashiki City:

0-41 Industrial Plant File

"General Description of the Kurashiki Plant, March 1, 1951" is in our file.

The plant produces daily 10 tons of rayon filament yarn (120 and 150 deniers); 1.5 tons of polyvinyl alcohol and 1.5 tons of vinylon staple. The plant is attempting to increase the production capacity of rayon filament to 16 tons per day by the end of 1951 and that of polyvinyl alcohol and vinylon fibre to 2 tons respectively by August 1951.

Approximately 60% of the products is exported and 40% is earmarked for the domestic market. The plant consumes 330 tons of pulp per month, 70% of which is imported from Northern European countries and 30% is purchased from the domestic market. As of 17 April 1951, the stock of pulp amounted to one weeks supply.

There is a total of 2500 workers. The union is affiliated with SODOMEI and no labor trouble is in sight. Labor Contract will expire on 24 December 1951.

2

Shortages of pulp and electric power allocation are the problems. In light of the projected production increase program, the company is negotiating with the interested authorities for an increase in future power allocation. During March 1951, the plant consumed 2,366,700 KWH, of which 967,400 KWH was generated by the self-generating facilities of the plant (capacity, 2300 KW).

DECLASSIFIED E.O. 12065 SECTION 3-402/NNDS NO. [redacted]

General Description of the Kurashiki Plant

March 1, 1951

Kurashiki Plant

Kurashiki Rayon Co., Ltd.

MANUFACTURING AND INDUSTRY
FILE ● — 41
Industrial Plant
File
Okayama

DECLASSIFIED E.O. 12065 SECTION 3-402/NNDS NO: [redacted]

General Description of the Kurashiki Plant

Kurashiki Rayon Co., Ltd.

March 1, 1951

1. Location: 1621, Sakazu, Kurashiki City, Okayama Pref.

2. Area of site: 386,685 Sq..meters (96 acre)

3. Area of Building: 72,776 Sq. meters (18 acre)

4. Production at present:

A. Rayon filament:

We have now the daily production of 10 t. of rayon filament yarn, the brands of which are both 120 Dr. and 150 Dr. one.

B. Synthetic Fiber, Vinylon:

We are now producing 1.5 t./day of polyvinyl alcohol and 1.5 t./day of Vinylon staple.

Besides it may be added that the production at other plants of our company is as follows:

Saijo Plant	Rayon filament	: 17.1 t./day
	Rayon staple	: 30.5 t./day
Toyama Plant	Polyvinyl alcohol	: 5.0 t./day
Okayama Plant	Vinylon staple	: 5.0 t./day

5. Future plan:

A. Rayon filamtne:

The capacity will be expanded to 16 tons per day by the end of 1951.

B. Synthetic Fiber, Vinylon:

The capacity of polyvinyl alcohol and vinylon fiber will be expanded to 2 tons per day respectively by the end of July, 1951.

6. Number of employees:

Male :	1,792
Female:	726
Total	2,518 (as at Feb. 28, 1951)

DECLASSIFIED E.O. 12065 SECTION 3-402/NNDS NO.

6. History of the plant:

a. Began construction of the plant in May, 1927.

b. Completed construction on December 31, 1927.

c. Commenced operation on May 9, 1928.
Quantity of rayon filament production: 2 ton/day.

d. Expansion of the production equipment had been done in 1939.

Production capacity of rayon filament: 26.212 ton/day.

Production capacity of rayon staple: 12.600 "

e. Converted to wood working and electrolysis metallic manganese production in 1943.

f. Upon termination of the war, stopped operation.

g. Approved dated Dec. 13, 1945 for production of plywood, prefabricated house and phenol resin moulding power with the equipments and materials which had been kept during the war.

h. Approved by HQ, 1 Corps in Kyoto on May 3, 1946 to produce the synthetic fiber.

i. Approved by GHQ on July, 1947 for rehabilitation fund to produce 200 kg/day of synthetic fiber.

j. Approved by GHQ on April 13, 1948 for the recovery fund to produce 5.2 ton/day for viscose rayon filament.

k. Commenced operation to produce the synthetic fiber on April 27, 1948.

l. Stopped production of prefabricated house at the end of December 11, 1947 and plywood at the end of June, 1948.

m. Commenced operation partially of rayon filament on Nov. 11, 1948.

n. Completed rehabilitation of the production equipments of 5.2 ton/day of rayon filament on May, 1949.

o. The capacity of rayon filament in 10 tons per day has been completed, and that of polyvinyl alcohol and vinylon fiber is 1.5 tons per day respectively.

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p. The capacity of rayon filament will be expanded to 16 tons per day by the end of 1951 and that of polyvinyl alcohol and vinylon fiber will be expanded to 2 tons per day respectively by the end of July, 1951.

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7. Main staffs of the plant:

Manager of the Plant:	H. Imamura
Chief of General Affairs Section:	M. Hidehira
Chief of Supply Section:	K. Kusumi
Chief of Labour Section:	T. Kato
Chief of Rayon Mfg. Section:	T. Arita
Chief of Rayon Machinery Section:	O. Tsunoda
Chief of Synthetic Research Section:	T. Osugi
Chief of Synthetic Mfg. Section:	S. Kobinata
Chief of Plastic Mfg. Section:	K. Nagano
Chief of Synthetic Machinery Section:	J. Adachi
Chief of Electric Power Section:	M. Amano

DECLASSIFIED E.O. 12065 SECTION 3 402/NNBS NO. [illegible]

DECLASSIFIED E.O. 12065 SECTION 3 402/NNSS NO.

SHORT HISTORY

KURASHIKI RAYON COMPANY

was established in June 1926 at Kurashiki. Synthetic fiber industry of Japan can be traced so far in 1918 and during a short period of forty years, economical situation necessitating the import of fibral materials from abroad replacing natural silk has fostered the synthetic fiber industry.

Among the big four synthetic fiber manufacturers, the company distinguished itself in its unparalleled quality of product. In World War II, fortunately, the factories were accidentally exempted from war damage, and its biggest Saijo Plant is the only one that continued operation during the war time.

The new synthetic fiber, Vinylon, has been researched by the company since 1932 on with technical setup, completed by 1942. Developed from a small scale of pilot plant, the company has come to produce 6 tons per day of Vinylon in 1950 with the promising future to expand to 20 tons per day by 1952. This company is truly the pioneer of Vinylon, a new synthetic fiber of the world.

The company is producing 20% of viscose rayon filament produced in Japan, staple fiber by 10% and Vinylon by 70%. High quality rayon cone is corresponding to 30% of the whole product of the company.

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CHRONOLOGY

Progress of 25 years has been remarkable,
and its future will be promised.

1926 Kurashiki Rayon Co., Ltd. was established.

1928 Kurashiki Rayon Plant began its operation.

1936 Okayama Rayon Plant began its operation.
Saijo Rayon Plant began its operation.

1938 Laboratory research of Vinylon was started.

1942 Technical research of Vinylon was completed.
Vinylon Pilot Plant was operated.

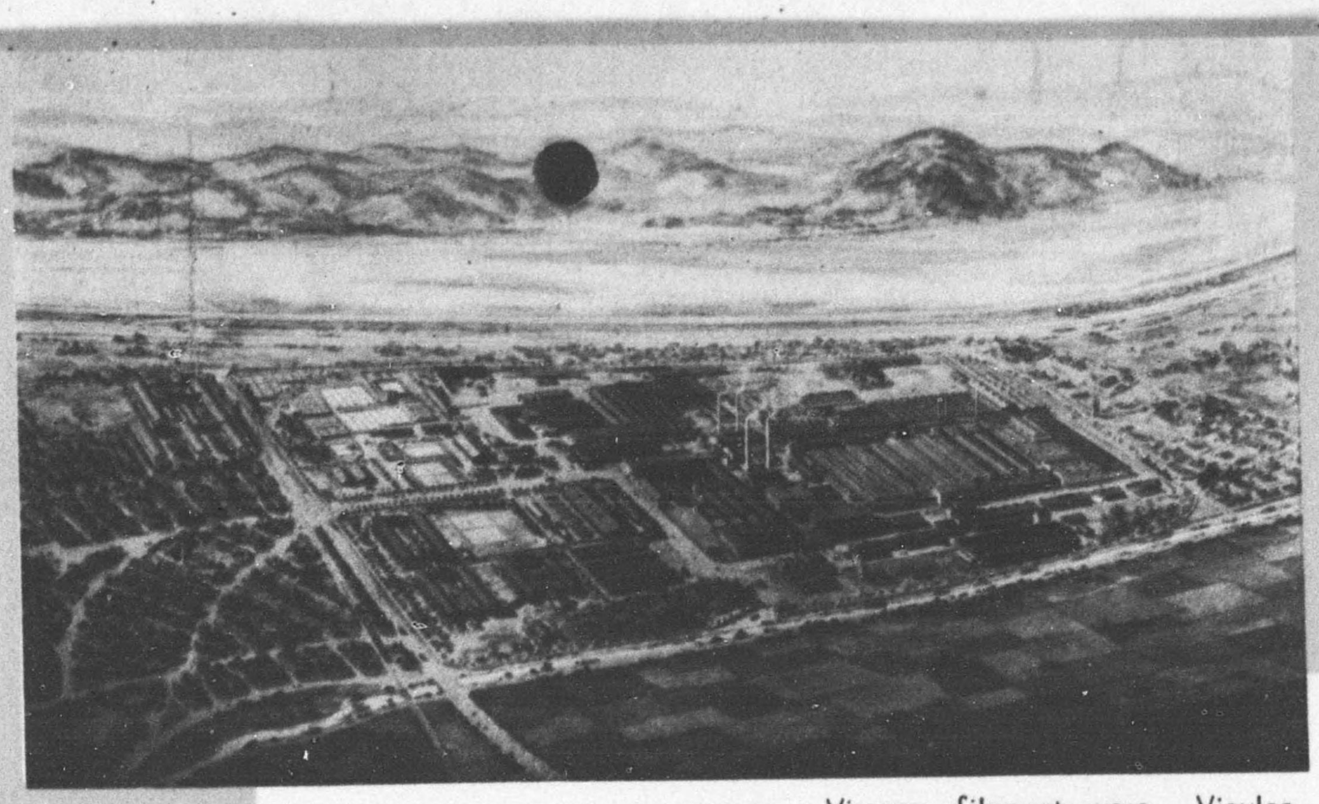
1948 Kurashiki Vinylon Plant, 200 kgs. per day, was recovered.

1949 Maruoka Twisting Plant was recovered.

1950 Kurashiki Vinylon Plant, 1 ton per day, began its operation.
Toyama Vinylon Material Plant, 5 tons per day, began its operation.
Okayama Vinylon Textile Plant, 5 tons per day, began its operation.

DECLASSIFIED E.O. 12065 SECTION 3 402/NNBS NO:

PLANT

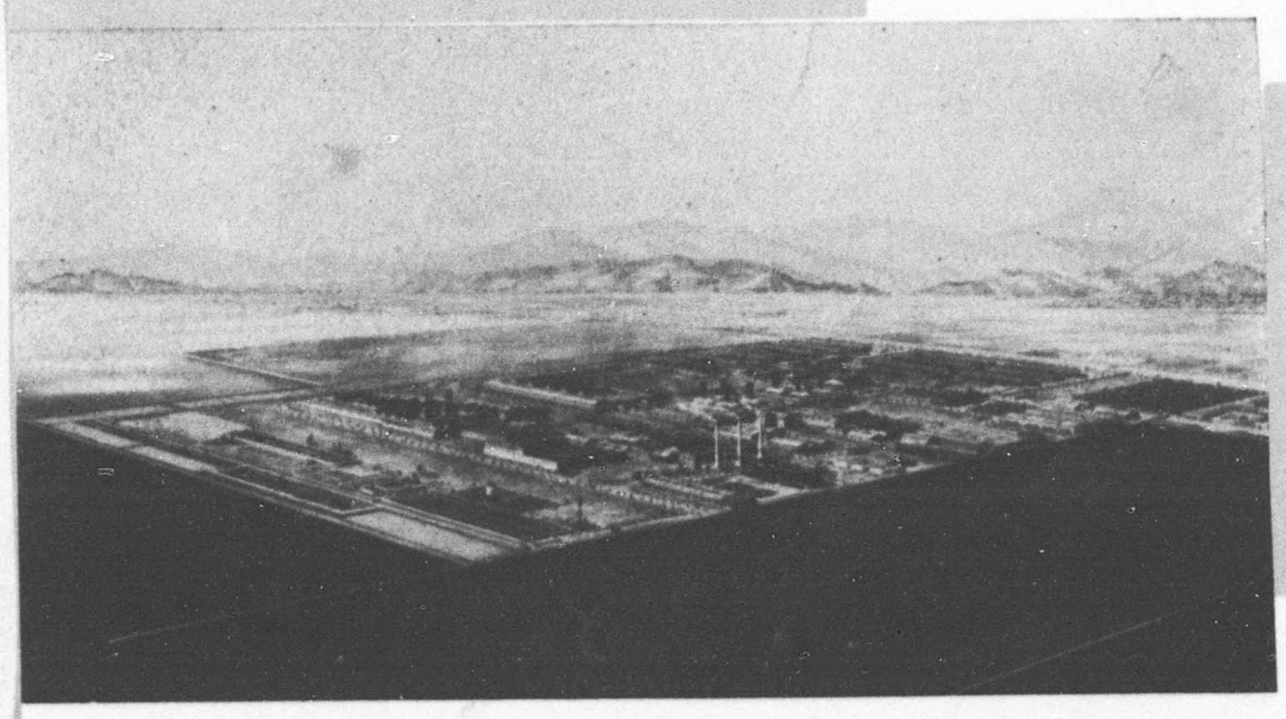


KURASHIKI PLANT

Viscose filament yarn, Vinylon filament yarn, Vinylon staple fiber

Factory site	98 acres
Floor space	983,800 sq. ft.

It started operation for producing viscose filament yarn in 1928 at Kurashiki where the company was born. Rayon equipments newly recovered in 1948 are apparently of world level, and are capable of exporting around 50% of viscose filament as cone. Day capacity for rayon yarn is 7.5 tons and for Vinylon is 1 ton. Rayon capacity is expected to expand to 15 tons per day, workers numbering about 2,500.



SAIJO PLANT

Viscose filament yarn, Staple fiber

Factory site	114 acres
Floor space	1,272, 000 sq. ft.

Constructed in 1935 at Saijo of the Shikoku Island, it is in operation with day capacity of 15 tons for rayon filament yarn and 30 tons for staple fiber, and is looked upon as the most excellent among the viscose rayon plants in Japan. Around 60% of the product is possible to be exported as cone. Well-maintained equipments and 4,000 skilled workers match its good reputation.

TOYAMA PLANT

Factory site

38 acres

Constructed in 1950 at Toyama on the Japan Sea, it is a newly built plant equipped with the most efficient and modernized machines for producing polyvinyl alcohol, Poval, 5 tons per day.

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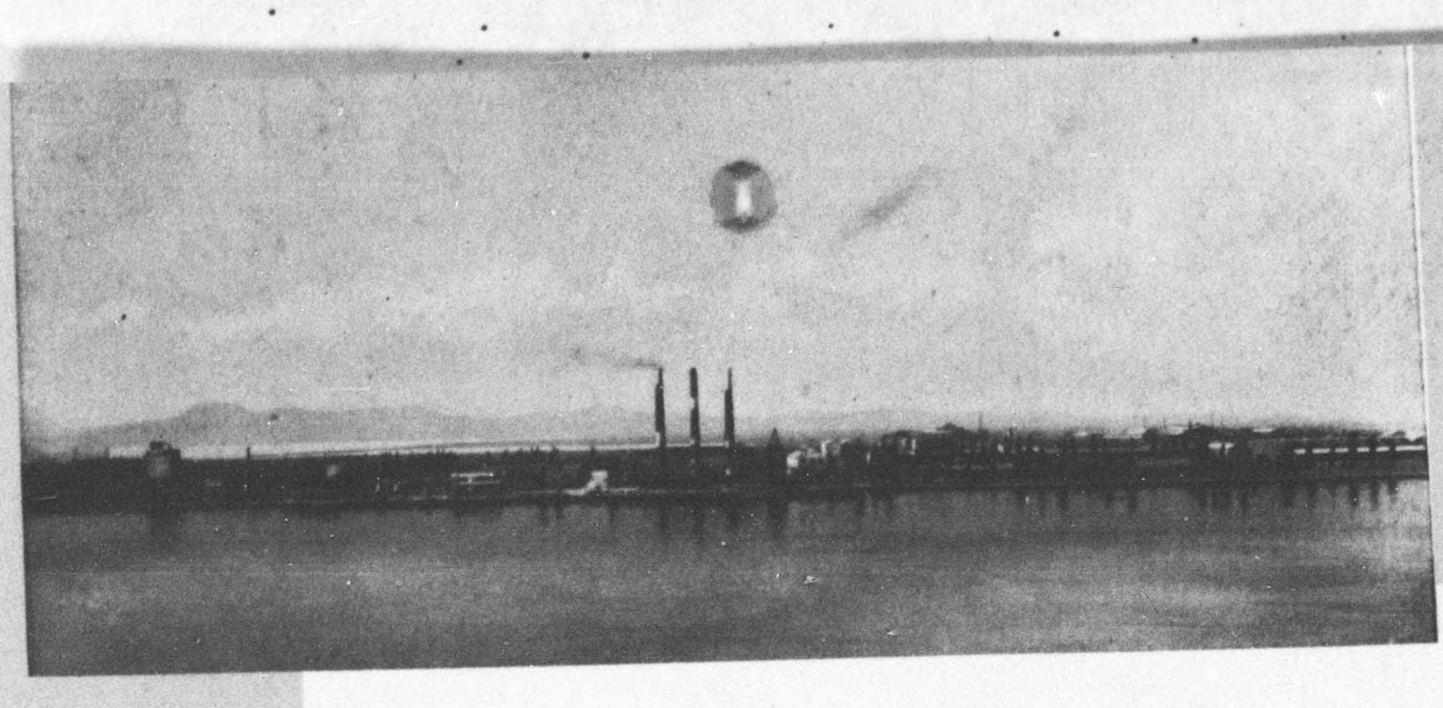


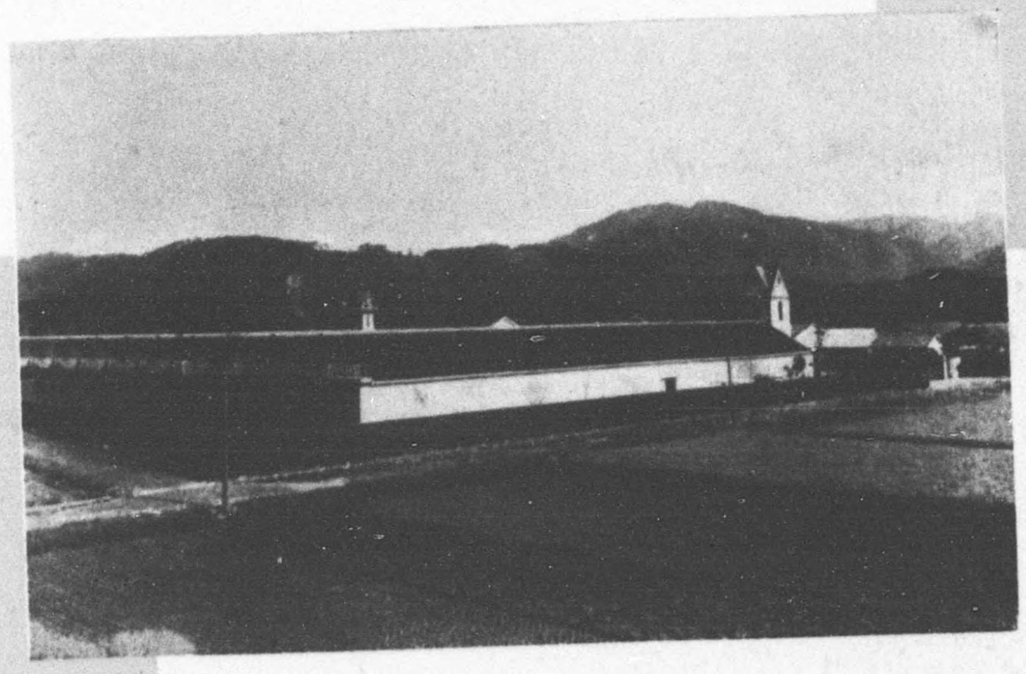
PLANT

OKAYAMA PLANT

Spun yarn, Vinylon filament yarn, Vinylon staple fiber

Factory site 187 acres
Floor space 1,229,900 sq. ft.

Constructed in 1935 at Okayama, the center of Chugoku District, it is equipped with staple fiber spinning machines of 23,600 spindles, cotton system, draft-break system and worsted system, with monthly capacity of 300,000 lbs. Closely related with Toyama Poval Plant, it is equipped with the most modernized machines firstly constructed in Japan to process raw material, carbide, into final product, Vinylon fiber. It is expected to expand to 20 tons per day by 1952.



Poval-material for Vinylon fiber

Floor space
202,140 sq. ft.

Located very near to the central mountain range of Japan which is called the Roof of Japan, and being blessed with an abundant supply of water power and raw material, carbide, the plant promises a hopeful development of Vinylon.

MARUOKA PLANT

Twisted yarn

Factory site 4 acres
Floor space 75,460 sq. ft.

It was constructed at Maruoka in 1949 as a model pocket plant featured by its high efficiency of operation. Twisting machines of 15,800 spindles, 35,500 lbs. per month, are processing rayon to supply the twisted yarn to the near-by textilers. Weaving machines are expected to be installed to carry out the raw material to final product process.

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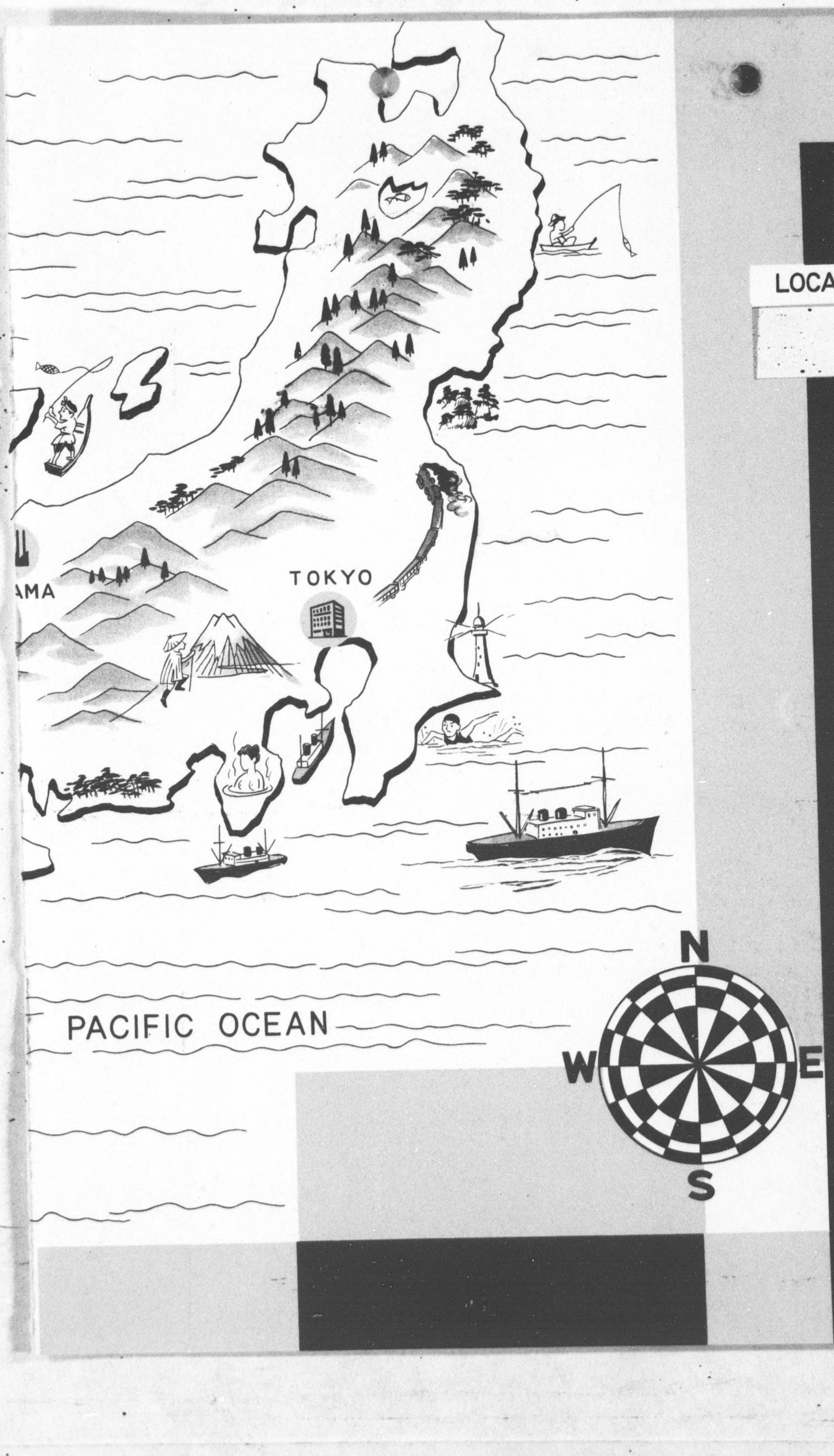

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PRODUCT

"THREE GOLDEN HORSES" is the noted mark of our Rayon.

1. Rayon Filament Yarn (Skein or Cone)

   Bright, Semi-Dull or Full Dull

   Denier: 75 100 120 150 200 250 300

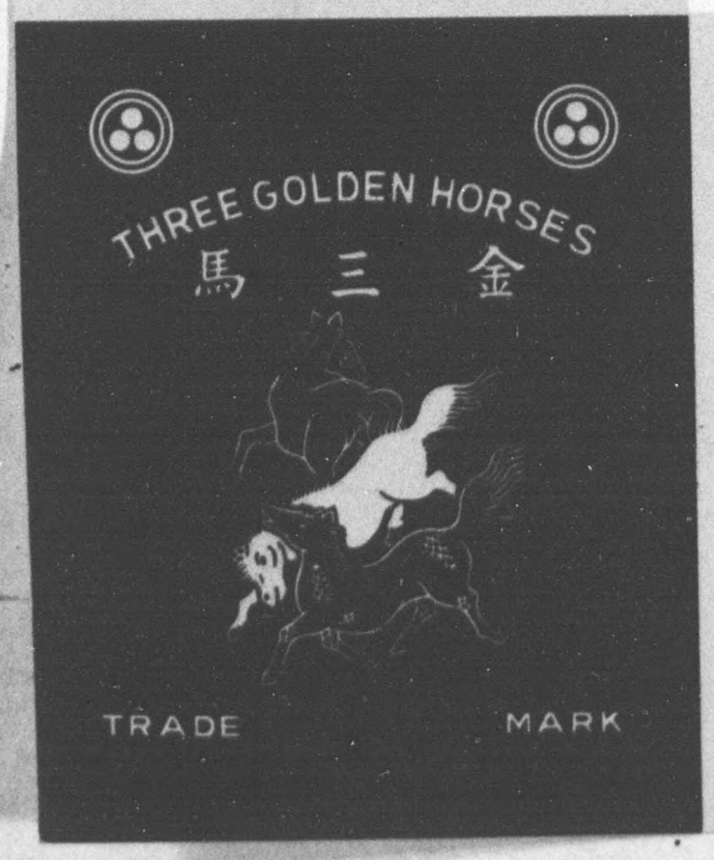
   Filament: 30 40 25&50 30&50 50 50 50

   Packing: In wooden boxes reinforced with iron bands, each containing 200 lbs. of yarn, i. e., 20 packages of skein or 72 cones.

2. Rayon Spun Yarn (Skein, Cheese or Cone)

   Counts: Ranging from 10's to 80's.

   Packing: In hessian bales reinforced with iron bands, each containing 200 lbs. of yarn, i. e., 20 packages of skein.



THREE GOLDEN HORSES
KURASHIKI

DECLASSIFIED E.O. 12065 SECTION 3-402/NNBS NO.

PRODUCT

"KURASHIKI" is the noted mark of our Rayon Staple Fiber.

3. Rayon Staple Fiber

Kinds: Ordinary and crimped, any denier and length.

Packing: In hessian bales reinforced with iron bands, each containing 400 lbs. of fiber.

"CREMONA" is the registered trade mark of our Vinylon.

4. Vinylon Spun Yarn (Skein)

Counts: Ranging from 10's to 40's.

Packing: Net weight 200 lbs. in hessian bales, iron bands.

5. Vinylon Staple Fiber

Kinds: Any denier and length.

Packing: Net weight 400 lbs. in hessian bales, iron bands.

RAYON YARN

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VINYLON

NEW SYNTHETIC FIBER IN THE WORLD

Vinylon is a new polyvinyl synthetic fiber devised by Japanese chemists and engineers, and is produced from limestone and coal by electrical treatment.

CHARACTERISTICS

1. Abrasion resistance showing the highest value among other fibers.
2. Strong resistance against acid, alkalis, oil and salt water.
3. Resistance against fungus and mildew.
4. Light weight and warm feeling.
5. Uneasy stain but easy washing.
6. Excellent blending and mixing property.

Cremona

KURASHIKI VINYLON

DECLASSIFIED E.O. 12065 SECTION 3 402/NNBS NO.

U S E S

Clothings

Suits, underwears, stockings, socks, working dresses, gloves, etc.

Daily Necessaries

Table cloths, curtains, bedspreads, parasols, umbrellas, carpets, mats, etc.

Industrial Uses

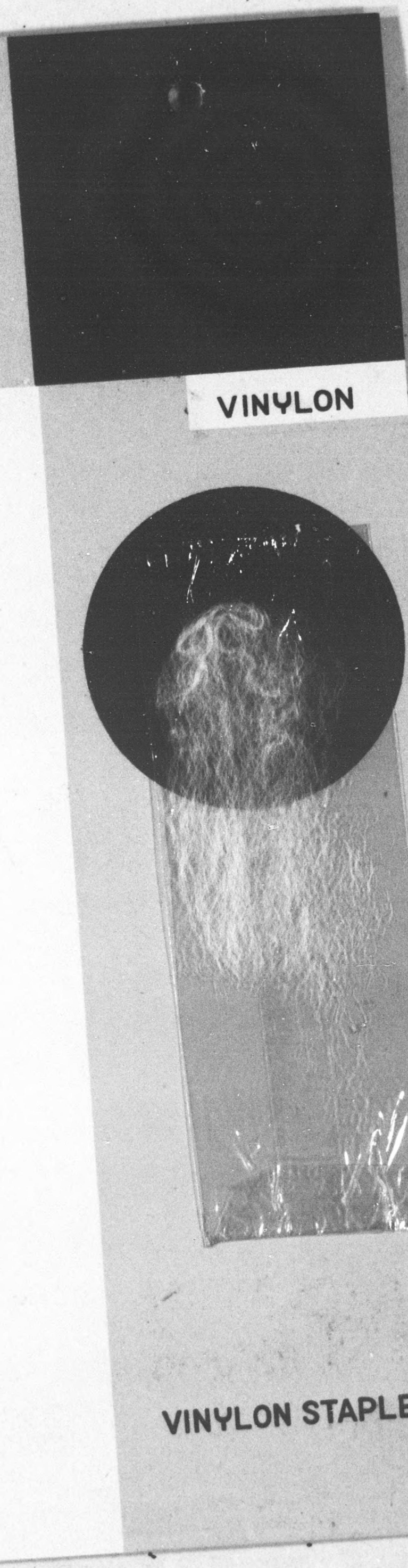
Filter cloths, packings, paper making felts, electrolytic diaphragms, etc.

Fishing

Fishing nets, angling strings, ropes, etc.

Other Uses

Tents, cables, surgical sewing threads, etc.



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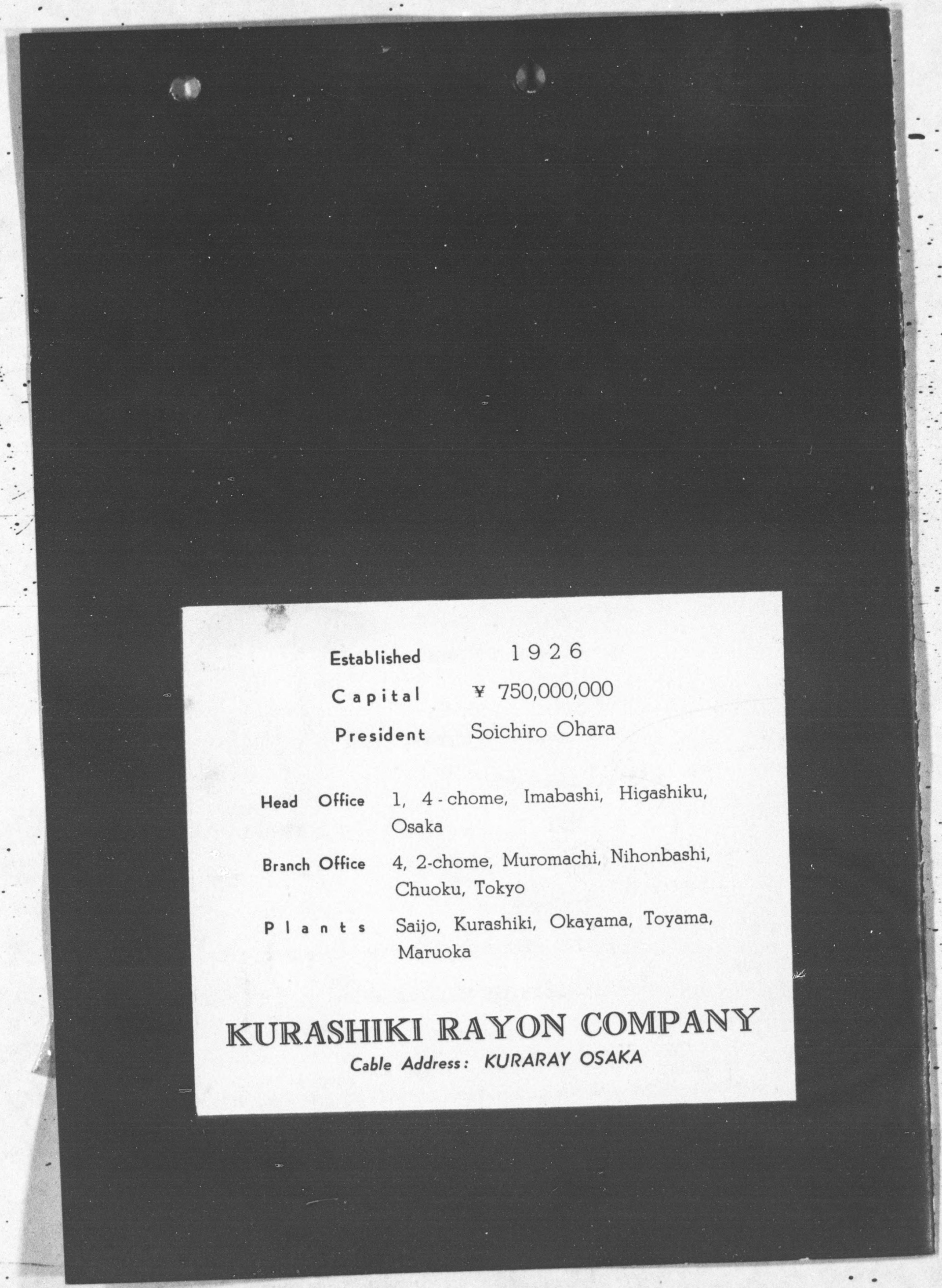

Established	1926
Capital	¥ 750,000,000
President	Soichiro Ohara
Head Office	1, 4-chome, Imabashi, Higashiku, Osaka
Branch Office	4, 2-chome, Muromachi, Nihonbashi, Chuoku, Tokyo
Plants	Saijo, Kurashiki, Okayama, Toyama, Maruoka

KURASHIKI RAYON COMPANY

Cable Address: KURARAY OSAKA

DECLASSIFIED E.O. 12065 SECTION 3 462/NNSC NO.

HEADQUARTERS
CHUGOKU CIVIL AFFAIRS REGION
APO 182

18 September 1950

SUBJECT: Report of Field Trip, 13 September 1950, R.G. Stradley.

TO : Chief
Economics Section

1. Purpose:

Inspection of Production of Kurashiki Rayon K.K., Kurashiki City, Okayama Prefecture.

2. Reference:

Surveillance in accordance with O.D. 11.

3. Discussion:

Conferees, Mr. Hideta, Chief of General Affairs Section.

a. Production.

Items	Quantity
Filament Yarn	5.2 ton (per day)
Vinylon	1 ton (per day)

NOTE: Neither spinning nor weaving was in progress.

b. Significance of the plant.

The vinylon plant has been established here as a pilot plant or control plant to experiment various phases of vinylon production in order to set pu an ideal plant for mass-production in the future. The plant started with production of 200 kg. of vinylon per day and finally reached one-ton per day stage in May 1950.

c. Raw Materials.

No difficulty with respect to the asquisition of raw materials was in evidence. However, the plant expects an imminent bottleneck in the importation of pulp in view of the world-wide shortage in the supply of same.

DECLASSIFIED E.O. 12065 SECTION 3 NND/NSC NO.

d. Labor

A total of 2400 workers consists of 700 for vinylon production and 1700 for rayon production. The union is affiliated with the Sodomei. The labor relations were found to be satisfactory.

e. Electric Power

	Consumption	Allocation
Monthly average (Home generation)	2,000,000 KWH	1,150,000 KWH

NOTE: Production cost per KWH of home generation is ¥ 6,000.

The maximum capacity of home generation facilities is 2,300 Kw.

f. Pulp

The plant has 300 tons of pulp in stock or 1½ months' requirements. It is the common practice among the rayon plants to stock at least 3 months' requirements.

4. Conclusions:

Inadequate allocation of electric power and the impending difficulty to obtain pulp (the plant uses imported pulp from Sweeden, Canada and Norway) are two major problems.

The overall picture of the importation of pulp in relation to rayon staple and yarn production is as follows:

SCAP authorization for 1950 JFY	Total amount of pulp required for the authorization	Maximum Home production	Import required
200,000 ton (in ryon staple and rayon yarn)	250,000 ton	85,000 ton	165,000 ton

It is the consensus of opinion among the rayon industry that pulp must be imported by any means in large quantities at this time to gurantee the normal production in the future.

5. Recommendations:

None.

R. G. STRADLEY
Chief, Distribution and Industry Division

D/RGS/fk

DECLASSIFIED E.O. 12065 SECTION 3 (E)(2), MAR 8, 1978

Mr Kagaya

No. 2

KURASHIKI RAYON CO., LTD
KURASHIKI PLANT

K R K NO.16

Sept 8, 1949

SUBJECT: Report of Imported Rayon Pulp Received.

TO : Commanding Officer,
Okayama Civil Affairs Team.

Herewith please find subject report as follows.

Name of Vessel	Description	Quantity	From	Date of Received	Transportation	
San Vincente	Rayon Pulp	80	Kobe	25 Aug	WAMU	9461
"	"	85	"	"	MOWAMU	52480
"	"	80	"	"	"	12915
"	"	80	"	"	"	10727
"	"	80	"	"	"	28285
"	"	80	"	"	"	9697
"	"	80	"	"	"	25201
"	"	80	"	"	SUMU	1610
"	"	80	"	"	WAMU	31674
"	"	80	"	"	"	4914
"	"	80	"	"	"	50189
"	"	80	"	"	"	25294
"	"	75	"	"	"	8511
"	"	75	"	"	"	13733
"	"	75	"	26 Aug	"	2336
"	"	75	"	"	"	7206
"	"	85	"	27 Aug	"	20136

DECLASSIFIED E.O. 12065 SECTION 3 (b), NARS DATE

NO. 2

Name of Vessel	Description	Quantity	From	Date of Received	Transportation	
San Vincente	Rayon Pulp	80	Kobe	29 Aug	WAMU	4202
"	"	85	"	"	"	51854
"	"	85	"	"	MoWAMU	8690
Oluf Maersk	"	10	"	16 Aug	SUMU	3519
	Total	1610	-	-	-	

KIMURA. Kiyoshi
Kurashiki Plant
Plant Manager

DECLASSIFIED E.O. 11652 SECTION 3 (E)(1)(2)(3) NLS

RC & I

Mr Kajiyama ✓

KURASHIKI RAYON CO.,LTD
KURASHIKI PLANT

K R K NO.17 Sept 8, 1949

SUBJECT: Monthly Report of Rayon products manufactured and materials used from begining to the end of August.

TO : Commanding Officer,
Okayama Civil Affairs Team.

Herewith please find subject as follows.

1. Production:

Description	Begining Stocks	Production	Deliveries Export	for Domestic Use	Ending Stocks
Rayon Filament	681,876	324,300	225,000	107,722	673,454

KT

2. Materials:

Description	Begining Stocks	Receipts	Put in Processe	For Products	Ending Stocks
Cotton Linter Pulp	2,269	0	188	38,669	2,081
Rayon Pulp	2,909	1,610	873	347,253	3,646
Total	5,178	1,610	1,061	385,922	5,727

KIMURA. Kiyoshi
Kurashiki Plant
Plant Manager

KURASHIKI RAYON CO.,LTD
KURASHIKI PLANT

August 6, 1949

K R K No.15

SUBJECT: Monthly Report of Rayon products manufactured and materials used from begining to the end of July..

TO : Commanding Officer,
Okayama Civil Affairs Team.

Herewith please find subject as follows.

1. Production:

Description	Begining Stocks	Production	Deliveries for Export	Domestic Use	Ending Stocks
Rayon Filament	682,720	324,300	261,693	63,451	681,876

2. Materials:

Description	Begining Stocks	Receipts	Put in Procese	For Products	Ending Stocks
Cotton Linter Pulp	1,583	896	210	42,584	2,269
Rayon Pulp	3,751	30	872	342,306	2,909
Total	5,334	926	1,082	384,890	5,178

KIMURA. Kiyoshi

Kurashiki Plant
Plant Manager

DECLASSIFIED E.O. 11652 SECTION 3 (E)/MAR 0 [illegible]

KURASHIKI RAYON CO.,LTD
KURASHIKI PLANT

K R K NO.13

July 20, 1949

SUBJECT: Report of Imported Rayon Pulp Received.

TO : Commanding Officer,
Okayama Civil Affairs Team.

Herewith Please find subject report as follows.

Name of Vessel	Description	Quantity	From	Date of Received	Transportation	
Alma	Cotton Linter Pulp	120	Kobe	11 July	WAMU	28491
"	"	120	"	"	WAMU	562
"	"	120	"	12 July	WAMU	50760
"	"	120	"	"	WAMU	10898
"	"	75	"	"	WA	22522
"	"	75	"	"	WA	18097
Norman Lykes	"	116	"	13 July	WAMU	28491
"	"	75	"	"	MOWA	27459
"	"	75	"	15 July	WA	7036
	Total	896	-	-		-
Tamara	Rayon Pulp	30	Kobe	13 July	WA	8653
	Total	30	-	-		-

KIWURA. Kiyoshi

Kurashiki Plant
Factory Plant

DECLASSIFIED E.O. 11652 SECTION 3 (E)(2) NARS NO.

KURASHIKI RAYON CO., LTD
KURASHIKI FACTORY

K R K NO.12

July 9,1949

SUBJECT: Monthly Report of Rayon products manufactured and materials used from begining to the end of June.

TO : Commanding Officer,
Okayama Civil Affairs Team.

Herewith please find subject report as follows.

1. Production:

Description	Begining Stocks	Production	Deliveries Export	for Domestic Use	Ending Stocks
Rayon Filament	517,010	370,000	50,140	154,150	682,720

2. Materials:

Description	Begining Stocks	Receipts	Put in Procese	For Products	Ending Stocks
Cotton Linter Pulp	998	784	199	61,222	1,583
Rayon Pulp	2,726	1,898	873	357,388	3,751
Total	3,724	2,682	1,072	418,610	5,334

KIMURA. Kiyoshi
Kurashiki Factory
Factory Manager

DECLASSIFIED E.O. 11652 SECTION 3 (E)(1) NARS Date 12-18-75

KURASHIKI RAYON CO.,LTD
KURASHIKI FACTORY

K R K NO.11

NO.1

July 9,1949

SUBJECT: Report of Imported Rayon Pulp Received.

TO : Commanding Officer,
Okayama Civil Affairs Team.

Herewith please find subject report as follows.

Name of Vessel	Description	quantity	From	Date of Received	Means of Transportation	
Ivaran	Cotton Linter Pulp	69	Kobe	3 June	WA	28215
Marcben Maersk	"	65	"	4 June	"	6121
"	"	75	"	"	"	3180
"	"	74	"	"	"	28135
"	"	120	"	"	WAMU	20179
Wyoming	"	61	"	2 June	WA	25378
"	"	60	"	"	"	22126
	Total	524	-	-	-	
Tamara	Rayon Pulp	88	Kobe	3 June	WAMU	24629
"	"	80	"	"	SUMU	2889
Tamalane	"	70	"	8 June	WAMU	23388
"	"	75	"	"	"	23158
"	"	75	"	"	SUMU	2774
"	"	75	"	9 June	"	1611
"	"	79	"	10 June	WA	24657
					WAMU	17380

DECLASSIFIED E.O. 11652 SECTION 3 (E)(1)(2) NLJ

NO.2

Name of Vessel	Description	Quantity	From	Date of Received	Means of Transportation	
Oluf Maersk	Rayon Pulp	V 50	Kobe	11 June	WA	18649
"	"	V 56	"	"	"	27224
"	"	V 90	"	"	WAMU	2529
"	"	V 60	"	13 June	WA	27276
"	"	V 90	"	14 June	WAMU	30539
"	"	V 90	"	"	"	21990
"	"	V 90	"	"	"	14695
"	"	V 48	"	20 June	WA	375
	Total	1,116	-	-	-	

KIMURA. Kiyoshi

Kurashiki Factory
Factory Manager

DECLASSIFIED E.O. 12065 SECTION 3 402/NNBS NO:

KURASHIKI RAYON CO.,LTD
KURASHIKI FACTORY

K R K NO.10

June 25,1949

SUBJECT: Report of Imported Rayon Pulp Received.

TO : Commanding Officer,
Okayama Military Government Team.

Herewith Please find subject report as follows.

Name of Vessel	Description	Quantity	From	Date of Received	Means of Transportion	
Tomara	Rayon Pulp	90	Kobe	1 June	WAMU	25330
Oluf Maersk	"	90	"	"	WA	22216
"	"	90	"	"	WAMU	31602
"	"	60	"	"	WA	20304
Tomara	"	90	"	2 June	WAMU	52608
"	"	60	"	"	WA	26314
"	"	83	"	"	WAMU	2059
"	"	60	"	"	WA	23758
Oluf Maersk	"	69	"	"	WAMU	3103
"	"	90	"	"	WAMU	11609
	Total	782	-	-	-	
Iiaran	Cotton Linter Pulp	75	Kobe	2 June	WA	25286
"	"	75	"	"	WA	2248
"	"	110	"	"	WAMU	297
Total		260	-	-	-	

KIMURA.Kiyoshi
Kurashiki Factory
Factory Manager

DECLASSIFIED E.O. 12065 SECTION 3 402/NNBS NO.

KURASHIKI RAYON CO.,LTD.
KURASHIKI FACTORY

K R K NO. 9

June 9,1949

SUBJECT: Monthly Report of Rayon products manufactured and materials used:from begining to the end of May.

TO : Commanding Officer,
Okayama Military Govenment Team.

Herewith Please find subject report as follows.

1. Production:

Description	Begining Stocks	Production	Deliveries for Export	Deliveries for Domestic Use	Ending Stocks
Rayon Filament	441,110	330,000	176,800	77,300	517,010

2, Materials:

Description	Begining Stocks	Receipts	Put in Process	For Products	Ending Stocks
Cotton Linter Pulp	166	1,017	185	41,270	998
Rayon Pulp	2,033-	1,593	900	371,696	2,726
Total	2199	2,610	1,085	412,966	3,724

We made mistake the figure of Begining Stocks for Rayon Pulp in the raport of April 8th so we Correct here.

420.

420

KIMURA. Kiyoshi
Kurashiki Factory
Factory Manager

80%

TAKAYAMA

1.250

DECLASSIFIED E.O. 12065 SECTION 3 402/NNSC NO: [illegible]

Mr Kajiya
SIO No 3 see action

SEIKO INDUSTRY CO: LTD
OKAYAMA PLANT

7 JUN 1949

File

Jun 7, 1949

Subject: monthly report of rope manufactured

To: commanding Officer
Okayama Military Government Team

Herewith please find subject report which cover the period from April 26 to may 25 1949

1. Production

Description	Beginning Stocks	Production	Deliveries of Export	Domestic use	Ending Stocks
Abaca rope	1,407	3,201	0	730	3,878
Henequen rope	0	1,558	"	1,558	0
Sisal rope	315	4,798	0	4,269	844
Manei rope	104	0	0	0	104
Total	1,826	9,657	"	6,457	4,826 lbs

2. materials

Description	Beginning Stocks	received	Put in Process	For Products	Ending Stocks
Abaca	27,648.63 96	0	3,464 13	3,471	? V 40,963.63 83
Henequen twine	7,822.19 156	0	1,589 31	1,589	V 6,233.19 125
Henequen fiber	14,539 275	"	0	"	V 14,539 275
Sisal tow	33,352 782	0	10,561 272	5662	V 27,771 541
Total	83,362.82 3577	0	15,714 712	10,721	V 67,654.82 286

Note: Unit, pounds and Bales.

manager of Masao Kayahara.
Seiko Industry co: LTD
Okayama plant

9/710

DECLASSIFIED E.O. 12065 SECTION 3 402/NNBS NO: [illegible]

SUGANO TEXTILE MANUFACTURING PLANT

June 4, 1949.

O C M No. 4

SUBJECT : Monthly Report of Rope Manufactured.

TO : Commanding Officer,
Okayama Military Government Team.

Attached herewith please find subject report which covers the period from May 1 to 31, 1949.

Magouemon Sugano

SUGANO Magouemon

Pres. of
SUGANO Textile
Manufacturing Plant.

DECLASSIFIED E.O. 12065 SECTION 3-402/NNDS NO. [illegible]

1. Production
(Unite lbs.)

Description	Beginning stocks	Production	Deliveries for Export	Deliveries for Domestic use	Ending stocks
Abaca rope	0	3,048	0	2,418	630
Henequene rope	130	0	0	0	130

2. Materials
(Unite lbs & B/S)

Description	Beginning stocks	Receipts	Put in process	For products	Ending stocks
Abaca	4,964	0	1,100	3,200.4	3,864
	16	0	4	0	12
Henequene fiber	3,936	0	0	0	3,936
	10	0	0	0	10
Sisal tow	18,738	0	0	0	18,738
	51	0	0	0	51

V 2+6
030
30+6

+ 864
1100
3864

DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO.

Ret file

KURASHIKI RAYON CO.,LTD
KURASHIKI FACTORY

NO.1

K R K NO.7

May 24, 1949

SUBJECT: Report on IMported Rayon Pulp Received.

TO : Commanding Officer,
Okayama Military Government Team.

Herewith Please find subject report as follows.

Name of Vessel	Description	Quantity	From	Date of Received	Means of Transportation	
SS Maider	Cotton Linter Pulp	100	Kobe	10 May	WAMU	97554
	"	100	"	"	WAMU	21375
	"	100	"	"	WAMU	83
	"	100	"	"	WAMU	14848
	"	80	"	"	WAMU	9808
SS Ruthlyke	"	52	"	14 May	WA	23898
	"	52	"	"	WA	5197
Total		584	-	-		-
SS Yaung America	Rayon Pulp	75	Kobe	1 May	MOWAMU	11217
	"	75	"	"	TAMU	2111
	"	75	"	"	WAMU	26397
	"	75	"	"	WAMU	26299
	"	75	"	"	WAMU	20380
	"	44	"	"	WA	3993

DECLASSIFIED E.O. 12065 SECTION 3-402/NNDS NO. [redacted]

NO.2

Name of Vessel	Description	Quantity	From	Date of Received	Means of Transportation	
SS Talabot	Mayon Pulp	45	Kobe	5 May	WA	17705
	"	70	"	"	WAMU	51088
	"	70	"	"	WAMU	51126
	"	47	"	2 May	WA	5634
SS Holland	"	90	"	5 May	WAMU	14099
	"	90	"	"	WAMU	8213
SS Talabot	"	75	"	"	WAMU	100642
	"	50	"	6 May	WA	22759
	"	50	"	"	WA	25186
	"	50	"	"	WAMU	27928
SS Holland	"	51	"	7 May	WA	97240
	"	75	"	"	WAMU	7888
	"	75	"	"	SUMU	1778
SS Holland	"	67	"	"	WAMU	2364
SS Kambodia	"	90	"	9 May	SUMU	304
	"	53	"	"	WAMU	5513
SS Talabot	"	44	"	12 May	WAMU	25334
	Total	1,511	-	-		-

KIMURA Kiyoshi

Kurashiki Factory
Factory Manager

DECLASSIFIED E.O. 11652 SECTION 3 (E)(1)(iii) NND 963216

KURASHIKI RAYON CO., LTD.
KURASHIKI FACTORY

K R K NO. 86

May 9, 1949

SUBJECT: Report on Imported Rayon Pulp Received.

TO: Commanding Officer, Okayama Military Government Team.

Herewith please find subject report as follows.

Name of Vessel	Description	Quantity	From	Date of Received	Means of Transportation
S.S Bali	Rayon Pulp	47	Kobe	19 April	WAMU 23824
Julia	"	50	"	12 April	WA 24468
	"	50	"	"	WA 27857
	"	75	"	"	WAMU 7902
	"	50	"	"	WA 22174
	"	50	"	"	WA 5341
	"	75	"	13 April	WAMU 51632
	"	75	"	19 April	WAMU 8719
	"	75	"	"	WAMU 24800
	"	75	"	"	WAMU 23155
	"	75	"	"	WAMU 50491
	Total	697	-	-	-

KIMURA. Kiyoshi
Kurashiki Factory
Factory Manager

131
697
450
1278

147

260
131
129

DECLASSIFIED E.O. 12065 SECTION 3 NND/NNS NO.

KURASHIKI RAYON CO.,LTD.
KURASHIKI FACTORY

K R K NO. 5

May 7, 1949

SUBJECT: Monthly Report of Rayon products manufactured.

TO: Commanding Officer, Okayama Military Government Team.

1. Production:

Description	Begining Stocks	Production	Deliveries for Export	Deliveries for Domestic	Ending Stocks
Rayon Filament	244,310 ✓	300,000 ✓	103,200	0	441,110 ✓

2. Materials:

Description		Begning Stocks	Receipts	Put in ~~Products~~ process	For Products	Ending Stocks
Cotton	Rayon Pulp	90	260	184	35,053	166
Rayon	Pulp	1,320	1,147	854	338,197	1,613
	Total	1,410 ✓	1,407 ✓	1,038 ✓	373,250	1,779 ✓

KIMURA. Kiyoshi

Kurashiki Factory
Factory Manager

DECLASSIFIED E.O. 11652 SECTION 3 (E)/MHS NO. [illegible]

KURASHIKI RAYON CO.,LTD.
KURASHIKI FACTORY

K R K NO. 4

May 9, 1949

SUBJECT: Report on Imported Rayon Pulp Received.

TO : Commanding Officer,Okayama Military Government Team.

Herewith Please find subject report as follows.

Name of Vessel	Description	quantity	From	Date of Received	Means of Transportation
Chastine	Cotton Linter Pulp	75	Kobe	19 April	WAMU 21761
Total		75	-	-	-

KIMURA.Kiyoshi
Kurashiki Factory
Factory Manager

DECLASSIFIED E.O. 12065 SECTION 3 102/NARS DATE

M.H. Rod Rayon

Kurashiki Rayon Co, Lid
Kurashiki Factory.

K. R. K. No. 3. April. 15. 1949

Subject; Report on Imported Rayon Pulp Received.

To; Commanding Officer,

Okayama Military Government Team.

Herewith please find subject report as follows.

Name of vessel	Descipion	Quantity	From	Date of received	Means of transpotation
Almelia Lykes	Cotton Rayon pulp	54	Kobe	7.April	Wa22232
	Total	54	-	-	-
Julia Lukenbach	Wooden Pulp	50	Kobe	11. April	Wa 6053
"	"	75	"	"	Wamu 50798
"	"	50	"	"	Wa 25828
					Wamu 10217
"	"	75	"	"	Wamu 2214
"	"	75	"	"	Wamu 151
"	"	75	"	"	Wa 23689
"	"	50	"	"	
	Total	450	-	-	-

Factory Manager

K. Kimura

DECLASSIFIED E.O. 12065 SECTION 3 NND/NNE NO.

Kurashiki Rayon Co, Ltd
Kurashiki Factory.

K. R. K. No. I April. 8. 1949

Subject; Monthly Report of Rayon products manufactured.

To; Commanding Officer,

Okayama Military Govenment Team.

I. Production.

Description	Begining Stocks	Production	Deliveries for Export	Domestic Use	Ending Stocks
Rayon Filament	183,310	221,000	160,000	0	244,310

2. Materials

Description	Begning Stocks	Receipts	Put in Products	For Products	Ending Stocks
Cotton Pulp	256	0	166	40,357	90
Wooden Pulp	1,149	924	753	205,930	1,320
Total	1,405	924	919	245,930	1,410

Factory Manager

K. Kimura

DECLASSIFIED E.O. 12065 SECTION 3 402/NNSC NO.

Kurashiki Rayon Co, Lid.

Kurashiki Factory.

K.R.K. No. 2. April. 8. 1949.

Subject; Report on Imported Rayon Pulp Received.

To; Commanding Officer,

Okayama Military Government Team,

Herewith please find subject report as follows.

Name of vessel	Descipion	Quantity	From	Date of received	Means of transpotation
	Cotton Rayon Pulp	66	Kobe	1,April	Wa 9015
	"	65	"	"	Wa 26922
	Total	131	-	-	-

Factory Manager

K. Kimura.

DECLASSIFIED E.O. 12065 SECTION 3-402/NNDS NO: [illegible]

FIELD TRIP REPORT

3 March 1950

1. Purpose:

Inspection of Kurashiki Plant, Kurashiki Rayon Company.

2. Background:

Surveillance in accordance with O.D. 51.

3. Discussion:

Attached are the reports submitted by the company on the General Description of the Kurashiki Plant and Statistical Data on the working conditions.

a. As the company has its own home generation facilities the electric power does not constitute such a great problem as elsewhere. The power represented in production cost, however, is from 7% to 8% at present.

Contract load : 1,500 KW
Allocation : 700,000 KWH
Jan. 1950 consumption:
1,500,000 KWH
Home generation: 2,300 KW

(Peak load capacity: 1,100 KW - 1,200 KW)
(Per KWH cost : ¥6.00)
(Type of coal : 5,500 calory Kyushu)
(coal)

Classification	Power used	Production cost of 100 lb of rayon
Under old rate	50% purchased 50% home generated.	¥20,000
Under new rate	50% purchased 50% home generated.	¥20,100
On the assumption all power is supplied and no home generation	100% purchased	¥21,000

b. Mr. Kimura, Manager of the plant stated that there are no serious bottlenecks that are hampering production at the moment. However, he pointed out as minor problems the following difficulties.

(i) Titanium Dioxide of good quality is scarce in

DECLASSIFIED E.O. 12065 SECTION 3-402/NNDS NO:

Japan and the company desires to obtain it through import trade. Kurashiki plant specializes in the production of rayon which lustre is white milky color. Titanium Dioxide of good quality is absolutely necessary for this finishing touch.

(ii) At the latter part of production process the rayon filament is pushed by gear pump or extracted through the yellow liquid consisting of sulphuric acid, water, zinc sulphate and natrium sulphate. This liquid has been obtained before the above stage through filtering cloth in the pressing machine. The plant is badly in need of this filtering cloth of better quality than the kind they are using now.

(iii) Constant supply of caustic soda and pulp of high quality is a paramount prerequisite to the rayon industry which is rather difficult to maintain under the present economic condition in Japan, Mr. Kimura stated.

(iv) Although Mr. Kimura suggested to make an inspection of a new synthetic fibre plant which is under construction and is expected to be completed in April the inspection was postponed to the future visit due to trip schecule.

4. Conclusion:

The plant is well organized and skillfully managed by able executives and techinicians who are rather young. There are no serious problems that will obstruct the future expansion of the plant.

5. Recommendation:

None.

DECLASSIFIED E.O. 12065 SECTION 3-402/NNDS NO. [redacted]

3 March '60

GENERAL DESCRIPTION OF THE KURASHIKI PLANT

The Kurashiki Plant

Kurashiki Rayon Co., Ltd.

DECLASSIFIED E.O. 12065 SECTION 3 402/NNBS NO: [redacted]

General Description of the Kurashiki Plant

Kurashiki Rayon Co., Ltd.

February 20, 1950

1. Location: 1621, Sakazu, Kurashiki City, Okayama pref.

2. Area of site: 386,685 Sq. meters (96 acre)

3. Area of Building: 72,776 Sq. meters (18 acre)

4. Production at present and future plan:

A. Rayon filament:

We have now the production capacity of 5.2 ton/day and the equipments are now in full operation.

We are intending to rehabilitate 11.5 ton/day production of rayon filament.

B. Synthetic Fiber, Vinylon:

We have now the production capacity of about 200 kg/day of Vinylon staple fiber, about 10 kg/day of Vinylon filament yarn and about 10 kg/day of polyvinyl-chloride. We are now enlarging the Vinylon staple fiber plant to the capacity of 1 ton/day production.

At the same time, we are now constructing the poly vinyl alcohol synthesis plant in Toyama and the Vinylon fiber plant in Okayama for the production of 5 ton/day.

5. Number of employees:

Male:	1,733
Female:	697
Total	2,430 (as on Feb. 20, 1950)

Capacity of dormitory:

Male dormitory: 580 persons.

Female dormitory: 600 persons.

6. History of the Plant:

a. Began construction of the plant in May, 1927.

DECLASSIFIED E.O. 12065 SECTION 3 402/NNSC NO. [illegible]

b. Completed construction on December 31, 1927.

c. Commenced operation on May 9, 1928.

Quantity of rayon filament production: 2 ton/day

d. Expansion of the production equipment had been done in 1939.

Production capacity of rayon filament: 26.212 ton/day

Production capacity of rayon staple: 12.600 "

e. Converted to wood working and electrolysis metallic manganese production in 1943.

f. Upon termination of the war, stopped operation.

g. Approved dated Dec. 13, 1945 for production of plywood, prefabricated house and phenol resin moulding powder with the equipments and materials which had been kept during the war.

h. Approved by HQ, I Corps in Kyoto on May 3, 1946 to produce the synthetic fiber.

i. Approved by GHQ on July, 1947 for rehabilitation fund to produce 200 kg/day of synthetic fiber.

j. Approved by GHQ on April 13, 1948 for the recovery fund to produce 5.2 ton/day for viscose rayon filament.

k. Commenced operation to produce the synthetic fiber on April 27, 1948.

l. Stopped production of prefabricated house at the end of December 11, 1947 and plywood at the end of June, 1948.

m. Commenced operation partially of rayon filament on November 11, 1948.

n. Completed rehabilitation of the production equipments of 5.2 ton/day of rayon filament on May, 1949.

DECLASSIFIED E.O. 12065 SECTION 3 402/MNSC NO: [redacted]

7. Main staffs of the Plant:

Manager of the Plant:	K. Kimura
Chief of General Affairs Section:	M. Hidehira
Chief of Supply Section: (Gyomu)	R. Yoshimune
Chief of Labour Section:	T. Kato
Chief of Rayon Mfg. Section:	T. Arita
Chief of Rayon Machinery Section:	O. Tsunoda
Chief of Synthetic Department:	S. Nomura
Vice-chief of Synthetic Dept:	M. Akaboshi
Chief of Synthetic Research Section:	T. Osugi
Chief of Synthetic Installation Sec:	T. Onishi
Chief of Synthetic Machinery Section:	J. Adachi
Chief of Electric Power Section:	M. Amano

DECLASSIFIED E.O. 12065 SECTION 3 402/NNBS NO.

Statistical Detas

on

the Working Conditions

Kurashiki Plant

Kurashiki Rayon Co., Ltd.

DECLASSIFIED E.O. 12065 SECTION 3 402/NNBS NO:

Working Hours and Wages in January, 1950

		Number of persons	Mean Working hours in a day	Mean Working days in a month	Sum of Monthly wages
Staffs	Male	231	hrs. 8.35 (7.56)	d. 24.5	Ye 3,745,587.0
	Female	4	8.34 (7.51)	24.3	64,207.0
Workers	Male	1,528	8.39 (7.55)	23.9	10,758,590.0
	Female	704	8.08 (7.27)	23.4	2,756,464.0
Total	Male	1,759	8.38 (7.54)	24.0	14,504,177.0
	Female	708	8.08 (7.29)	23.4	2,820,671.0
Grand Total		2,467	8.29 (7.46)	23.8	17,324,848.0

DECLASSIFIED E.O. 12065 SECTION 3 402/MNBS NO:

and Wages of Employees

uary, 1950

Mean Working days in a month	Sum of Monthly wages	Mean monthly wages		
		Normal wages	Extra wages	Total
d.	Yen	Yen	Yen	Yen
24.5	3,745,587.00	13,466.50	2,748.16	16,214.66
24.3	64,207.00	12,622.50	3,399.25	16,021.75
23.9	10,758,590.00	4,867.75	2,259.23	7,126.98
23.4	2,756,464.00	3,209.59	733.20	3,942.79
24.0	14,504,177.00	5,922.25	2,664.53	8,586.78
23.4	2,820,671.00	3,235.74	748.26	3,984.00
23.8	17,324,848.00	5,151.25	2,114.58	7,265.83

DECLASSIFIED E.O. 12065 SECTION 3-402/NNDS NO.

Items of Extra Wages

In January, 1950

		Wages for extra working hours	Additional wages for special operations	Others
Staffs	Male	1,028.98	28.09	1,691.19
	Female	829.25	0	2,570.00
Workers	Male	1,072.96	198.00	988.27
	Female	98.81	1.70	632.69
Total	Male	1,067.18	175.34	1,080.50
	Female	102.94	1.69	643.64
~~Grand total~~ average/wake		790.45	125.75	1,198.38

DECLASSIFIED E.O. 12065 SECTION 3-402/NNDS NO: [illegible]

Dwelling of Employees

in February, 1950

	Livers in the employees' dwellings	Livers in the dormitories	Livers out	Total
Male	355	394 (520)	988	1,737
Female	51	437 (600)	215	703
Total	406	831 (1,180)	1,203	2,440

Remarks: The legal capacities of dormitories are shown in the brackets.

DECLASSIFIED E.O. 12065 SECTION 3 402/NNSS NO.

Present States of Employees

on February 21st, 1950

	Mean Ages	Average years of service in our company	Average Numbers of family members to be supported (under legislature)
Male	29 y. - 10 m.	4 y. - 1 m.	1.7
Female	21 - 5	1 - 7	0.06
Total	27 - 3	3 - 4	1.2

DECLASSIFIED E.O. 12065 SECTION 3 (E)(1)(2) NND 947

3 Nanmeilin

Boarding for Dorm

			1949 June	July	August	Septe
Average number of the boarded per day throughout a month			947	903	892	91
~~Per one meal~~ (Average value)	Nutritive value (per one day)	Calorie	2,405.80 (553.90) 2,959.70	1,992.39 (572.36) 2,564.75	2,128.20 (553.90) 2,682.10	2,10 (55 2,66
		Content of protein	103.54 (13.23) 116.77	71.12 (13.66) 84.78	73.30 (13.23) 86.53	7 (1 9
	Expenses (per one meal)	The charge for boarding	9.19	8.38	8.48	
		The subsidy from the company	11.03	9.99	11.76	1
		Total	20.22	18.37	20.24	2

Remarks: The nutritive values from "the additional portion of rice for the labourer" are shown in the brackets.

DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO.

for Dormitory - Dwellers

August	September	October	November	December	1950 January
892	911	903	836	846	824
2,128.20 (553.90) 2,682.10	2,109.70 (553.90) 2,663.60	2,105.60 (572.36) 2,677.96	2,152.88 (553.90) 2,706.78	2,105.30 (572.36) 2,677.66	2,292.50 (553.90) 2,846.40
73.30 (13.23) 86.53	77.00 (13.23) 90.23	76.68 (13.66) 90.34	77.14 (13.23) 90.37	80.81 (13.66) 94.47	88.30 (13.23) 101.53
8.48	8.57	8.67	8.46	8.51	8.65
11.76	11.54	12.85	9.73	14.95	9.36
20.24	20.11	21.52	18.19	23.46	18.01

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DECLASSIFIED E.O. 12065 SECTION 3-402/NNDS NO: [redacted]

General Description of the Kurashiki Plant

June 25, 1950

File

Kurashiki Plant

Kurashiki Rayon Co., Ltd.

DECLASSIFIED E.O. 12065 SECTION 3 402/NNBS NO: [illegible]

General Description of the Kurashiki Plant

Kurashiki Rayon Co., Ltd.

June 25, 1950

1. Location: 1621, Sakazu, Kurashiki City, Okayama Pref.
2. Area of site: 386,685 Sq. meters (96 acre)
3. Area of Building: 72,776 Sq. meters (18 acre)
4. Production at present and future plan:

A. Rayon filament:

We have the production equipments of authorized capacity of 5.2 ton/day viscose rayon yarn. And of all 45 spinning machines, we are now operating 44 machines everyday.

The kind of the spun product is 120 Dr. bright rayon yarn only.

B. Synthetic Fiber, Vinylon:

We had had the production capacity of 200 kg/day of polyvinyl alcohol, 200 kg/day of Vinylon staple fiber, 10 kg/day of Vinylon filament yarn and 10 kg/day of polyvinyl chloride.

The enlargement of the polyvinyl alcohol plant and the Vinylon staple fiber plant to the capacity of 1 ton/day production was accomplished at the end of March this year. And we are now operating these new equipments.

At the same time, we are now constructing the polyvinyl alcohol synthesis plant in Toyama and the vinylon fiber plant in Okayama for the production of 5 ton/day.

5. Number of employees:

Male:	1,740
Female:	706
Total	2,446 (as at June 24, 1950)

Capacity of dormitory:

Male dormitory:	580 persons.
Female dormitory:	600 persons.

DECLASSIFIED E.O. 12065 SECTION 3 402/NNBS NO.

6. History of the plant:

a. Began construction of the plant in May, 1927.

b. Completed construction on December 31, 1927.

c. Commenced operation on May 9, 1928.
Quantity of rayon filament production: 2 ton/day.

d. Expansion of the production equipment had been done in 1939.

Production capacity of rayon filament: 26.212 ton/day.

Production capacity of rayon staple: 12.600 "

e. Converted to wood working and electrolysis metallic manganese production in 1943.

f. Upon termination of the war, stopped operation.

g. Approved dated Dec. 13, 1945 for production of plywood, prefabricated house and phenol resin moulding power with the equipments and materials which had been kept during the war.

h. Approved by HQ, 1 corps in Kyoto on May 3, 1946 to produce the synthetic fiber.

i. Approved by GHQ on July, 1947 for rehabilitation fund to produce 200 kg/day of synthetic fiber.

j. Approved by GHQ on April 13, 1948 for the recovery fund to produce 5.2 ton/day for viscose rayon filament.

k. Commenced operation to produce the synthetic fiber on April 27, 1948.

l. Stopped production of prefabricated house at the end of December 11, 1947 and plywood at the end of June, 1948.

m. Commenced operation partially of rayon filament on Nov. 11, 1948.

n. Completed rehabilitation of the production equipments of 5.2 ton/day of rayon filament on May, 1949.

DECLASSIFIED E.O. 12065 SECTION 3-402/NNDS NO. [redacted]

7. Main staffs of the plant:

Manager of the Plant:	H. Imamura
Chief of General Affairs Section:	M. Hidehira
Chief of Supply Section:	K. Kusumi
Chief of Labour Section:	T. Kato
Chief of Rayon Mfg. Section:	T. Arita
Chief of Rayon Machinery Section:	O. Tsunoda
Chief of Synthetic Research Section:	T. Osugi
Chief of Synthetic Mfg. Section:	S. Kobinata
Chief of Synthetic Machinery Section:	J. Adachi
Chief of Electric Power Section:	M. Amano

DECLASSIFIED E.O. 12065 SECTION 3 402/MNDS NO: [redacted]

Explanation of the Synthetic Fiber (Vinylon) Plant

June 25, 1950

Kurashiki Plant

Kurashiki Rayon Co., Ltd.

DECLASSIFIED E.O. 12065 SECTION 3 402/NRS NO.

Explanation of the Synthetic Fiber (Vinylon) Plant

Content

1. Introduction

2. Flowsheet of production process

3. Production equipments

4. Quality of vinylon

5. Plan of production

DECLASSIFIED E.O. 12065 SECTION 3 402/NNSG NO.

1. Introduction:

Our production equipments of 200 kg per day of vinylon were accomplished on April, 1948. And we have been engaging in its test production and the researches on it since then.

Thus we have made our efforts for the establishment of the foundation of industrial technique together with the improvement of the quality. Beliving that we have almost obtained our objective, we set to work the construction for production increase to 1,000 kg per day of vinylon staple in October, 1949 and finished it in March of this year. Therefore, the capacity of to-day is 1 ton per day of vinylon as is shown in the following table.

Product	Old equipment	New equipment	Total
Vinylon	200 kg/day	800 kg/day	1,000 kg/day
Polyvinyl alcohol(PVA)	200 "	800 "	1,000 "
Vinyl acetate(VAC)	500 "	1,800 "	2,300 "

New equipments are characterized by the new technique introduced in the whole process, and by the shortening and rationalization of production process for the improvement of quality. PVA is self-consumed as the material for vinylon, film and others, and VAC is used as the material for PVA, while on the other hand, the acetic acid, the material for VAC is purchased and carbide is made in the plant but the latter is to be purchased because of its small quantity of production. Vinylon tow and staple are partly spun in our Okayama Plant and the most part of them are being spun in other plants.

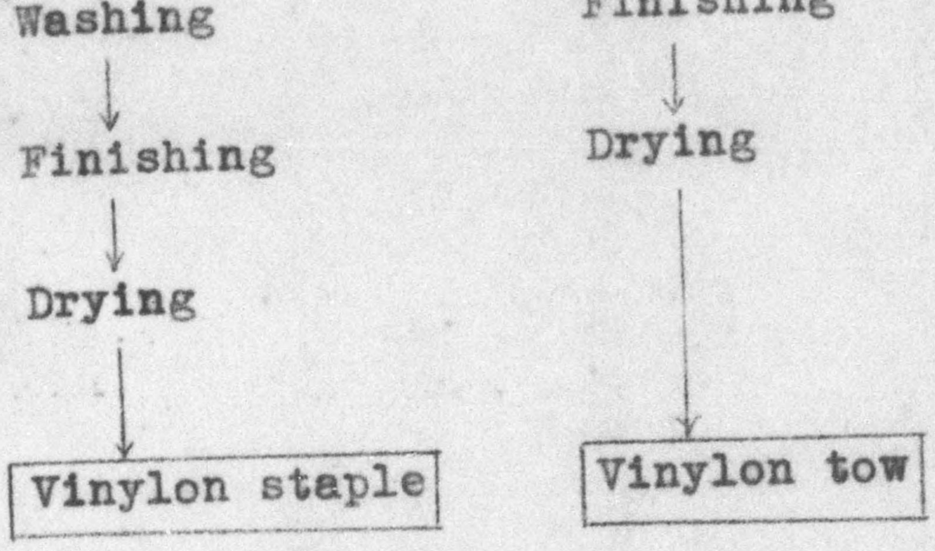
DECLASSIFIED E.O. 11652 SECTION 3 (E)(1) NLE NO. [illegible]

By the operation of these new equipments the technical foundation of vinylon staple for industrialization has been established. Accordingly we planned to construct the plant for 5 ton's scale and the erection work is in progress. The following is the construction plan for vinylon plant of 5 ton per day and it is expected to be operated from this coming September.

Product	Capacity	Plant's location	Expected date of completion
Vinylon	5 ton/day	Okayama	October, 1950
PVA	"	Toyama	September, 1950

DECLASSIFIED E.O. 12065 SECTION 3 (b), MAR 88

2. Flowsheet of production process: (New equipments)



Different points of new equipments from the old one are as follows:

(1) Polymerization method of vinyl acetate is by solvent (Old method: emulsion polymerization) and is continuous system for shortening the process and reduction of methanol.

(2) Saponification process of polyvinyl acetate is made into continuous so that the process will be shortened.

(3) Spinning machine is vertical system (Old one was horizontal system).

(4) Heat stretching is inserted in the process so as to increase the strength of the product.

(5) Heat treatment machine for staple fiber is revolving cylinder type in order to raise the productive efficiency.

DECLASSIFIED E.O. 11652 SECTION 3 (E)(2) NARS NO.

3. Production equipments:

Name of machine		Type	Quantity
Vinyl acetate production	Gas holder	200 m^3	1
	Acetylene preheater	1,200 ø x 4,000H	1
	Acetic acid evaporator	950 ø x 3,000H	1
	VAC reaction vessel	2 ton/day	1
	Heat exchanger	950 ø x 3,800H	1
	Coaqulating app.	950 ø x 3,600H	2
	Acetic acid tank	1,900 ø x 3,000H	6
	Crude monomer tank	1,900 ø x 3,000H	6
	VAC distillation app.	2.3 ton/day	1 set
Polyvinyl alcohol production	Continuous polymerization app.	2.2 ton/day	1 set
	Caustic soda, alcohol tank	1,600 ø x 3,000H	4
	Continuous saponification app.	1 ton/day	1
	Vacuum dryer	clored system	1
	Methanol distillation app.	35 ton/day	1 set
	Pure methanol tank	2,500 x 3,500 x 5,000H	4
	Waste methanol tank	2,500 x 3,500 x 5,000H	4
Vinylon production	Spinning machine	60 spinnerett	4
	Heat stretching machine	1 ton/day	1
	Cutter		2
	Heat treatment machine (for staple fiber)	Rotary system	1
	After treatment app.	1 ton/day	1 set
	Fiber dryer	Rotary system 2 ton/day	1

DECLASSIFIED E.O. 12065 SECTION 3 402/NNBS NO:

4. Quality of vinylon:

We submitted the report before regarding the general features of vinylon staple and also its characteristics of vinylon goods, and here we mention the results of our experiments since then:

(1) The strength of vinylon has been improved lately:

		Dr.	Wet strength	Wet elongation	Wet strength / Dry strength
1949	Feb.	1.5	2.53	24.0	79.6
	Mar.	1.5	2.63	24.2	80.2
1950	Feb.	2.0	2.34	19.5	78.4
	Mar.	2.0	3.00	18.4	80.6

Note: Generally, the strength of 1.5 D is 20% larger than that of 2.0 D.

(2) Vinylon is strong against corrosion in the sea water. The steeping test of vinylon fishing net in the sea water shows that vinylon has not been corroded and has not lost the strength after about 10 months (from June 1949 - mar. 1950) without antiseptic treatment. Cotton fishing net has lost its strength after 10 to 15 days without antiseptic treatment and even though it being antiseptic treated, the decrease of strength has been remarkable after about 4 months.

(3) Vinylon shows its excellent value as the working clothes in the chemical plants of acid and alkali.

DECLASSIFIED E.O. 12065 SECTION 3 402/NNBS NO.

Practical wearing test of vinylon working clothes in the spinning room of our Saijo viscose rayon plant shows no variation after one year and half.

(4) Vinylon socks are durable.

Abrasion test of vinylon socks in comparison with that of cotton and wool shows that vinylon is durable 3 times as much as of cotton and 6 times of wool. Practical wearing test has proved that they are durable for two and three months.

(5) Vinylon is suitable for knitted goods(underwears). Vinylon underwears are exceedingly warm and comfortable with the feeling similar to woolen goods.

(6) Dyeing property of vinylon has been improved:

After several researches on the dyeing method, the fiber is dyed and stabilized very well by the sulphur dye, vat dye, insoluble azo dye, and cellitazol dye and it also is well dyed by celliton dye and basic dye but is inferior in stability.

It also is possible to be dyed by the direct dye, but the thick colour is insufficient in its stability.

5. Plan of production:

Our plan of the production from April to June is as follows.

	April	May	June	Total
	tons	tons	tons	tons
VAC	48	60	66	174
PVA	18	24	30	72
Vinylon	16	24	30	70

DECLASSIFIED E.O. 12065 SECTION 3 402/NNBS NO:

Explanation of the Viscose Rayon Plant

June 25, 1950

Kurashiki Plant

Kurashiki Rayon Co., Ltd.

DECLASSIFIED E.O. 12065 SECTION 3 402/NNBS NO.

Explanation of Our Rayon Plant

Contents

I. Quality of rayon pulp and analytical values of raw materials.

II. Manufacturing condition.

III. Results of the plant operation.

IV. Production equipments.

DECLASSIFIED E.O. 12065 SECTION 3 NARS NO.

(I) Quality of Rayon Pulp and Analytical Values of Raw Materials

(A) Quality of Rayon Pulp

(Used in our plant from Sept. 1949 up to now)

1. Analytical Detas of Rayon Pulp

Brand		Modocell	Backeye Cotton Linter	Anchor Silk	Uddeholm Ultra	For Si
Imported date		1949 May 5	July 28	May 1	May 1	Jun
Ship		Tomar & Oluf Maersk	Nolman Lykes	Holland	Holland	Olu Mae
1. Length	mm.	789	783	815	802	803
2. Breadth	mm.	600	630	603	603	603
3. Net weight	g/m^2	587.9	375.8	1,055.8	772.4	886
4. Thickness	mm.	0.92	0.96	1.34	0.96	1
5. Deviation of thickness	%	3.6	2.4	4.2	3.4	3
6. Dust	mm^2/m^2	27.2	5.1	80.5	26.8	180
7. Ash	%	0.11	0.08	0.05	0.07	0
8. Resin (Alcohol Benzol 1:1 extract)	%	0.63	0.49	0.54	0.53	0
9. α-cellulose	%	89.6	98.7	88.5	90.8	88
10. β-cellulose	%	5.39	1.1	6.3	4.2	4
11. Copper number	%	1.7	0.33	1.6	1.3	1
12. Relative viscosity (cuprammonium)		3.9	4.2	4.4	4.4	4
13. Swollen thickness times original one		7.3	5.9	8.6	6.8	7
14. Swollen weight times original one		4.4	2.6	5.6	4.4	4
15. Shrinkage: Length	%	8.1	16.8	6.7	10.5	8
Breadth	%	5.0	12.5	4.9	6.7	5
16. Alkali absorption velosity Length mm/5 min.		37	49	42	38	39
Breadth mm/5 min.		34	47	34	37	37

DECLASSIFIED E.O. 12065 SECTION 3 402/MNSC NO:

eholm tra	Forss star Silk	C. D. Extra	Pulpcose Extra	Corona Super 1	Hercules Cotton Linter	B. C. Excel	Modosilk
y 1 lland	June 5 Olut Maersk	June 3 Tamerlame	May 1 Kanbodia	Dec. 17 Bengal	Sept. 2 Paducah Victory	Dec. 11 Dansbory	1950 Jan. 25 Bali
2	803	751	803	799	802	765	787
5	603	639	576	603	595	600	591
72.4	886.6	580.8	774	585	365	556	660.3
0.96	1.08	0.90	0.95	0.89	0.86	0.85	1.08
3.4	3.5	4.0	3.3	4.0	2.3	7.9	1.7
26.8	180.9	22.4	52.4	82.5	10.5	49.0	94.8
0.07	0.34	0.13	0.04	0.07	0.07	0.08	0.1
0.53	0.58	0.81	0.57	0.57	0.19	0.29	0.11
90.8	88.4	91.1	90.1	90.6	98.6	91.0	90.3
4.2	4.9	4.8	5.2	5.3	1.05	5.5	5.8
1.3	1.9	1.1	1.4	1.07	0.4	1.04	1.3
4.4	4.1	4.9	4.2	4.2	4.8	4.2	4.3
6.8	7.4	6.2	6.7	7.4	5.2	6.5	6.95
4.4	4.5	3.6	4.2	4.9	2.3	4.6	4.5
10.5	8.2	6.5	8.3	10.0	16.8	10.0	8.0
6.7	5.6	6.1	4.9	6.7	11.3	6.3	5.0
38	39	32	32	35	37	38	37
37	37	32	31	31	35	38	34

DECLASSIFIED E.O. 12065 SECTION 3-402/NNDS NO. [redacted]

2. Operative Result of Rayon Pulp

(1) Modocell

i) There is much deviation in size and thickness.

ii) The colour of soda-cellulose is somewhat blackish. And also steep soda seems to become a little blackish.

iii) It behaves well in steeping.

iv) Its xanthating property is not so good. (Combined S is the less and by-product S is the more.)

v) Filtering is very easy.

vi) Produced yarn is not so good.

(2) Backeye Cotton Linter

i) On steeping it rather shrinks.

ii) Soda-cellulose becomes somewhat sticky on shredding. And this makes the shredding operation difficult.

iii) Its xanthating degree is higher than that of wood pulp.

iv) Produced yarn is excellent in its tenacity and elongation.

(3) Anchor Silk

i) There is much deviation in size and thickness. And also there are two type of wire direction.

ii) Moisture content is high.

iii) It looks to consist of short fibers. Shredding is easy.

iv) Liquor absorption velocity is rather fast, and swelling is normal.

v) The colour of soda-cellulose is a little blackish.

vi) The viscose and the yarn obtained fromit are inferior in the quality.

(4) Uddeholm Ultra

i) It occasionally floats up in the stage of filling-up of steep soda.

DECLASSIFIED E.O. 12065 SECTION 3-402/NNDG NO. [redacted]

ii) Normal viscose and rather better quality yarn are obtained from it.

(5) Forss Star Silk

i) It is soft in surface. Swelling is normal.

ii) The colour of soda-cellulose is somewhat blackish.

iii) Shredding is easy.

iv) Combined S in the viscose from it is a little more.

v) Produced yarn is not so good.

(6) C. D. Extra

i) The colour is not so white and liquor absorption velocity is a little slow.

ii) Swelling is normal.

iii) Reaction heat during steeping is the highest.

iv) Filtering is a little difficult.

v) Normal viscose and rather better quality yarn are obtained from it.

(7) Pulpcose Extra

i) It is stiff in surface. Swelling is a little small.

ii) The colour of soda-cellulose is somewhat blackish.

iii) Shredding is easy.

iv) Produced yarn is not so good.

(8) Corona Super I

i) It is a little stiff in surface. Swelling is normal.

ii) The colour of soda-cellulose is slightly blackish.

iii) Shredding is easy.

iv) Normal viscose and fairly good quality yarn are obtained from it.

(9) Hercules Cotton Linter

i) Its property is the same as Backeye brand cotton linter pulp.

ii) Compared with Backeye brand one, the viscosity of viscose immediately after dissolving is a little higher.

(10) B. C. Excel

i) The colour is very white.

ii) It looks a little compact in surface but is not so stiff.

iii) Liquor absorption velocity is slow. It occasionally floats up in the stage of filling-up of steep soda.

iv) Swelling is normal.

v) Filtering is somewhat difficult.

vi) Good viscose and good quality yarn are obtained from it.

(11) Modosilk

i) It is rather soft in surface.

ii) Swelling is normal.

iii) It occasionally floats up in the stage of filling-up of steep soda.

iv) Shredding is easy.

v) Good viscose and good quality yarn are obtained from it.

DECLASSIFIED E.O. 12065 SECTION 3 (b), MAR 1982

(B) Analytical values of raw materials

1. NaOH

Date		Tokuyama Soda				
		March 20	March 21	March 27	March 28	January 9
NaOH (20°C)	%	46.38	46.48	46.67	46.94	35.18
Na_2CO_3	%	0.29	0.41	0.20	0.19	0.38
NaCl	%	0.32	0.32	0.39	0.39	0.12
Na_2SO_4	%	0.058	0.056	0.043	0.046	0.029
SiO_2	%	0.138	0.137	0.134	0.128	0.015
Fe_2O_3	%	0.005	0.0054	0.0038	0.0039	0.0012
Al_2O_3	%	0.015	0.0141	0.035	0.035	0.025
SiO_2, Fe_2O_3, Al_2O_3	%	0.158	0.1561	0.1728	0.1669	0.0912

DECLASSIFIED E.O. 11652 SECTION 3 (E)(2) WAR DEPT

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kuyama Soda			Toa Gosei				
March 27	March 28	January 9	January 11	January 18	January 20	January 11	Januar 21
46.67	46.94	35.18	37.88	40.67	40.66	38.51	37.59
0.20	0.19	0.38	0.14	0.21	0.28	0.26	0.37
0.39	0.39	0.12	0.16	0.27	0.28	0.04	0.07
0.043	0.046	0.029	0.035	0.041	0.063	0.01	0.00
0.134	0.128	0.015	0.014	0.009	0.	0.014	0.01
0.0038	0.0039	0.0012	0.0016	0.0024	0.0036	0.0055	0.00
0.035	0.035	0.025	0.013	0.017	0.0074	0.009	0.00
0.1728	0.1669	0.0912	0.0286	0.0284	0.122	0.0235	0.02

				Kureha	Kagaku		
January 20	January 11	January 21	January 31	February 9	February 15	February 28	March 2
40.66	38.51	37.59	33.11	34.50	30.90	32.28	30.76
0.28	0.26	0.37	0.37	0.26	0.25	0.24	0.36
0.28	0.04	0.073	0.037	0.022	0.035	0.012	0.01
0.063	0.01	0.009	0.0024	0.0046	0.0012	0.028	0.01
0.	0.014	0.0135	0.0197	0.025	0.022	0.007	0.02
0.0036	0.0065	0.0006	0.0007	0.0012	0.0015	0.0022	0.00
0.0074	0.009	0.009	0.0078	0.0023	0.04	0.09	0.08
0.122	0.0235	0.0231	0.0282	0.0492	0.0635	0.0992	0.10

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Kureha	Kagaku				
bruary 9	February 15	February 28	March 2	March 16	March 24
4.50	30.90	32.28	30.78	33.36	33.95
0.26	0.25	0.24	0.36	0.36	0.20
0.022	0.035	0.012	0.012	0.041	0.065
0.0046	0.0012	0.028	0.017	0.015	0.018
0.025	0.022	0.007	0.02	0.021	0.022
0.0012	0.0015	0.0022	0.0015	0.0025	0.003
0.0023	0.04	0.09	0.08	0.0045	0.005
0.0492	0.0635	0.0992	0.1015	0.019	0.030

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2. CS_2

Date	Chugoku				
	January 9	January 27	February 7	February 10	February 12
Sp. gr. (15^oC)	1.2747	1.2750	1.2764	1.2750	1.2768
Resiaue %	0.0052	0.0031	0.0098	0.0103	0.0169
Organic S-comp.	Much	Much	Much	Much	Much
SO_4-comp.	0	0	0	0	0
SO_3-comp.					
H_2S %	Much	Much	Much	Much	Much

3. H_2SO_4

Date	Mitui Kozan				Nitetsu	
	March 9	March 10	March 17	March 28	January 13	January 23
Sp.gr.(15^oC)	1.8425	1.8415	1.8420	1.8420	1.8414	1.8420
H_2SO_4 %	99.04	98.94	99.08	99.44	97.50	98.65

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o k u		Sangyo					Nippon Io
uary 0	February 12	February 18	February 26	March 5	March 25	March 25	March 9
750	1.2768	1.2753	1.2759	1.2760	1.2744	1.2759	1.27
103	0.0169	0.0141	0.0129	0.0130	0.0156	0.011	0.0024
ch	Much	Much	Much	Much	Much	Much	Much
0	0	0	0	0	0	0	0
ch	Much	Much	Much	Much	0.0017	0.0010	0.0010

itetsu		Hirohata			Konoshima Kagaku		Nito Kagaku	Nippon Kogyo
ry 3	January 23	February 20	February 26	March 4	February 17	March 8	February 11	January 28
14	1.8420	1.8417	1.843	1.845	1.8408	1.8414	1.844	1.8435
50	98.65	98.58	98.81	99.04	97.1	99.55	97.77	95.83