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

# HISTORICAL RECORD

## TOYO SEN-I CO., LTD.

ECONOMIC FILE

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

1. TRADE NAME OF THE COMPANY: Toyo Sen-i Co., Ltd.
(Toyo Textile Co., Ltd.)

2. CAPITAL AND DATE OF ESTABLISHMENT:

a. Date of Establishment. March 5th, 1918
b. Capital. (paid) ¥ 50,000,000.

3. OBJECT OF THE COMPANY:

Degumming and bleaching of all kinds of fibres and also spinning & weaving of linen (ramie) and wool.

4. ADDRESS AND BUSINESS OF HEAD OFFICE, BRANCHES AND MILLS:

| Name | Address | Business |
|---|---|---|
| Tokyo Head Office | Muromachi, Nihonbashi, Chuo-ku, Tokyo. | Trade, Stock. |
| Mihara Head Office (substantial head office) | Shiromachi, Mihara, Hiroshima Pref. | General Affairs, Scheme, Finance, Manufacturing, Labor Affairs, Raw Materials, Equipments, Sanitation. |
| Mihara Mill | Shiromachi, Mihara, Hiroshima Pref. | Spinning, Weaving, Dyeing, Finishing. |
| Yatsushiro Mill | Inouecho, Yatsushiro, Kumamoto Pref. | Spinning. |
| Onomichi Mill | Kuriharacho, Onomichi, Hiroshma Pref. | Weaving. (ramie & cotton) |
| Hikone Mill | Nakajimacho, Hikone, Shiga Pref. | Weaving. (ramie & cotton) |
| Notogawa Mill | Notogawamachi, Kanzaki-gun, Shiga Pref. | Bleaching, Dyeing, Finishing. |
| Tatsutayama Farm | Kurokamicho, Kumamoto, Kumamoto Pref. | Cultivation & Research of Raw Materials. |

| | | |
|---|---|---|
| Tokatta Farm | Miyamura, Karita-gun, Miyagi Pref. | Cultivation & Research of Raw Materials. |
| Osaka Branch | Yokobori, Higashi-ku, Osaka. | Trade, Equipments. |
| Kumamoto Branch | c/o Kyushu Sangyo Kotsu Building, Hanabatake, Kumamoto. | Raw Materials. |

## 5. STAFFS AND MAIN SHAREHOLDERS:

### a. Staffs.

| | | |
|---|---|---|
| President | | Goro Kawasumi |
| Managing Director | | Daizo Kimura |
| Director | Manager of Mihara Mill | Tsunehisa Okano |
| Director | Manager of Yatsushiro Mill | Fukushiro Katase |
| Director | Manager of Onomichi Mill | Yoshimori Okabe |
| Director | Chief of Trade Dpt. | Tadao Onoe |
| Auditor | | Kyuzaemon Nishida |
| Auditor | | Morisada Hosokawa |

### b. Main Shareholders.

| | |
|---|---|
| Kyuzaemon Nishida | 38,880 Shares |
| Morisada Hosokawa | 34,210 Shares |
| Kyuichiro Nisida | 19,749 Shares |
| Atsunosuke Koike | 13,174 Shares |
| Makoto Nishida | 11,831 Shares |

6. HISTORY OF THE COMPANY:

Our company was established in Tokyo 1918 under the trade name of Toyo Asaito Boseki Co., Ltd. (Toyo Ramie Spinning Co.. Ltd.) at the proposal of Baron Gou and famous business man Mr. Isaka, and at that time of establishment the capital was ¥ 2,000,000.

In September of the same year, spinnery was established in Yokohama and in November 1922 Mihara Mill was established in Mihara city, Hiroshima Prefecture, however, in September 1923, as Yokohama Mill was throughly broken down suffering the damages by Great Kanto Earthquake we were obliged to concentrate all of our productive power to Mihara Mill only.

In 1922, Hikone Mill was established for the purpose of commencement of home spinning work for general textiles.

However in the beginning of Showa Period (1927—1935) suffering the secondary effect of business depression spreaded all over the country the capital of our company was compelled to reduce to ¥ 950,000.

In 1937, Notogawa Mill was established as the finishing mill, in such ways the complete systematic work was realized, viz. from spinning to finishing of textiles.

Since China Accident all of our products had been submitted as military goods only without any production of civil goods.

In February of the same year the capital was increased to ¥2,000,000. in order to newly increase 10,000. spindles of short fibre spinning and 500 sets of spinning machines and to buy site of mill, besides, in 1940 we increased the capital to ¥ 4,000,000. for the purpose of construction of short fibre spinning mill and of dormitories, and in 1942 the capital was increased over again to ¥ 8,000,000. in order to increase 8,000. spindles

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of spinning, 400 sets of rooms and to construct dependent mills.

In September 1943, Yokohama Hanpu Co., Ltd. (Yokohama Duck Co., Ltd.) was amalgamated to our company and the capital was increased to ¥9,250,000. and we opened Onomichi Mill for the purpose of amplification of weaving work. Onomichi, Hikone and Notogawa mills were appointed as cooperative controled plants by army and navy in November of the same year, and company's name was changed as Toyo Koku Sen-i Co., Ltd (Toyo Aviation Textile Co., Ltd.)

But just after the post war, we converted all of our works to production of civil goods as all mills did not suffer the war calamity, and we have been producing clothing textiles and fishing net twine.

In May 1947, new spinnery was established in Yatsushiro, Kumamoto Prefecture and continually two farms were established, one is in Kyushu and another one is in Tohoku, because choice ramie plant are required to weave excellent cloth for export, and we are making our all efforts for cultivation and study.

In June 1947, we were given an order for 20,000 sets of table cloth as the first exportable goods since the post war and in June 1948 we concluded the import contract of foreign raw materials of ramie, then the first raw materials from China have been arriving since the last August, besides we concluded the contract with R. D. C. (Ramie Development Corporation) in Philippine (contract No. JI 30080, July 29) and import contract of 300 tons per month was concluded with above company through Trade Board, and for these raw materiales our company is planing to export decorticating machines manufactured by our company.

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7. OUTLINE OF BUSINESS :

(1) Main Manufactures.

a. Spinning.

Various kinds of weaving yarn.

Fishing net twine.

Sewing thread.

Linoleum yarn.

Carpet yarn.

Ramie & staple fibre mixed yarn.

Fishing net cordage.

b. Weaving.

Various kinds of ramie cloth.

Duck.

Ramie raw cloth for table cloth. (No. 1, 2, 3.)

Hessian cloth.

Ramie & staple fibre mixed cloth.

Shirting.

Dyed suiting.

Fabric hose.

Cotton duck. (No. 1, 3.)

Cotton heavy cloth.

Cotton cloth.

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(2) Equipments in Mills. (December 1, 1948)

| | Mihara Mill | Yatsushiro Mill | Onomichi Mill | Hikone Mill | Notogawa Mill | Total |
|---|---|---|---|---|---|---|
| | Spinning, Weaving, Dyeing | Spinning | Weaving | Weaving | Bleaching, Dyeing | |
| Site area (sq.m) | 170,973 | 36,802 | 36,726 | 10,036 | 7,356 | 261,893 |
| Plant area (sq.m) | 65,555 | 13,042 | 14,959 | 5,663 | 1,888 | 101,107 |
| Employee | 2,100 | 504 | 502 | 187 | 88 | 3,681 |
| Fermentation tank (set) | 31 | / | / | / | / | 31 |
| Degumming tub (set) | 17 | 6 | / | / | / | 23 |
| Spinning machine (spindle) | 30,252 | 6,264 | / | / | / | 36,516 |
| Twisting machine (spindle) | 5,776 | 3,000 | 4,160 | / | / | 12,936 |
| Loom (set) | 616 | / | 408 | 262 | / | 1,287 |
| Dyeing machine (set) | 15 | / | / | / | 30 | 45 |

Area of two farms are as follows.

Tatsutayama Farm ..... 2,217,600 sq.m

Tokatta Farm ..... 77,880 sq.m

Total..... ..... 2,295,480 sq.m

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(3) Productive Condition.

| | | Productive Quantity | | Productive Capacity | | Persentage to Productive Capacity | |
|---|---|---|---|---|---|---|---|
| | | 1947 | 1948 | 1947 | 1948 | 1947 | 1948 |
| Spinning (1000 lbs) | | 1,922 | 1,830 | 3,910 | 4,040 | 47 % | 48.5% |
| Weaving (ramie) (1000 yds) | | 1,306 | 442 | 2,600 | 1,450 | 50 % | 30 % |
| Weaving (cotton) (1000 yds) | | 1,020 | 2,217 | 3,300 | 3,200 | 41 % | 69 % |
| Dyeing or Bleaching (1000 yds) | | 3,014 | 1,207 | 3,500 | 3,500 | 80 % | 34 % |
| Total | 1000 lbs | 1,922 | 1,830 | 3,910 | 4,040 | average | average |
| | 1000 yds | 5,340 | 3,866 | 8,400 | 8,150 | 55 % | 45 % |

(Notes)

Sufficient yielding were not made by reason of shortage of raw materials and labor, but as raw materials have been imported since August yielding has been increasing.

(4) Raw Materials.

Ramie are applied chiefly as raw materials.

As raw materials of linen are under the control of distribution we buy them with allocation certificate issued by Commercial & Industrial Dpt. as the important materials, and about 4,000 tons of raw materials are required by us per year.

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Concerning Japanese ramie, we buy from Consignation Union who gather raw materials from general farmers in Kyushu district and Chugoku district ( chiefly Kyushu ), and concerning foreign raw materials, they are transfered to our company by Textile Trade Board.

In 1947, we had got 400 tons of Japanese ramie, and foreign ramie have been imported since August 1948.

(5) Sale of Manufactures.

Manufacturing are made in accordance with manufacturing instruction issued by Textile Bureau of Commercial & Industrial Dpt. every three months, and manufactures are delivered in change for allocation certificate of consumers, and buyers are to be ones who are registered in Textile Bureau of Commercial & Industrial Dpt. as appointed textile seller or cothing wholesaler based upon textile rule. Main buyers of our company are as follows.

| Main Buyers in Japan. | Sales Persentage |
|---|---|
| Toyoasa Shoji Co., Ltd. (Toyoasa Commercial Firm) | 25.7 % |
| Wakabayashi Co., Ltd. | 9.4 % |
| Morigo Firm | 9.2 % |
| Hirota Firm | 9.2 % |
| Textile Trade Board | 7.0 % |
| Kyuyosha | 5.0 % |
| Morishita Firm | 4.1 % |
| Kurihara Firm | 3.8 % |

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| | |
|---|---|
| Yamato Sen-i Sangyo (Yamato Textile Industry) | 3.1 % |
| Nichiro Gyogyo (Nichiro Fishery) | 3.0 % |
| Others | 20.2 % |
| Total | 100 % |

Through above-mentioned asscciations, manufactures are delivered to Occupation Forces, Trade Bureau, and Railroad Administration Bureau, Land-carriage Administion Bureau, Marine-transportation Bureau of Transportation Dpt., and Communication Dpt., Financial Dpt., Welfare Dpt., National Fire Board, Marine Safety Board and other various kinds of control associations.

All manufactures are to be through Textile Trade Board in case of export, and at present sales persentage is not so much like mentioned above but it is increasing gradually.

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8. FIXED ASSERTS:

Among fixed asserts unit price of land and building are as follows.

Whole area of land ..... 377,857 sq. m

¥ 7.40 per one sq. m

Whole area of building ..... 104,250 sq. m

¥ 101.38 per one sq. m

And depletion of fixed assrets till August, 1948 are as follows.

(Unit: Yen)

| Items | Acquisitive price | Total Depletion (Till Feb.29, 1947) | Depletion (From Mar.31, 1948 Till) Aug.31,1948 | Book Value (Aug.31, 1948) |
|---|---|---|---|---|
| Building & Structure | 11,902,482 | 2,022,268 | 524,253 | 10,569,531 |
| Machinery & Equipment | 9,640,398 | 2,223,475 | 1,032,615 | 6,384,308 |
| Vehicle & Transporter | 887,560 | 200,134 | 114,873 | 572,552 |
| Implement & Appliance | 3,121,329 | 504,110 | 269,817 | 2,347,401 |
| Total | 25,551,770 | 4,949,988 | 1,941,560 | 19,873,796 |

The number of all spindles of our company is 36,516 spindles, and book value including land, building, machinery and other accessory equipments is ¥ 412 per one spindle.

Looms are 1,287 sets in total, and ¥ 3,368 per one set.

Converting these looms into spipdles the number of all spindles become 75, 192 spindles and book value is ¥ 302 per one.

Our company had established Yatsushiro Mill just after the post war

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but machinery of that mill are ones which had been bought before the post war and though some new buildings add the burden it can be called that the equipments are almost same with the prewar, accordingly high eqipments' expenses are not required.

Book value of one spinning spindle was ¥ 150 in 1937 when the capital was ¥ 950,000.

9. LABOR UNION:

Labor unions of our company had been organized in each mill between 1945 and 1946, and after that the council which unified each union was organized.

In February, 1948 the council was reformed into Tosen labor union with the headquarters in Mihara Mill, and branches were settled in each mill, and executive committees of each branch usually stayed in headquarters.

However, as the result of labor trouble which had been walked for 40 days, between April and May, 1948, the unified union was dispersed then single unions were reorganized in each mill and still at present.

The labor union did not join with any central labor association till March 1948 but after that the union had been influenced gradually by "Sanbetsu" and during the labor trouble the union had been supported by Pan Chemical Labor Union of "Sanbetsu" (Lndustrial Union).

At present, labor unions of Mihara, Onomichi and Notogawa mills belong to All Textile League of General League and other Yatsushiro and Hikone mills are tending to join to General League.

Outline of labor trouble which was happened in April, 1948 was as follows.

At the maturity of labor agreement, which had been concluded

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between the company and the union, the union opposed the new agreement in matter of disposition for complaint asserting to take part of personal affairs right and management right, but after repeated negotiations the union had walked out strike, however, as the company had firmly maintained the belief picking out the excessive movements of the union, member who examined themselves began to leave from union one after one at the end of May, besides as leaders of union were convinced of their error they had withdrawn their demands unconditionally, thus the trouble was solved and work was recovered although the union was broken out.

From June new single unions have been organized gradually and managers of each mill have concluded the agreements with each union, in such ways the agreements which appropriate for company were established under the following conditions, personal affairs right, management right and disposition for complaint are to be taken by the company and employees who take special jobs are to be non-union-member.

10. EQUIPMENTS FOR WELFARE:

Dormitories, dining room, bath room, hospital, creche, lecture hall, library, ~~barbers shop~~, hair-dressing room, tailors and stall of necessaries are applied for employees, and lecture-meeting, culture-meeting, movie-party are held, besides, recreation party and athletic match are held in spring and in autumn.

Three meals are served for employees who live in dormitories, and lunch are served for all employees by cheap charge, besides attached hospital is giving free medical treatment for all employees and by cheap charge for their family.

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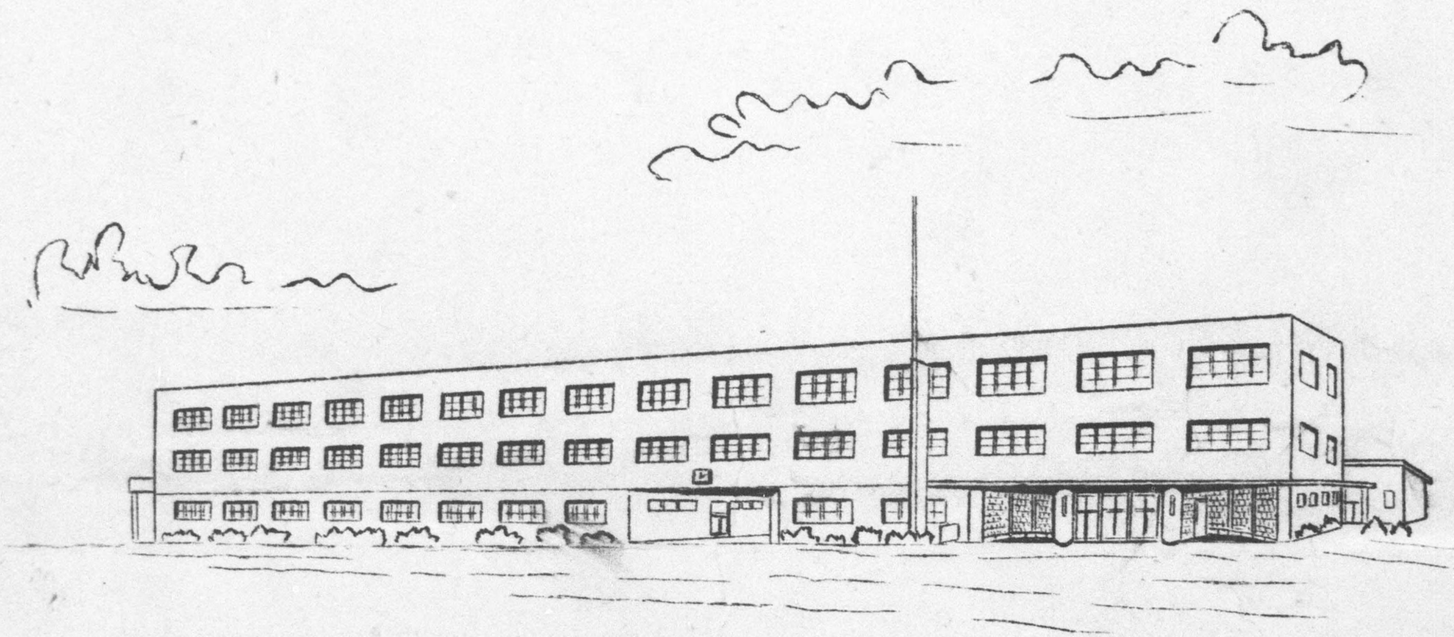
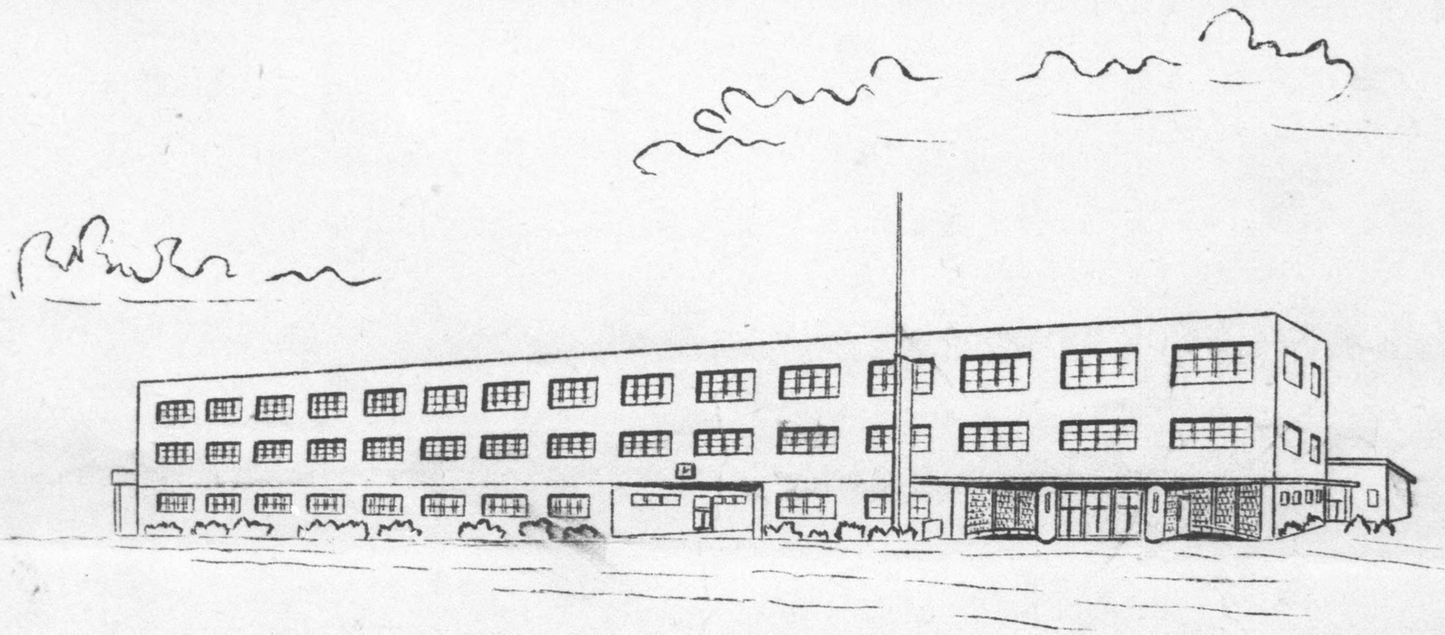
# OUTLINE OF PLANT





# TOYO KOGYO KABUSHIKI KAISHA

HIROSHIMA JAPAN

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C O N T E N T


I. HISTORY OF PLANT

II. ACTUAL PRODUCTION FIGURES

III. FUTURE PRODUCTION GOAL

IV. OUTLINE OF ACCOMODATIONS

V. REPARATION

VI. OUTLINE OF EMPLOYEES

VII. OUTLINE OF WELFARE ACCOMODATIONS

## I. HISTORY OF PLANT

1. This firm was founded in January 1920, with a capital of 500,000 yen, under the name of "Toyo Cork Kogyo Kabushiki Kaisha" and established the Main Office and plant at Yoshijima-cho, Hiroshima-shi. Commenced production of cork products.

2. In 1927, deciding to enter the field of machinery, altered the firm's name to "Toyo Kogyo Kabushiki Kaisha." In 1931, transferred the main office and plant to the present location and started producing 3-Wheel Motor Trucks.

3. In 1933, expanded the plant and commended making Rock-Drills, followed by Small-Tools and Machine Tools with an aim to be self-supporting.

4. In 1934, increased capital to 2,000,000 yen.

5. In 1937, further expanded plant by increasing capital to 5,000,000 yen. Succeeded in increasing the production of 3-Wheel Motor Trucks and Rock-Drills. At the same time, Small-Tools and Machine Tools gradually began to make their display in markets and established the foundation for mass production of these Civilian Commodities.

6. In 1939, increased capital to 15,000,000 yen.

7. In 1940, commenced rifle production. Capital increased to 30,000,000 yen in 1943.

8. Though the production of civilian commodities were continued since 1938, there was a gradual decline in their output.

9. Post-war, was instantly granted the Reconversion Permit for Civilian Commodity Production (File No.MG88, date of issue Nov. 24, 1945) and returned to the former line of production, namely, 3-Wheel Motor Trucks and Rock-Drills. Favourable results are steadily being seen.

## II. ACTUAL PRODUCTION FIGURES

1. 1934-1947 (Figures for 1947 are presumptive)

| | 3-Wheel Motor Truck | Rock-Drills | Mach. Tools | Small-Tools | Rifle |
|---|---|---|---|---|---|
| 1934 | 911 | 235 | 30 | ¥ 120,000 | - |

9. Post-war, was instantly granted the Reconversion Permit for Civilian Commodity Production (File No.MG88, date of issue Nov. 24, 1945) and returned to the former line of production, namely, 3-Wheel Motor Trucks and Rock-Drills. Favourable results are steadily being seen.

## II. ACTUAL PRODUCTION FIGURES

1. 1934-1947 (Figures for 1947 are presumptive)

| | 3-Wheel Motor Truck | Rock-Drills | Mach. Tools | Small-Tools | Rifle |
|---|---|---|---|---|---|
| 1934 | 911 | 235 | 30 | ¥ 120,000 | - |
| 1935 | 1,042 | 395 | 46 | 176,000 | - |
| 1936 | 2,057 | 492 | 8 | 123,000 | - |
| 1937 | 3,078 | 1,290 | 34 | 106,000 | - |
| 1938 | 1,135 | 2,278 | 131 | 352,000 | - |
| 1939 | 1,921 | 4,215 | 205 | 257,000 | - |
| 1940 | 1,451 | 6,100 | 367 | 605,000 | - |
| 1941 | 1,058 | 4,081 | 280 | 1,504,000 | 27,450 |
| 1942 | 826 | 4,211 | 194 | 2,862,000 | 98,550 |
| 1943 | 466 | 6,077 | 262 | 2,912,000 | 140,500 |
| 1944 | 111 | 5,120 | 397 | 3,235,000 | 144,000 |
| 1945 | 68 | 2,199 | 185 | 1,714,000 | 84,000 |
| 1946 | 1,000 | 4,200 | - | 1,055,000 | - |
| 1947 | (2,500) | (7,200) | - | (4,000,000) | - |

Note: Machine tools produced between 1934-1940 were wholly for our own utility. Also 91 units of 1941, 7 of 1942 and 8 of 1943 were for the same purpose.

2. Monthly Production (Jan.-Oct. 1947)

| | 3-Wheel Motor Trucks | Rock Drills | Small-Tools |
|---|---|---|---|
| Jan. | 150 | 449 | ¥155,000 |
| Feb. | 160 | 519 | 162,000 |
| Mar. | 180 | 480 | 368,000 |
| Apr. | 210 | 506 | 371,000 |
| May | 220 | 518 | 395,000 |
| June | 240 | 547 | 327,000 |
| July | 200 | 582 | 399,000 |
| Aug. | 200 | 459 | 367,000 |
| Sept. | 200 | 468 | 186,000 |
| Oct. | 200 | 538 | 362,000 |

Reference: (1) Concerning 3-Wheel Motor Truck.

a. Date commenced production.....1951
b. Sum Total Produced.....16,000 sets
c. Number in operation at present.....About 8,000
d. Number in operation in each district:

| | | | |
|---|---|---|---|
| Tohoku..... | 586 | Chugoku..... | 1,248 |
| Kanto..... | 2,810 | Shikoku..... | 220 |
| Chubu..... | 862 | Kyushu..... | 737 |
| Kinki..... | 1,537 | | |

e. Present Demand.....5,300 sets

(2) Concerning Rock-Drills:

a. Date commenced production.....1933
b. Sum total produced.....40,000
c. Main Buyers:
Coal-mine (Miike, Hokkaido Coal-mine; Joban Coal-mine etc.)
d. Present Demand.....3,600 sets

## III. FUTURE PRODUCTION GOAL (Monthly)

| | | |
|---|---|---|
| 3-Wheel Motor Trucks..... | 1,000 sets | (Production Permit Rec'd.) |
| Rock-Drills..... | 1,000 " | ( " ) |
| Small-Tools..... | 10,000 pcs. | ( " ) |

## IV. OUTLINE OF ACCOMODATIONS

| | | | |
|---|---|---|---|
| 1. Land..... | 111,294 tsubo | (90.8 acre) | |
| 2. Building..... | 42,703 " | (34.8 acre) | |
| a. Plant Space..... | 25,910 tsubo | (16 acre) | |
| b. Attached Building..... | 6,296 " | ( 3.8 " ) | |
| c. Building for Welfare Means..... | 7,844 " | (6.4 " ) | |
| d. Homes for Workers..... | 2,653 " | ( 2.2 " ) | |

## III. FUTURE PRODUCTION GOAL (Monthly)

| | | |
|---|---|---|
| 3-Wheel Motor Trucks | 1,000 sets | (Production Permit Rec'd.) |
| Rock-Drills | 1,000 " | ( " ) |
| Small-Tools | 10,000 pcs. | ( " ) |

## IV. OUTLINE OF ACCOMODATIONS

| | | | |
|---|---|---|---|
| 1. Land | 111,294 | tsubo | (90.8 acre) |
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| c. Building for Welfare Means | 7,844 | " | (6.4 " ) |
| d. Homes for Workers | 2,653 | " | ( 2.2 " ) |

## V. REPARATION

1. Designation:
   a. As Machine Tool Plant ..... August 13, 1946
   b. As Private Munition Plant ..... December 21, 1946

2. Machineries Inventoried :
   a. Machine Tool Plant

| | |
|---|---|
| Machine Tools | 179 |
| Industrial Machineries | 2 |
| Equipment | 42 |
| Total | 223 |

   b. Private Munition Plant

| | |
|---|---|
| Machine Tools | 898 |
| Industrial Machineries | 33 |
| Equipment | 50 |
| Total | 981 |

Out of the above inventoried machineries 100 Machine Tools, 50 Equipments from the Machine Tool Plant and 95 Machine Tools, 7 Industrial Machineries and 6 Equipments from the Private Munition Plant have been transferred to the present operating 3-Wheel Motor Truck and Rock-Drill Plants for use authorized by the Hiroshima Military Government Team.



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## VI. OUTLINE OF EMPLOYEES (Oct. 1947)

1. Total Number of Employees.....2,119
   - Male Clerks.....311
   - Female Clerks.....122
   - Male Factory-hands.....1,638
   - Female Factory-hands..... 48

2. Monthly Income of Employees:
   - Average Monthly Income per Person.....¥2,578
   - Maximum Income per Person:
     - Male Clerks.....¥7,399
     - Female Clerks..... 2,275
     - Male Factory-hands..... 4,489
     - Female Factory-hands..... 1,733

## VII. OUTLINE OF WELFARE ACCOMODATIONS

A. Attached Clinic.

Treatments: Internal, Surgical, Ear Nose and Throat, Optical, Dental and X-Ray.

Special Medical Instruments:

1. X-Rays
   - (1) Hokoku-go (Shimazu Works).....1 set
   - (2) Ultra-Silent.....1 "
   - (3) Indirect Photographing X-Ray.....1 "
2. Ultra-Short Wave Apparatus.....2 sets
3. Artificial Sun Ray Lamp.....2
4. Infra-Red Ray Lamp.....2
5. Laboratory and Rest Room.

Staff Members:

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A. Attached Clinic.

Treatments: Internal, Surgical, Ear Nose and Throat, Optical, Dental and X-Ray.

Special Medical Instruments:

1. X-Rays
   (1) Hokoku-go (Shimazu Works).....1 set
   (2) Ultra-Silent.....1 "
   (3) Indirect Photographing X-Ray.....1 "
2. Ultra-Short Wave Apparatus.....2 sets
3. Artificial Sun Ray Lamp.....2
4. Infra-Red Ray Lamp.....2
5. Laboratory and Rest Room.

Staff Members:
1. Physicians.....8
2. Nurses.....16

Average Number of Patients of recent three months.....229
1. Internal Treatment.....54
2. Surgical Treatment.....82
3. Ear Nose and Throat Treatment.....27
4. Optical Treatment.....37
5. Dental Treatment.....29

B. Stall: (ration allocation)
Persons in Charge..... 10
Building Space.....370 tsubo (0.29 acre)
Activities:
1. State of Distribution of General Welfare Articles.
(Monthly average for June, July and August)

| | Total Value | Average Value of Ration per Person | Percentage Rationed |
|---|---|---|---|
| Food Stuff | ¥430,348 | ¥215 | 68% |
| Clothing | 47,953 | 25 | 8 |
| Drugs | 18,710 | 10 | 7 |
| Household Supplies | 97,837 | 50 | 15 |
| Tobacco | 24,056 | 13 | 9 |
| Miscellaneous | 58,593 | 30 | 9 |
| Total | 634,730 | 320 | 100 |

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2. State of Distribution of Stable Food-Stuff to Laborers.
(Monthly Average for June, July and August)

| | |
|---|---|
| Total Weight | 3,979 Kg. |
| Average Ration per Person | 1.2 Kg. |
| Total Value | 31,918 yen |
| Average Value per Person | 17.88yen |

3. State of Distribution of Substitute Food.
(Monthly Average for July, Aug. and Sept.)

| | |
|---|---|
| Total Value | 29,400 yen |
| Average per Person (Optional) | 65 yen |

C. Dormitory:

| | |
|---|---|
| Building Space | 6,100 tsubo (4.9 acre) |
| Accomodation Capacity | 2,500 persons |
| Number of Rooms | 212 |

D. Homes:

| | |
|---|---|
| Number of Ridges | 100 |
| Number of Homes | 200 |
| Space per Ridge | 26.5 tsubo (0.02 acre) |
| Area of Garden | 4 tsubo (0.003 acre) |
| Rent per Month | 15 yen |

E. Play-Ground:

| | |
|---|---|
| Total Acreage | 10,000 tsubo (8.16 acre) |
| Track Course | 400 meters |
| Straightway Course | 200 meters |
| Field | 3,000 tsubo (2.4 acre) |
| Ball Field | 1 |
| Tennis Court | 4 |
| Volley-Ball Court | 1 |
| Basket-Ball Court | 1 |

F. Clothes Repair Shop:

| | |
|---|---|
| Tailors | 10 |
| Major Equipments: | |
| Sewing Machine | 16 |
| [illegible] Machine | 1 |

DECLASSIFIED E.O. 12065 SECTION 3 402/NNDS

Number of Ridges.....200
Number of Homes..... 26.5 tsubo (0.02 acre)
Space per Ridge..... 4 tsubo (0.003 acre)
Area of Garden..... 15 yen
Rent per Month.....

E. Play-Ground:
Total Acreage.....10,000 tsubo (8.16 acre)
Track Course..... 400 meters
Straightway Course..... 200 meters
Field..... 3,000 tsubo (2.4 acre)
Ball Field..... 1
Tennis Court..... 4
Volley-Ball Court..... 1
Basket-Ball Court..... 1

F. Clothes Repair Shop:
Tailors..... 10
Major Equipments:
Sewing Machine..... 16
Electric Tailoring Machine..... 1
Repairing Capacity per Day..... 50 suits

G. Shoe Repair Shop:
Shoemaker..... 1
Repairing Capacity per Day..... 10 pairs

H. Barber Shop:
Barbers..... 3
Major Equipments
Barber Chairs..... 5
Working Capacity per Day..... 50 persons

DECLASSIFIED E.O. 12065 SECTION 3 402/NNDS

Toyo Sen-i File

8, Jan. 1948.

TO: Toyo Sen-i Co., Ltd. President Goro Kawazumi

FROM: Tosen Labor Union Council, The chief of Committee, Yoshio Sato

DEMAND PAPER

As we require livelihood subsides in winter here as follwoing next, so the company considering this, we wish to that the company will reply till noon, 13, Jan. 1948.

1. Allowance:

| | | |
|---|---|---|
| the person in question | | ¥3,000 |
| families | | |
| (a) the first person | | ¥900 |
| (b) from 2 to 4 | per a one | ¥750 |
| (c) above 5 | " | ¥600 |

But the company bears tax.

2. Providing method:

The amount must be payed out for three times and its once amount is equal to 1/3 whole amount in Clause 1.

3. Providing date:

| | |
|---|---|
| the once | 30, Jan. 1948. |
| the twice | 20, Feb. 1948. |
| the three time | 15, March, 1948. |

4. Providing standard:

(a) The once paying out is calculated based on a term(that is : one month, 21,

families

| | | |
|---|---|---|
| (a) the first person | | ¥900 |
| (b) from 2 to 4 | per a one | ¥750 |
| (c) above 5 | " | ¥600 |

But the company bears tax.

2. Providing method:

The amount must be payed out for three times and its once amount is equal to 1/3 whole amount in Clause 1.

3. Providing date:

| | |
|---|---|
| the once | 30, Jan. 1948. |
| the twice | 20, Feb. 1948. |
| the three time | 15, March, 1948. |

4. Providing standard:

(a) The once paying out is calculated based on a term(that is : one month, 21, Nov. 1947/ 20, Dec. 1948).

(b) The twice paying out is calculated based on a term(that is : one month, 21, Dec. 1947/ 20, Jan. 1948).

(c) The three time paying out is calculated based on a term(that is : one month 21, Jan. 1948/ 20, Feb, 1948).

(d) 1/26 allowance takes away from whole allowance per one days absence.

(e) A term as following annual off-days, leave absence in case of physiogical requirement, in all before and after childbirth (Female) and in injury or disease caused by duty-performance handle as attendance.

DECLASSIFIED E.O. 12065 SECTION 3 NND

15, Jan., 1948.

TO: CIC, Hiroshima Military Government, Kure.

FROM: Toyo Textile Co., Ltd., The chief of labor section, Sakaichi Saeki

REPORT

For the labor union has required ¥ 16,000,000 as livelihood shbsides in winter from the company on 8, Jan. 1948, so we report the present financial situations of my company.

1. NAME: Toyo Textile Co., Ltd.
2. LOCATION:

| | |
|---|---|
| Head office | Shiro-machi, Mihara. |
| Plant | " |
| " | Kurihara-cho, Onomichi. |
| " | Hikone, Shiga Prefec. |
| " | Notogawa, Kanzaki-gun, Shiga Prefec. |
| " | Yatsushiro, Kumamoto Prefec. |

Total 5 plants

3. NUMBER OF EMPLOYEES:
   Work-man 3,000, Business-man 650, Total 3,650
4. BUSINESS CONTENTS:
   Rarmie Spinning & Waving
5. USE OF PRODUCTS:
   Export 15%, Allied Forces 10%, Food 15%, Mterials of products 60%.
6. LABOR UNION:
   The labor union adopts the system of Union-shop and the Tosen Labor Union Council compose of 7 single Labor Unions of each plants.

3. NUMBER OF EMPLOYEES:

Work-man 3,000, Business-man 650, Total 3,650

4. BUSINESS CONTENTS:

Rarmie Spinning & Waving

5. USE OF PRODUCTS:

Export 15%, Allied Forces 10%, Food 15%, Mterials of products 60%.

6. LABOR UNION:

The labor union adopts the system of Union-shop and the Tosen Labor Union Council compose of 7 single Labor Unions of each plants.

7. ALLOWANCE OF EMPLOYEES:

As a result of revising the system of wage on Oct. last year, our companys wage-level is higher than Teijin(Rayon and Staple Fibre company) in Mihara and is higher at the rate of 20%/30% than others companies of rarmie industry in Japan.

The average wage of employees was ¥1200(per one) till Oct. last year and after the time it was ¥2,460(per one), moreover company disbursed subsides or special year-end funds (the person in question: ¥650, his families: the first one, ¥150, above 2, ¥100)on Dec. 1947.

8. FINANCIAL CONTENTS OF COMPANY:

The paying out wage was per a month about ¥4,500,000 till Oct. last year, but as a result of revising of wage-system, it was ¥9,500,000 and consequently the company had a loss ¥5,000,000(per a month)in Oct. and Nov. last year.

In order to compensating the dificit, saving of materials, arranging workers in proper positions and retiring of workers, increasing the effiency of work are necessary and on the permise of these conditions only the company complyed with the request of labor union on Oct. 1947. But the above-mentioned plan has been not able to realized by dificit of electric power and the shortage of materials.

9. ABOUT THIS TIME REQUEST:

The amount of this time request will be above ¥5,500,000 per a month(Jan. Feb. and March), consequently the disbursing wage will be above ¥10,000,000 including the dificit Oct. and Nov. last year. The company can not be absolutely comply with the request of la labor union this time. In case considering the movements of labor union in the past, the labor union will compell to realizing of their demands by main forces, but the company can not absolutely comply with it by reason of above-mentioned. The company must reply till 20, Jan. 1948, but complications will be anticipated afterwards.

HEADQUARTERS
CHUGOKU CIVIL AFFAIRS REGION
ECONOMICS SECTION

D/TK/hk

11 December 1950

CCAR 319.1

SUBJECT: Report of Field Trip, Kabe, Kake, Nanukaichi and Kano Town, 6-8 December 1950

TO : Chief
Economics Section

PREPARED BY: Tetsuro Kajiya, Distribution & Industry Division

1. REFERENCE:

O.D. 11

2. PURPOSE:

Surveillance of Industries.

3. BACKGROUND:

None

4. DISCUSSION:

Conferences were held in the pre-mentioned towns in connection with local industrial problems. Inview of the geographical locations of the towns industries are limited to small enterprises dealing in agricultural and forestry products.

The following problems are considered worthy in reporting:

Kake Town

Major industry is the Teikoku Seitetsu K.K., Kake Factory which employees 300 workers. Also many small enterprisers are engaged in production of charcoal.

Major problem voiced by the Seitetsu Co. was the short supply of charcoal. This factory consumes approximately 2000 bales daily and charcoals purchased from Kyushu! This peculiar

Subject File

DECLASSIFIED E.O. 12065 SECTION 3 NLJ/RAC NLJ

situation where a producing area of charcoal must import from Kyushu was questioned, and it was found that charcoal purchased from Kyushu is cheaper than those locally purchased even when transportation costs are included. Therefore local producers ship all productions to Hiroshima and other nearby cities. This problem is believed to be one that can be overcome by the Japanese themselves and is reported purely for informational purpose.

Kano Town

This town owns approximately 3,000 chobu of forest land with potential production of 2,000,000 koku of lumber and 1,700,000 koku of charcoal. However, this huge untapped resource of vital materials cannot be exploited due to lack of forestry roads. Town officials claim that at the cost of approximately 5,000,000 yen this particular road can be completed. Completion of this road will not only aid in the exploitation of the above forest area but also create another avenue of entrance into Yamaguchi Prefecture from Shimane Prefecture.

5. CONCLUSION:

None

6. RECOMMENDATION:

It is recommended that a study of this public works program in the Kano area be made and a conference held with Yamaguchi Prefectural Government inorder that completion of the pre-mentioned road be realized. The mayor of Kano Town claims that influence by the cities exceeds that of the towns at the Kencho whereby very little aid is extended to the towns and villages and much to the cities. (Map of the area concerned has been turned over to Mr. Stradley)

TETSURO KAJIYA
Distribution & Industry Division

Road construction prijet will be discussed with the prefectural officials. Since it is not now in the 5 year road program, funds will not be available for it.

R S Stradley

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

INSPECTION REPORT



(3) **Teikoku Rayon Mihara Plant, Mihara City**

The plant produces 250,000,000 lb of rayon yarn per month but no weaving is in progress. During the past one year the total number of spindles has been increased from 25,000 to 36,000. The capacity of the plant in Operation is 85% with 15% of the products being exported to Hongkong, Indonesia and Parkistan. The plant imports one half of the pulp it uses from Sweden, Norway and Canada. Another half comes from the Kokusaku Pulp K.K., Hokkaido.

Shortages of Sulphur, sulphuric acid, carbon disulphide, bottoms for importation of pulp, freightcars are problems. As of 8 May 1951, boxed rayon yarn amounting to 1,000,000 lb are stockpiled due to the shortage of freightcars. The average amount of stock has been 250,000 lb in the past.

There is a total of 7,300 employees and no labor trouble is in evidence. Labor contract will expire on 30 September 1951.

Conferences with Mr. Murakami, chief of Viscose Plant, who has been trained in STC and Mr. Yoshida, in charge of education, who has been trained in TWI, have revealed that appreciable improvements are being accomplished in the plant with respect to safety and human relations in the plant and quality as well as quantity of the products.

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

# FIELD TRIP REPORT

R.G. STRADLEY

10 May 1950
Mihara

1. Purpose:

Inspection of Teikoku Rayon Company, Mihara, Hiroshima Prefecture.

2. Background:

Surveillance in accordance with O.D. 11.

3. Discussion:

Conferees,

Mr. Igarashi, Chief of General Affairs Department,

Mr. Kaimi, Assistant Chief of Technical Department,

Mr. Hara, Assistant Chief of Chemical Fibre Department.

a. Production and electric power situation from January through April 1950.

| Month | Production | Allocation | Supplementary Allocation | Consumption | Excess of Allocation |
|---|---|---|---|---|---|
| January | | 1,552,000KWH | 53,900KWH | 5,580,850KWH | 3,975,000KWH |
| Ordinary Rayon | 1,814,200 lb | | | | |
| High Tenacity Rayon. | 19,500 | | | | |
| February | | 1,518,000 | 133,600 (actually used 1,300KWH) | 5,361,800 | 3,711,500 |
| O.R. | 1,656,880 | | | | |
| H.T.R. | 22,800 | | | | |
| March | | 1,774,000 | - | 5,701,060 | 3,927,000 |
| O.R. | 1,935,184 | | | | |
| H.T.R. | 35,880 | | | | |
| April | | 2,669,000 | - | 5,659,700 | 2,990,700 |
| O.R. | 1,951,420 | | | | |
| H.T.R. | 35,120 | | | | |

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NOTE: Home-generation cost per KWH, ¥3 - ¥6 depending on the type of coal and season.

b. Stockpile of finished products as of 30 April 1950.

| Items | Tipe | Quantity. |
|---|---|---|
| Ordinary Rayon | Skein | 1,067,142 lb. |
| | Cone | 283,229 |
| High Tenacity Rayon | Skein | 40,906 |
| | Cone | 59,376 |
| Total (Skein & Cone) | | 1,450,653 lb. |

c. Coal

| Month | Consumption | Unit price (Per ton) |
|---|---|---|
| January | 5,462 ton | ¥3,200 (Including transportation cost) |
| February | 4,917 | 2,600 |
| March | 4,786 | 2,500 |

NOTE: Type, 4500 calory Ube Coal,(Price of coal before decontrol, approximately ¥3,900.)

d. Percentage of Rejection,

10% - 15% (4A)

NOTE: The company's products are classified into 4 categories ranging from 1A through 4A. Only 1A is exported. As for the 4A products the company sells them on the home-market at reduced prices.

e. Production per person.

| Classification | Pre-war | Post-war |
|---|---|---|
| Production per person | 16 lb. | 11 lb. |
| Working-hours, day work. | 10 hours. | 8 hours. |
| Shift (night) | 2 shift - 9 hours. | 2 shift - 8 hours. |
| At spinning Machine | 3 teams - 3 shifts | 4 teams - 3 shifts. (20% increase) |

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f. Consumption of Rayon on the home-market.

| Classification | Pre-war | Post-war |
|---|---|---|
| Per person | 16 lb. | 6 lb. |

g. A new project at Iwakuni Plant.

| Items | Production per day |
|---|---|
| Acetate Rayon | 1 ton |
| Tire Cord | 3 ton |

NOTE: A new sector at Iwakuni plant is under construction and its characteristic is a continuous production process.

| Classification | A new project at Iwakuni Plant | Mihara Plant |
|---|---|---|
| From Steeping Press "to" Spinning Machine "or" Viscose. | 4 days | 4 days |
| From "Spinning Machine" to Finished Products | 15 minitues | 3 days. |

h. Export.

According to the opinion of the 5 member Rayon mission, of which one member was represented by Teikoku Rayon Company, that went to India, Parkistan and the Near East during the period from 17 February 1950 through 12 April 1950, the production materials on which priority has been given are not fully available for India with a result there is a good possibility of the Japanese Rayon amounting to 3,000,000 lbs. will be exported to India in 1950 as the next important item to the production materials, in which case Teikoku Rayon Company is to export 300,000 lbs of Rayon to India.

The company exported to India 2,000,000 lbs of Rayon during January and February 1949 respectively. Since then no appreciable quantity of Rayon has been exported to foreign countries with the exception to Korea, Bangkok and Hongkong.

i. Problems involved due to future production increase.

| Classification | Present | Autumn 1950 | Remark |
|---|---|---|---|
| Ordinary Rayon and High Tenacity Rayon. | (Approx, monthly) 2,000,000 lb. | (Monthly) 2,300,000 lb. | An increase of 300,000 lbs or 15% in production. |
| No. of employee | 7,050 prs | 7,250 prs | Actually the company needs 800 more people, but intends to increase only 200 and balance it with an increase in efficiency. |

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| | | |
|---|---|---|
| Estimated increase in the consumption of power | - | 15% - |

j. Pulp.

Indigenous pulp represented in the total amount of pulp used for the production of Rayon and Staple Fibre in Japan; 60%.

Major pulp manufacturing plants in Japan are as follows:

| Name | Location (Prefecture) |
|---|---|
| Kokusaku Pulp Company | Hokkaido |
| Sanyo Pulp Company | Iwakuni |
| Kokoku Pulp Company | Toyama |
| Hokuetsu Pulp Company | Niigata |
| Tohoku Shinko Company | Akita |
| Nippon Pulp Company | Obi, Kyushu. |

The Plant is using imported pulp from Sweeden and Norway but will use about 20% of indigenous pulp and 80% of imported pulp in the future.

The Iwakuni Plant is using indigenous pulp only. The U.S.A. Cotton Linter Pulp is used for the production of tire cord or High Tenacity Rayon.

k. Ratio between Raw Materials (Pulp, Caustic Soda etc.) and Finished product (Rayon) in weight, 10:1.

4. Conclusion:

No serious bottlenecks or problems were in evidence excepting that the company desires to acquire the uniformity in the procurement of such raw materials as pulp, caustic soda, sulphuric acid, and better quality Filtering,

Cloth in order to maintain constant high quality in its products.

5. Recommendations:

The company officials present were advised to carry out quality control thoroughly and be careful to check every factor in connection with the future production increase.

RGS

R.G. STRADLEY.

4

Manufacturing Methods of Rayon a

# 人造絹絲並にステープルフ

二硫化炭素を加へてザンテートとなし稀アルカリ液に溶かしてビスコースとす

二硫化炭素タンク

反応機 reaction machine

ビスコース タンク Viscos tank

濾過して Filter

濾過機 Filter

タンクに入れて熟成し put in tank and ripen

duplicator 繰返機

To Mfg. Rayon 人絹とするには

ビスコース Viscos

sulphuric acid tank 硫酸タンク

紡糸機 SPINING MACHINE

細孔から硫酸溶中に押出して糸とし撚をかけて

pass through small holes into Sulphuric acid and produce thread which is twisted

絲塊となし mate into Ball of string

更に繰返して綛となし

Methods in making Fiber

ファイバーとするには

紡糸機 SPINNING MACHINE

細孔から硫酸溶中に押出して糸としそれを集めて

produce thread by passing through Sulphuric acid.

Bleaching ma

漂白

脱硫液 Sulphur extracting liquid

漂白液 Bleach liqu

藥品で漂

Bleach with

DECLASSIFIED E.O. 11652 SECTION 3 (E)(2) MAR 6 1978

# CORRECTION

THIS DOCUMENT

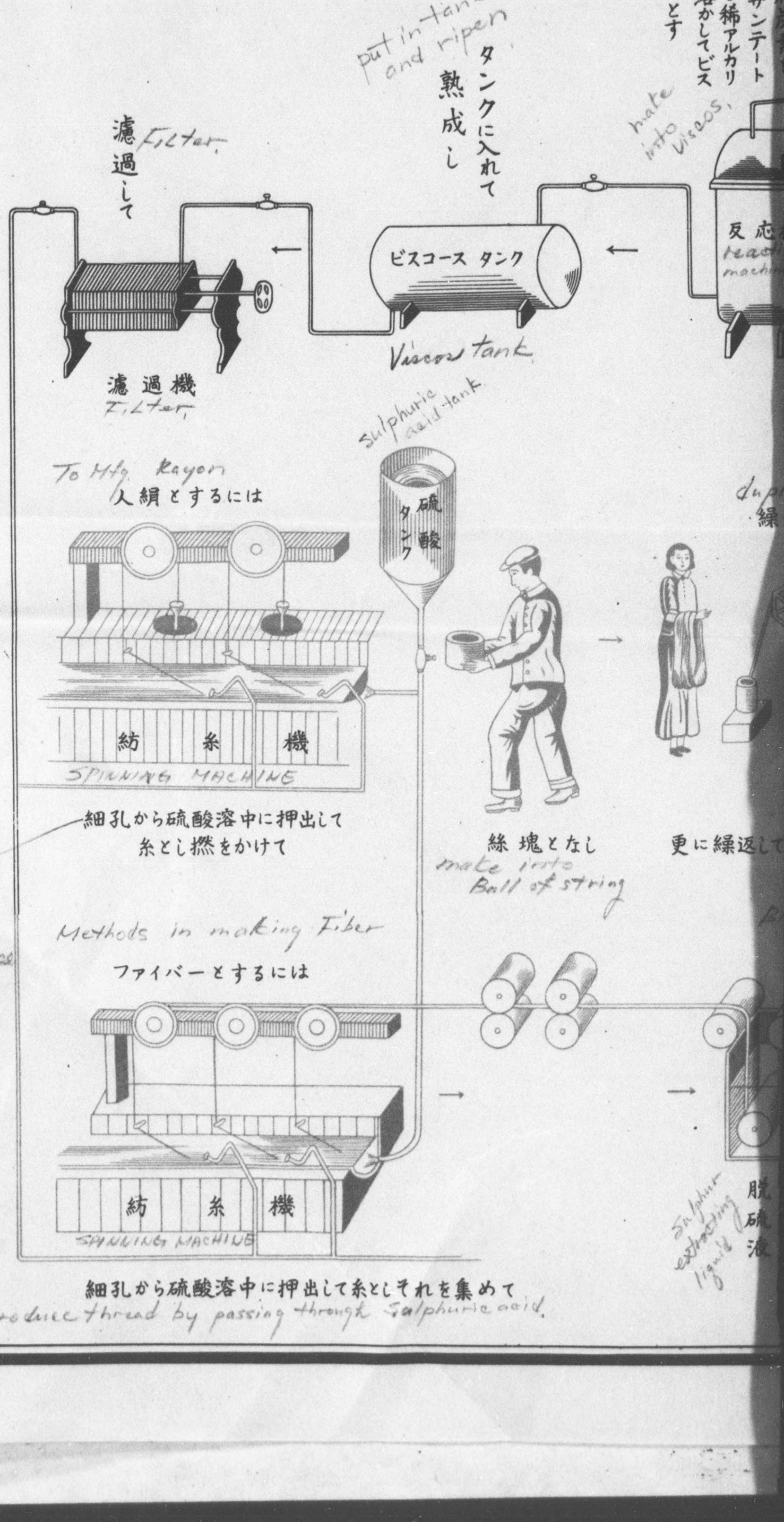
HAS BEEN REPHOTOGRAPHED

TO ASSURE LEGIBILITY

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

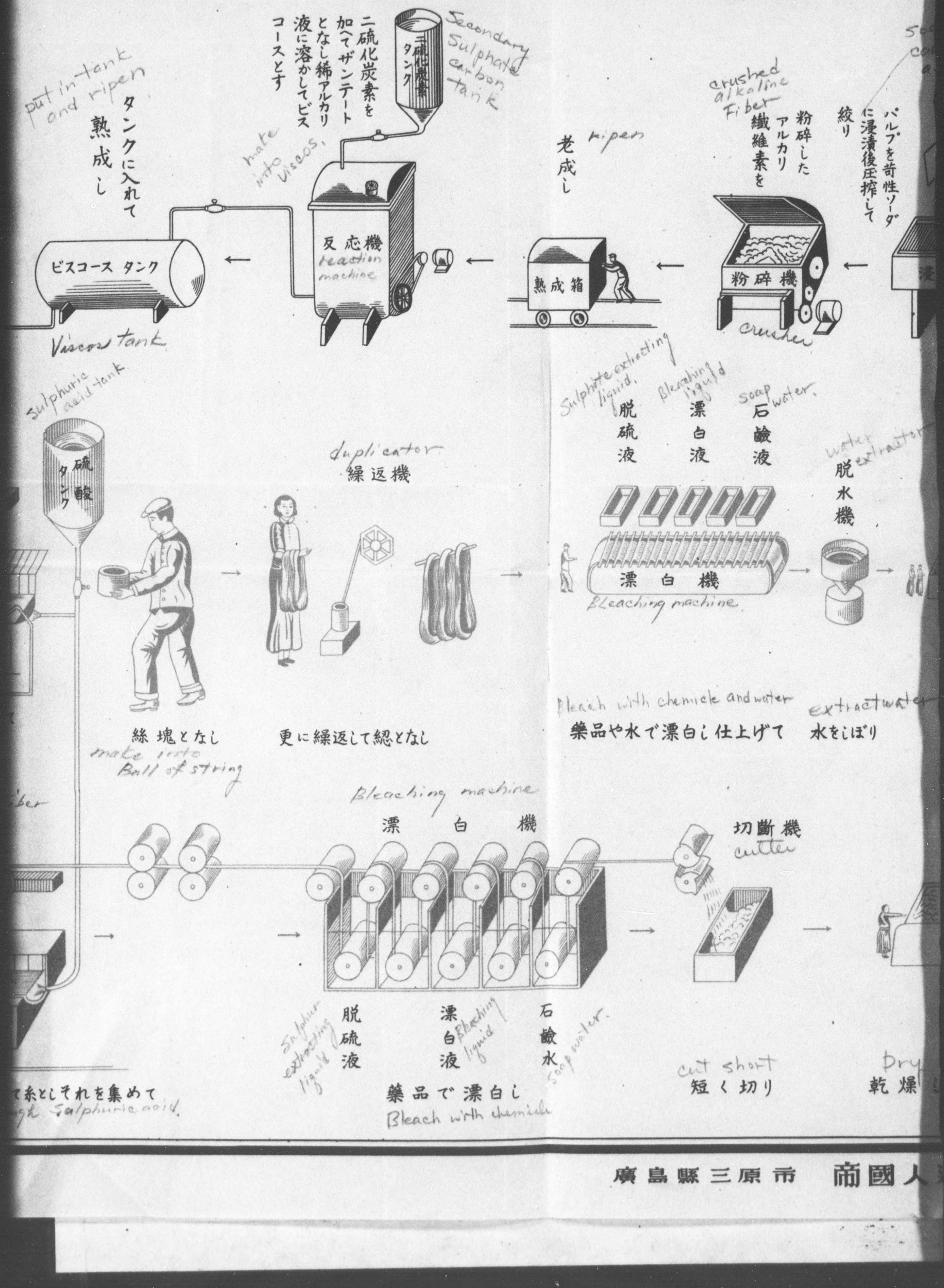
Manufacturing Methods of R

# 人造絹絲並にステープ



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

# ...facturing Methods of Rayon and Staple Fiber
# 絲並にステープルファイバーは如何にし...

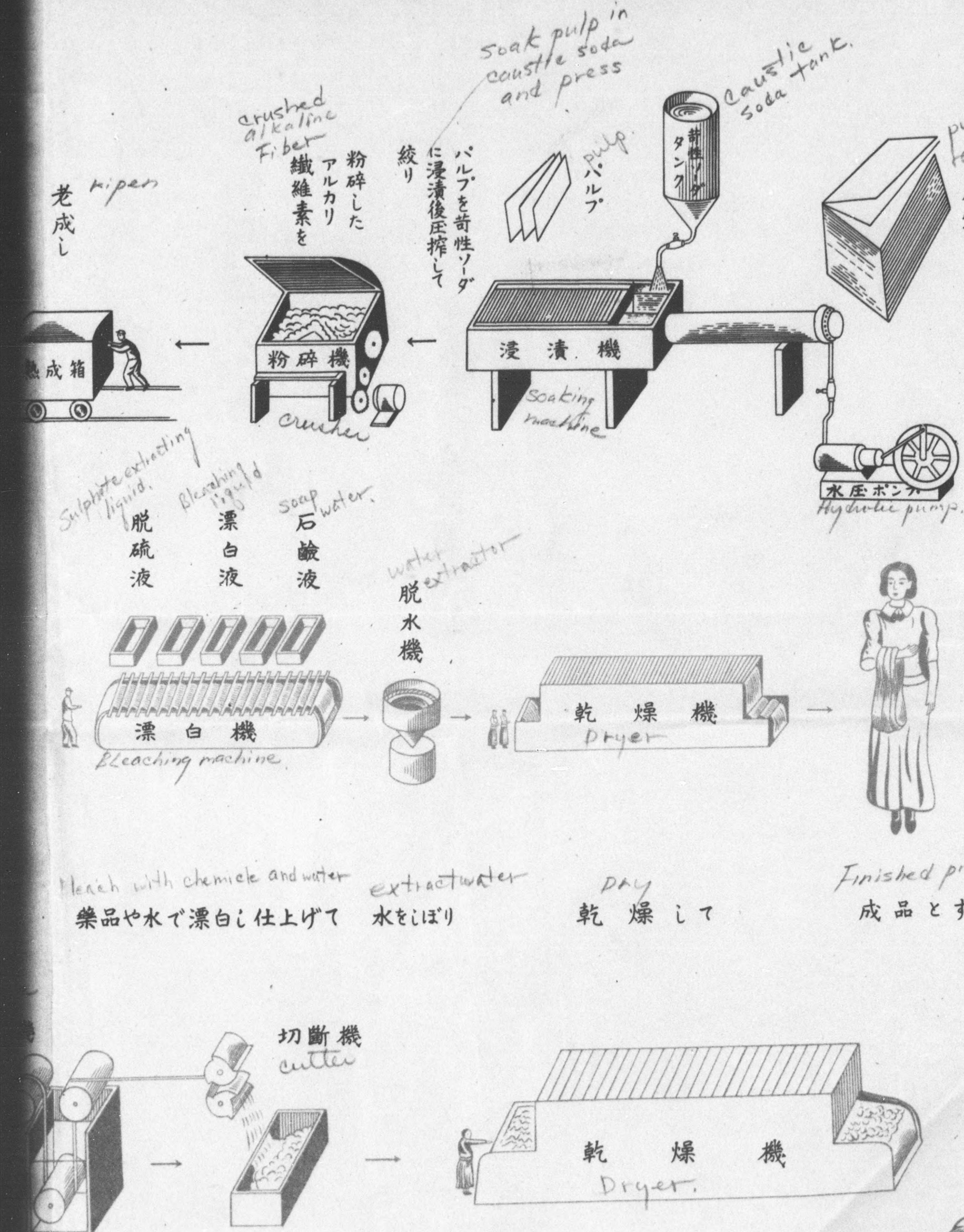



廣島縣三原市 商國人

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

Staple Fiber

# イバーは如何にして造られるか




廣島縣三原市 商國人造絹絲株式會社三原工場

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

April 1, 1949

# O U T L I N E

# O F

# TEIKOKU RAYON COMPANY, LTD.

# AND

# M I H A R A P L A N T

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

# TEIKOKU RAYON COMPANY, LTD.

HEAD OFFICE:

4 Edobori-minami-dori 1-chome, Nishi-ku, Osaka

TOKYO BRANCH OFFICE:

Kinsan Building, 4-chome, Muromachi, Nihombashi, Chuo-ku,
Tokyo. Tel. (24) 1546, 1832, 2493, 2882.

PRINCIPAL BUSINESS:

Manufacture of Rayon Yarn and Rayon Staple.

CAPITALIZATION:

¥ 250,000,000.00

MEMBERS OF THE BOARD OF DIRECTORS:

| | |
|---|---|
| Chairman ..... | Seita Kumura |
| Special Managing Director ..... | Shinji Mori |
| Ordinary Managing Director ..... | Akio Kikuchi |
| Ordinary Managing Director ..... | Shoji Miyata |
| Ordinary Managing Director ..... | Hideo Tanaka |
| Director ..... | Masuzo Yukawa |
| Director ..... | Yutaka Yoneda |
| Auditor ..... | Masaaki Inoue |
| Auditor ..... | Kyojiro Takenaka |
| Auditor ..... | Masato Amo-o |
| Councillor ..... | Hiroshi Aiura |
| Councillor ..... | Noriyuki Tori-i |

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

# History of the Teikoku Rayon Company, Ltd.

Mr. Seita Kumura, the present Chairman of the Board of Directors, started the basic study of the Viscose method in 1907, and since then continued his research and experiments with Viscose liquid to produce synthetic silk yarn.

After eight years, he became so confident of the commercial production of rayon that he began constructing a small plant in Yonezawa in October, 1915. This plant started operation in April, 1916, with 4 men and about 10 women workers and by the end of the following month 400 momme (about 3.3 lbs.) of synthetic silk was shipped out. This was indeed the first plant and the first production of rayon in Japan, and thus was opened a new chapter in the textile industry of this country.

The rayon thus produced, however, was still imperfect and required improvements both in equipments and in the method of operation. Mr. Kumura therefore went to Europe and America for further study. Upon returning, he endeavored to prefect his Yonezawa Plant and succeeded in increasing production to 400 lbs. per day by 1918.

On June 17, 1918, the Teikoku Rayon Company, Ltd. was established. With the expansion of equipments and the increase of factories since then, there has been a natural growth of capitalization from one million yen (Paid-up ¥ 250,000) at the time of the establishment to the present ¥ 250,000,000.00, and the registered capacity tonnage increased to 140 metric tons per day at the peak.

The chronological history of the expansion is as follows:

Nov. 1922 Hiroshima Factory began operation.

Jan. 1928 Iwakuni Plant began operation.

Oct. 1934 Mihara Plant began operation.

Feb. 1937 Mihara Plant of the Daini Teikoku Rayon Co., Ltd. ) a subsidiary) was constructed in the neighborhood of our Mihara Plant and began its operation.

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Mar. 1942 Daini Teikoku Rayon Co., Ltd. amalgamated with the Teikoku Rayon Co., Ltd.

The existing plants are the Iwakuni and the Mihara plants.

## Outline of Mihara Plant

(1) Favorable Location

Situated in a corner of Mihara City, the only city of its size in Hiroshima Prefecture that remained untouched by the war, this plant partly faces the Nuta River and partly the famous Inland Sea which is noted for scenic beauty. With a population of 50,000, Mihara is a rising city conveniently located for land and sea transportation.

(2) History of Mihara Plant

Since 1934, the rayon industry made such big strides that it surpassed in prosperity the cotton yarn industry which had maintained a dominant position in the domestic as well as export market. Especially in the Oriental market, the rayon industry came to hold an overwhelming predominance.

To meet the rapid and huge demand for rayon yarn, our company decided to construct the fourth plant (The first was Yonezawa; the second, Hiroshima; the third, Iwakuni) in Mihara City.

We bought a site of about 140,000 tsubo (113 acres), started construction on March 28, 1933, held the completion ceremony on October 16, 1934, and began operation immediately.

Since then, our Mihara Plant made its expansion again and again. Owing to the past experience, this plant is well-organized, large in scale, highly efficient and most economical in production among our plants.

In view of the fact that the cotton yarn industry faced the shortage of raw materials since 1937, our Mihara Plant began to manufacture staple fibre with a daily capacity of 20 metric tons in addition to rayon yarn, but at present rayon yarn is being produced exclusively.

(3) Officers of the Mihara Plant

| | |
|---|---|
| Superintendent ..... | Makio Yamabe |
| Chief, General Affairs ..... | Shunpei Kinoshita |
| Chief Engineer ..... | Masahiro Wada |
| Vice-chief Engineer ..... | Kazuichi Kaimi |
| Chief, Labour Section ..... | Gunji Miyoshi |
| Chief, Supply and Warehouse Section ..... | Tatsusaburo Arai |
| Chief, Welfare Section ..... | Shunpei Kinoshita |
| Chief, Accounts Section ..... | Motohiro Kurata |
| Chief, Product Section ..... | Tsutomu Hara |
| Chief, Electric Power Section ..... | Motohiro Fujimoto |
| Chief, Repair and Construction Section .. | Kazuichi Kaimi |
| Director of Hospital ..... | Mikio Harada |

(4) Number of Employees as at March 31, 1949

| | Male | Female | Total |
|---|---|---|---|
| Office Staff ..... | 223 | 137 | 362 |
| Workers ..... | 2,947 | 2,512 | 5,459 |
| Total ..... | 3,170 | 2,651 | 5,821 |

(5) Present Equipments and Capacity

Rayon Yarn ..... 31,623 Spindles (207 Machines )
Productive capacity per day is 36.7 tons.

Rayon Staple ..... 4,996 Spindles ( 25 Machines)
Productive capacity per day is 16.3 tons.

(6) Actual Production is Recent Months

| | |
|---|---|
| January, 1949 ..... | 1,152,580 lbs |
| February, 1949 ..... | 1,135,000 lbs |
| March, 1949 ..... | 1,270,850 lbs |

(7) Welfare Facilities

For the welfare of the employees, the Company maintains 288 residences, 26 dormitories, a hospital with 10 doctors and 32 nurses, a Company Store for daily necessaries, and many educational and recreational facilities.

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

# FIELD TRIP REPORT

## R.G. STRADLEY

Fukuyama
26 July 1950

1. Purpose:

Inspection of Teikoku Gyomo K.K.

2. Background:

Surveillance in accordance with O.D. 11.

3. Discussion:

Mr. Yasugi, President.

The procurement of cotton yarn is still a problem.

The company is manufacturing 687,500 ft of fishing-net (20 and 40 inches) per month with a total of 53 employees. The company is operating about one third of its full capacity due to the restricted allocation of cotton yarn. Only solution to this is to increase the export items for which priority allocation of cotton yarn is given under the present system.

18 machines were in operation on 26 July 1950.

Reports on the principal products and raw materials power situation, labor and a sample folder of improved minnow nets is in our file.

4. Conclusion:

Allocation of cotton yarn and publicity for the products will have to be increased and improved to expand the business.

5. Recommendation:

None.

RGS

R. G. STRADLEY
Chief, Price, Distribution
and Industry Division

D/RGS/fk

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

SAMPLE FOLDER

# Improved Minnow Nets

★ KARYO MOJIMA ★

MANUFACTURER:

TEIKOKU GYOMO CO., LTD.

Head Office:

#2151, Jindai-cho, Fukuyama, Hiroshima Pref., Japan

Tokyo Branch:

#1, Sannencho, Chiyodaku, Tokyo

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

# IMPROVED MINNOW NETS

## COMMON WIDTH (20½″)

| Ply | Composition of thread | Number of Warp | Weight for 500ft |
|---|---|---|---|
| R/2 | 20s/8×8 | 80 | 17.50 lbs |
| 〃 | 〃 | 90 | 18.83 〃 |
| 〃 | 〃 | 105 | 21.00 〃 |
| 〃 | 〃 | 120 | 24.09 〃 |
| 〃 | 〃 | 140 | 27.00 〃 |
| 〃 | 〃 | 160 | 30.84 〃 |
| 〃 | 20s/8×6 | 80 | 15.67 〃 |
| 〃 | 〃 | 90 | 16.92 〃 |
| 〃 | 〃 | 105 | 19.25 〃 |
| 〃 | 〃 | 120 | 22.59 〃 |
| 〃 | 〃 | 140 | 24.17 〃 |
| 〃 | 〃 | 160 | 28.92 〃 |
| 〃 | 20s/6×6 | 80 | 13.67 〃 |
| 〃 | 〃 | 90 | 14.42 〃 |
| 〃 | 〃 | 105 | 16.34 〃 |
| 〃 | 〃 | 120 | 19.00 〃 |
| 〃 | 〃 | 140 | 21.50 〃 |

| Ply | Composition of thread | Number of Warp | Weight for 500ft |
|---|---|---|---|
| R/2 | 20s/6×6 | 160 | 24.42 lbs |
| 〃 | 〃 | 180 | 25.75 〃 |
| 〃 | 〃 | 200 | 29.34 〃 |
| 〃 | 20s/6×4 | 80 | 11.75 〃 |
| 〃 | 〃 | 90 | 12.84 〃 |
| 〃 | 〃 | 105 | 14.25 〃 |
| 〃 | 〃 | 120 | 16.84 〃 |
| 〃 | 〃 | 140 | 18.17 〃 |
| 〃 | 〃 | 160 | 20.84 〃 |
| 〃 | 〃 | 180 | 23.67 〃 |
| 〃 | 20s/4×4 | 105 | 11.67 〃 |
| 〃 | 〃 | 120 | 13.75 〃 |
| 〃 | 〃 | 140 | 15.00 〃 |
| 〃 | 〃 | 160 | 16.92 〃 |
| 〃 | 〃 | 180 | 18.67 〃 |
| 〃 | 〃 | 200 | 20.17 〃 |

## BROAD WIDTH (41″)

| Ply | Composition of thread | Number of Warp | Weight for 500ft |
|---|---|---|---|
| R/2 | 20s/8×8 | 160 | 35.00 lbs |
| 〃 | 〃 | 180 | 37.67 〃 |
| 〃 | 〃 | 210 | 42.00 〃 |
| 〃 | 〃 | 240 | 48.17 〃 |
| 〃 | 20s/8×6 | 160 | 31.34 〃 |
| 〃 | 〃 | 180 | 33.84 〃 |
| 〃 | 〃 | 210 | 38.50 〃 |
| 〃 | 〃 | 240 | 45.17 〃 |

| Ply | Composition of thread | Number of Warp | Weight for 500ft |
|---|---|---|---|
| R/2 | 20s/6×6 | 160 | 27.34 lbs |
| 〃 | 〃 | 180 | 28.84 〃 |
| 〃 | 〃 | 210 | 32.67 〃 |
| 〃 | 〃 | 240 | 38.00 〃 |
| 〃 | 20s/6×4 | 160 | 23.50 〃 |
| 〃 | 〃 | 180 | 25.67 〃 |
| 〃 | 〃 | 210 | 28.50 〃 |
| 〃 | 〃 | 240 | 33.67 〃 |

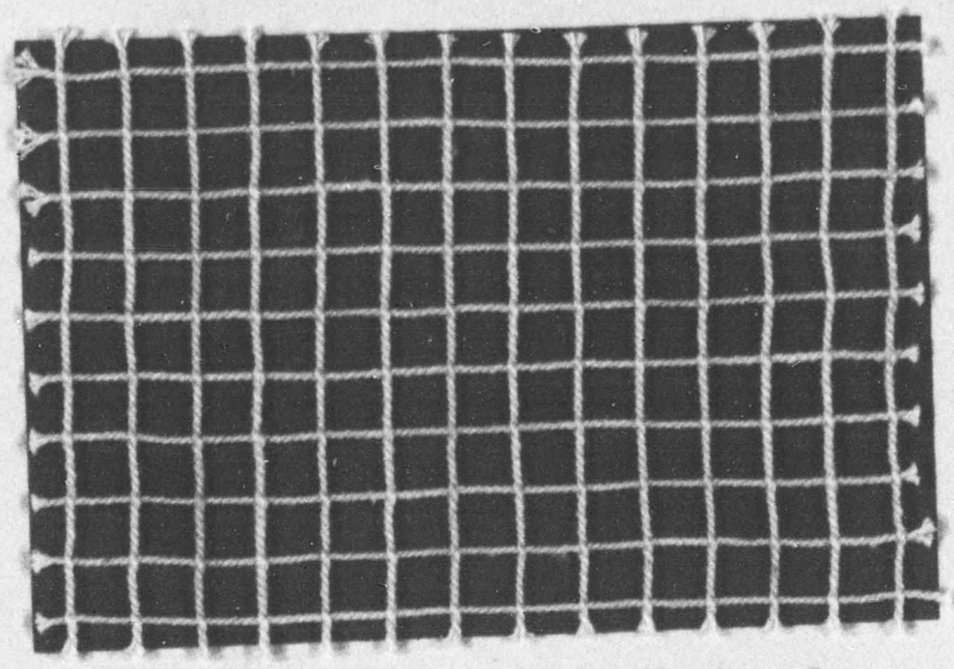
**TEIKOKU GYOMO CO.** offers you the best products in the field. The materials used are of the first grade and special attention is paid in the process of manufacturing the **TEIKOKU GYOMO** products.

**TEIKOKU GYOMO'S IMPROVED MINNOW NETS** are recommended widely in it's use,.....not only for fishing but for sporting goods, curtains, ornamental works, and many other industrial purposes.

**YOU** are always welcomed to consult with our technicians for your special order.

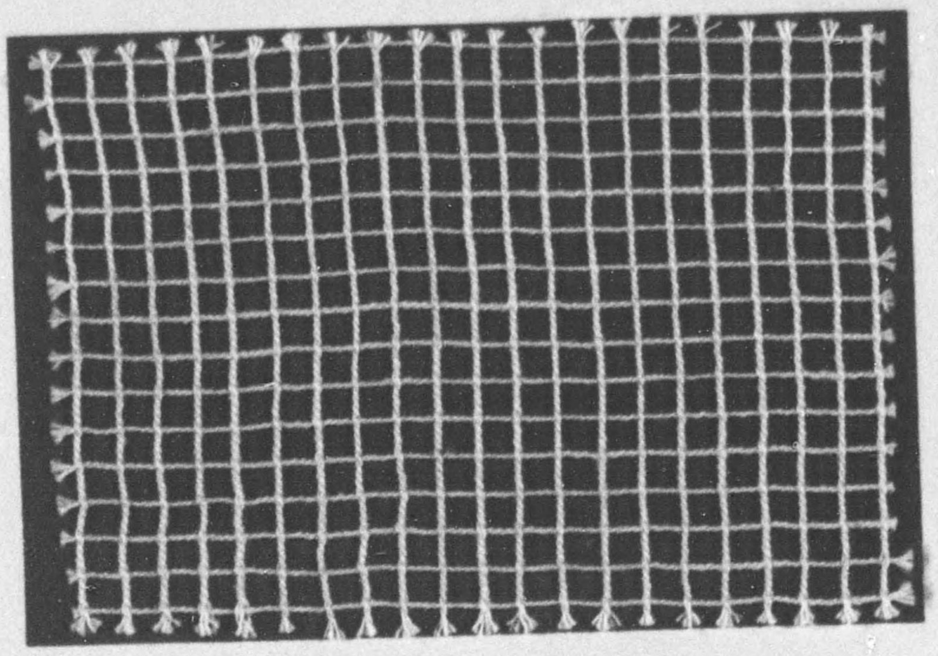
**ATTACHED** are the selected samples of **TEIKOKU GYOMO'S** products.

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



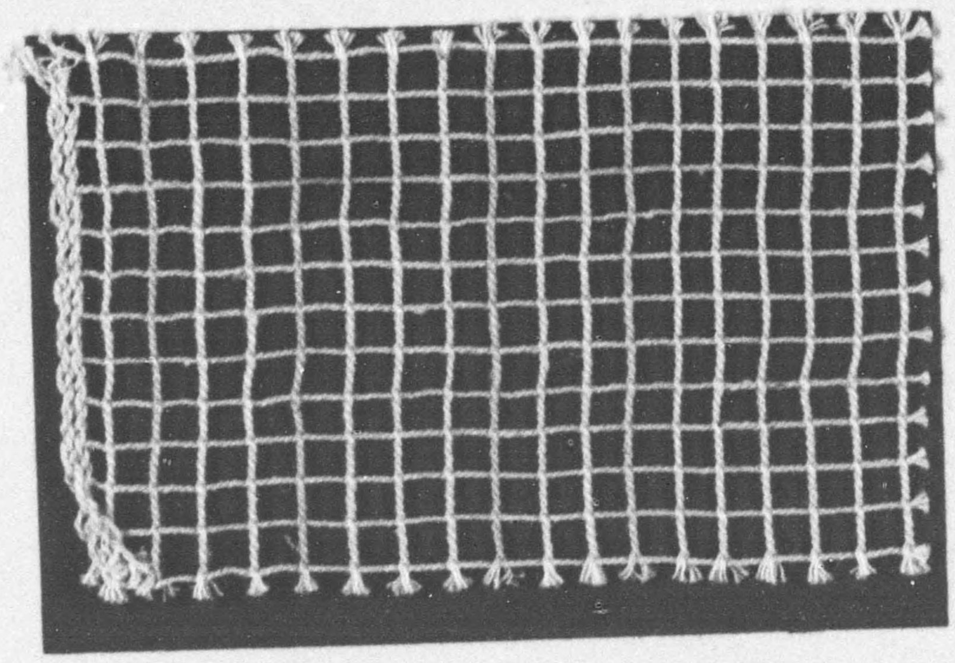
Compositoin of thread 20s/8×8

Number of Warp 90



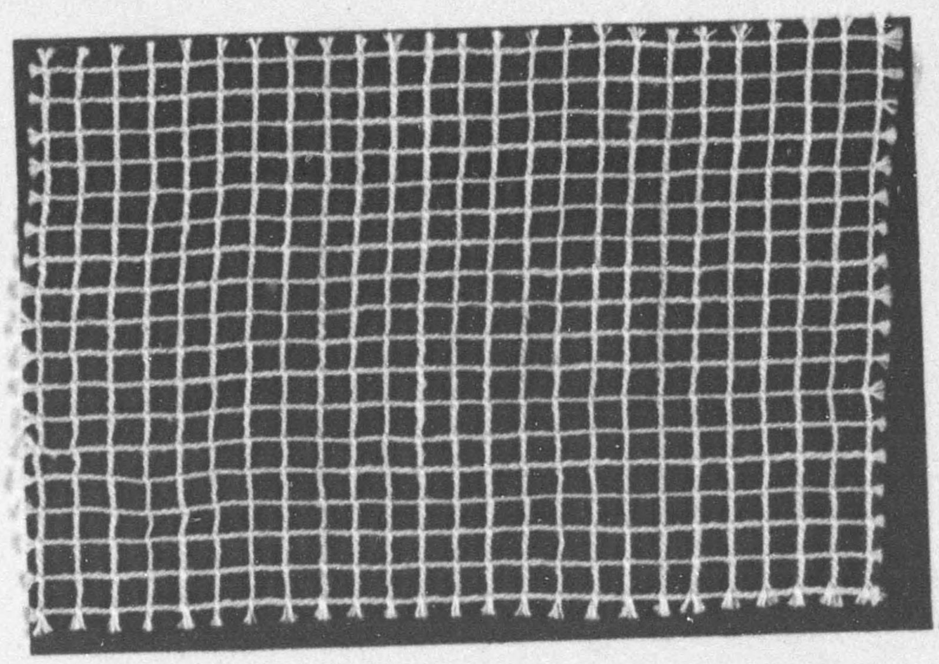
Composition of thread 20s/6×4

Number of Warp 140



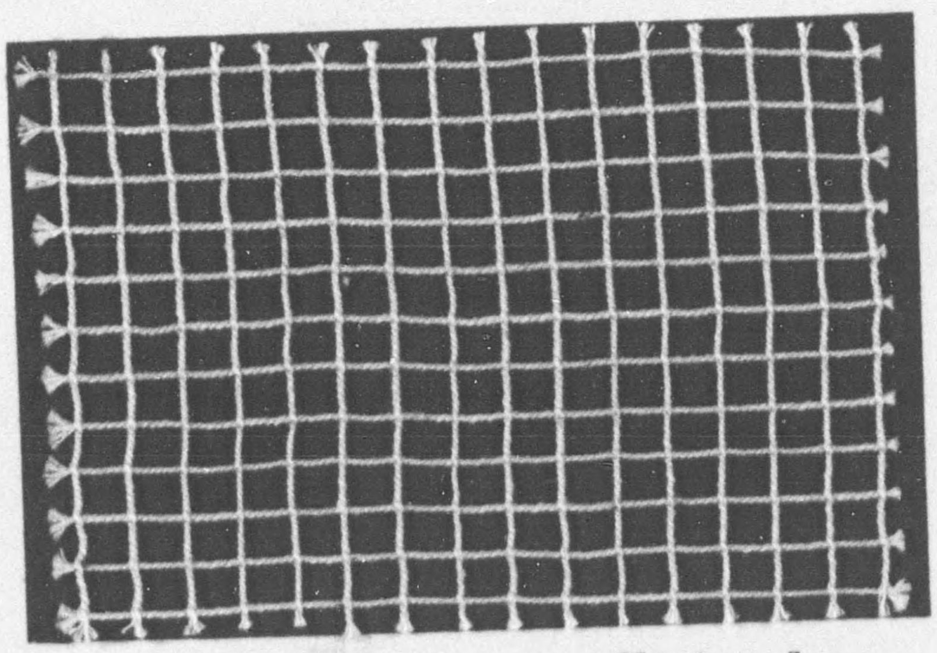
Composition of thread 20s/8×6

Number of Warp 120



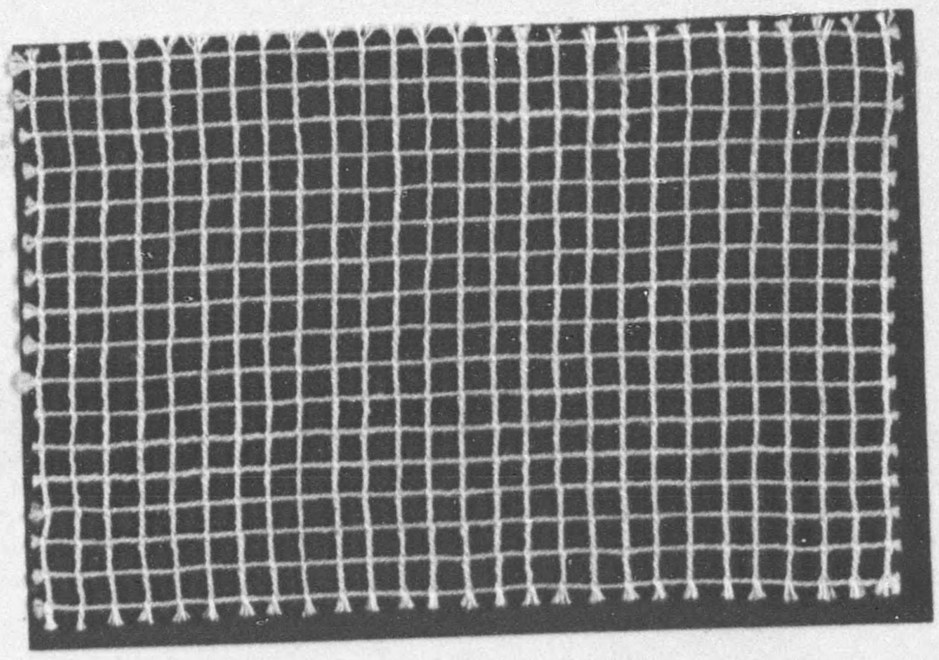
Composition of thread 20s/4×4

Number of Warp 160



Composition of thread 20s/6×6

Number of Warp 105



Composition of thread 20s/4×4

Number of Warp 180

The samples in the right hand column have special EDGES.
These EDGES on both sides of the nets make them strong, and
it is one of the special features of TEIKOKU GYOMO'S products.

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

26 July 1950

1. Name of Company — TEIKOKU GYOMO (Teikoku Fishenet) CO.,LTD.

a. Name of President — KAKUGORO YASUGI
b. Location — No. 2151,JIBUKI-CHO,FUKUYAMA-SHI,HIROSHIMA-KEN
c. Capital — ¥3,000,000.-
d. Established — 30 September 1924

2. TOTAL EMPLOYED — 53

a. Staffs and Clerks — 12 (Male 10, Female 2) (Average age 38)
b. Labor — 40 (Male 0, Female 40) (Average age 31)
c. Others — 1 (Male 1) (Average age 49)

3. AVERAGE MONTHLY SALARY

a. Staffs and Clerks — Male ¥6,500.- Female ¥4,000.-
b. Labor — Female ¥3,000.-
c. Others — Male ¥1,000.- (Temporary)

4. WORKING HOURS

a. Staffs and Clerks — Male and Female 8hours
b. Labors — Female 8hours

5. PRINCIPAL PRODUCTS MANUFACTURED

a. Fishing-net — Total 687,500 ft. Per year 8,250,000 ft.
Regular size 437,500 ft.
Large size 250,000 ft.

6. PRINCIPAL MATERIAL USED

a. Cotton thread per year — 98,000 ~~ft~~.Lbs.

7. ELECTRICITY PROBLEMS

a. Average used per month — 7,000 Kwh.
b. Average paid per month — ¥ 28,200.-

8. OTHERS

a. Labor Union organized.
b. Welfare institution for labors
Resting room
Small Library
Sport equipment (Tennis,Ping-pong,Baseball,Batmint)
Phonograph with Record

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

HIROSHIMA INTERNATIONAL TRADE & INDUSTRY BUREAU

31 Mar. 1950

Serial No. Hiro Tsu San sen 830

To: Mr Stradley,
Economic Section, Chugoku Civil Affairs Region

Subject: On Operation Aspect for January & February,
Teikoku Fishing Nets Co. inc.

In response to your request on March 9, 1950 in regard to the subject stated above, we have the honour of submitting you our investigation report as follows:

I. Arrivals of raw materials cotton-yarn

| Allocation period | issue of coupon closed at Ministry | Arrival of coupon from Ministry | issue of coupon from Bureau | Amount of coupons issued | date of arrival | Amount of coupons arrived |
|---|---|---|---|---|---|---|
| for 3rd quarter period of 1949 fiscal year | | | | | | |
| 1st time | 20, September | 24 Sept. | 24 Sept. | 2,550 lbs. | 30, Sept. | 2,550 lbs. |
| 2nd time | issued by Ministry | | 5 Dec. | 6,000 lbs | 10, Dec. | 6,000 lbs. |
| 3rd time | 20, Dec. | 26 Dec. | 26 Dec. | 6,080 lbs. | 5, Jan. | 6,000 lbs. |
| | | | | | 20, Jan. | 80 lbs. |
| for 4th quarter period of 1949 fiscal year | | | | | | |
| | 20, Feb. | 27, Feb. | 27, Feb. | 7,440 | 5, Mar. | 7,350 lbs. |

Since 3rd quarter period, coupons have been allocated by enterprisers' orders and allocated number stated abpve is the amount they had ordered.

2.

Operation Aspect of January & February

| month | operation term | No. of days operated | Sundays | holidays | No. of days operation suspended | production |
|---|---|---|---|---|---|---|
| Jan. | from 6th to 21st. | 14 days | 5 days | 4 days (New Year) | 8 days | 6,230 lbs. |
| Feb. | from 1st to 10th | 9 days | 4 days | | 15 days | 1,410 lbs. |

Operation for March Started on March 6

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3. Reasons for suspending operation

Fifteen days' suspension of operation during February was due to exhaustion of raw materials.

4. Allocation of raw materials for 4th quarter period was delays in comparison with that for 3rd quarter period. This was due to the fact that decision of the project by E.S.B. was delayed.

As supplementary reasons the following may be cited:

a. Abolishment of subsidy has caused rise in price of fishery cotton yarn since 4th quarter period.

b. Stringency of money in fishery circle has caused a decrease of effective demand from parties concerned.

5. Orders during 4th quarter period shows a decrease of orders in number as compared with those during 3rd quarter period.

This is due to a decrease of 20% of fishery cotton yarn in allocation for 4th quarter period in which 400 million lbs was allocated, while 500 million lbs was the allocation for 3rd quarter period; besides demand for mino nets was small owing to unfavourable season for fishery.

The only way to increase the number of operation is to increase the amount of orders through the efforts of enterprisers.

Hara Yukio

~~for~~ Y.HARA,
Director, Hiroshima
International Trade &
Industry Bureau.

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

# FIELD TRIP REPORT

## R.G. STRADLEY

23 February 1950

1. Purpose:

Inspection of Teikoku Fish Net Co. Ltd. Hiroshima

2. Background:

Surveillance in accordance with O.D. 51.

3. Discussion:

This factory has 130 employees, 64 machines, and 1250 spindles. The plant has not been operating for the past two weeks due to shortage of threads. This factory uses 15,000 lbs. of thread per month. Thread was expected to arrive 24 February.

4. Conclusion:

The plant is not operating due to poor production planning.

5. Recommendation:

Mr. Hara, Hiroshima Ministry of International Trade and Industry ~~will be~~ requested to speed the processing of future allocations.

RGS

R.G. Stradley

D/RGS/st

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

# INSPECTION REPORT

Field Trip Report - Mr. Nelson 14 May 1951

(8) Sanyo Senko K.K., Fukuyama City

The plant is processing 1,000,000 yards of cotton cloth monthly by indigo printing, indigo discharging and wax-printing, 95% of which are being exported to Africa, Pakistan and India. There is a total of 180 employees but no labor union. As most workers are old timers who have gone through many hardships with president Matsumoto, labor relations are good and no labor trouble is in sight.

Mr. Fujii reports that the price hike of cotton yarn from ¥350 per pound in February 1951 to ¥410 in March is adversely affecting export business and that a shortage of bottoms is a bottleneck in view of the delivery date that must be met at any cost in foreign trade.

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

# FIELD TRIP REPORT

## R.G. STRADLEY

Fukuyama
26 July 1950

1. Purpose:

Inspection of Sanyo Senko K.K.

2. Background:

Surveillance in accordance with O.D. 11.

3. Discussion:

Conferees,

Mr. Matsumoto, President
Mr. Matsumoto, Managing director
Mr. Fujioka, Director.

Reports on the principal products and materials, power situation, labor relations are in our file.

The company is using pure indigo for dying or printing cotton fabrics with a total number of 196 employees.

About 80% of the products are being exported to the countries in Africa.

No difficulties in the procurement of raw materials including foreign dyestuffs were in evidence.

The plant is operating one 8 hour shift per day. This is due to the fact the rate of exchange was changed from ¥620 to one U.S. dollar to ¥360 to the same and to the change in the African market demands from 36 inches cloth to 48 inches cloth in order to cover up the breast part of the body.

Labor relations are peaceful despite the Fukuyama chapter of the Communist Party is located across from the company.

4. Conclusion:

The company is reorganizing its production process (from 36 inch wide cloth to 48 inch wide cloth) to meet the new demands of the foreign markets.

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The future prospects for the company in exports are bright with the exception of the recent increase in the prices of raw materials due to the fighting in Korea. The future safety of the shipments to foreign markets concerned is another thing that the company is worried about.

Coal electric power and raw materials do not constitute any problems. The procurement of cotton cloth (chief raw material) in the future is a vital problem.

5. Recommendation:

None.

R. G. STRADLEY, DAC
Chief, Price, Distribution
and Industry Division



D/RGS/st

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


# SANYO SENKO CO., LTD.

(DYEING & PRINTING WORKS)

NISHI-MACHI FUKUYAMA CITY
HIROSHIMA PREFECTURE
JAPAN

TELEPHONE
FUKUYAMA
394-396. 74


26 July 1950

1. Name of Company

Sanyo Senko CO.,LTD ✓

A. President or Representative

President Suetaro Matsumoto

B. Locaton

The head office

823 Nishimachi Fukuyama

Hiroshima Pref.

The branch

Inagawa branch

Kawanishimachi Kawabegun

Hyogo Pref.

C. Capital ¥ 8,000,000.-

D. Established January 7. 1925.

2. Total Emplyed 196

| | | | The mean age |
|---|---|---|---|
| A. Staff or Clerks | Male | 32 | 35.7 |
| | Female | 16 | 24 |
| B. Labor | Male | 122 | 31.3 |
| | Female | 26 | 29.2 |
| C. Others | | | |

3. Average Monthly Salary ¥ 6,087.-

| | | |
|---|---|---|
| A. Staff or Clerks | Male | ¥ 8,549.- |
| | Female | ¥ 4,645.- |
| B. Labor | Male | ¥ 6,459.- |
| | Female | ¥ 3,397.- |
| C. Others | | |

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# SANYO SENKO CO., LTD.

(DYEING & PRINTING WORKS)

NISHI-MACHI FUKUYAMA CITY
HIROSHIMA PREFECTURE
JAPAN

TELEPHONE
FUKUYAMA
394-396. 74


4. Working Hours

| | | |
|---|---|---|
| A. Staff or Clerks | Male | 6.539 |
| | Female | 3.523 |
| B. Labor | Male | 23.107 |
| | Female | 4.909 |

C. Others

5. Principal Product Manufactured

Pure Indigo Dyed or Printed Cotton Fabuics

Yearly amount 12,000,000Yds

Manthly amount 1,000,000Yds

6. Principal Material Used (Capacity (2,000,000 Yds)

| | | |
|---|---|---|
| Dye staff | Pure Indigo | 42,000 Kg |
| Chemicals | Hydrosulphite | 42,000 Kg |
| | Ronglit C | 200,000 Kg |
| | Soda | 42,000 Kg |
| Starch | | 216,000 Kg |
| Coal | | 3,000,000 Kg |

7. Electricity Problems

A. Average Used Per Month 18,883 K.W.H.

B. Average Paid Per Month ₩ 118,547.-

8. Others

A. Labor Union Organized or Not

Not

B. Welfare Institution For Employee

Baths

Welfare section

C. Other Matters

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

10 March 1950

Subject : Petition

To : Mr. H. C. Keisel, Chief,
Economics Section, CCAR

From : Sanyo Senko Co.,
Ko-823 Nishimachi,
Fukuyama City

Sir :

Since the pre-war period Sanyo Senko Company has been exporting its patented Pure Indigo Discharge Printing, Wax Printing, Plain Cloth Printing products to Africa and Southeastern countries where these products were most favorably received because of their excellent quality, fastness of color and cheap prices. Although the exportation of these products temporarily stopped due to the World War II, with the reopening of foreign trade on the basis of civilian traders concerned our Company received a large amount of orders in the line of above-mentioned Pure Indigo Discharge Printing and already we have completed the shipment of several million yards of same. Thus we have contributed, playing no small part in this country's

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foreign trade business, to the rehabilitation of industry and acquisition of foreign currency.

However, as you are well aware, owing to the economic reconstruction and readjustment policies of this country which became effective at the beginning of 1949 and attendant result in the decrease in processing rate and especially to the establishment of single exchange rate this country's export trade was compelled to face a big turning-point. Naturally, our Company has been affected and forced to readjust its enterprise to a great extent. At present we are exerting our utmost efforts to find the ways and means aid to the reduction of production cost.

Just for your information, the following figures shows how the processing rate has decreased in our Pure Indigo Discharge Printing:

| Classification | 1949 | 1950 |
|---|---|---|
| Pure Indigo Plain Cloth Printing (Per Yard) | $.30 | $.10 |
| Pure Indigo Discharge Printing | 35 | 17 |
| Pure Indigo Wax Printing | 150 | 60 |

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Just for your information, the following figures shows how the processing rate has decreased in our Pure Indigo Discharge Printing.

| Classification | 1949 | 1950 |
|---|---|---|
| Pure Indigo Plain Cloth Printing (Per yard) | $ 30 | $ 10 |
| Pure Indigo Discharge Printing | 35 | 17 |
| Pure Indigo Wax Printing | 150 | 60 |

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More than one half of the dyestuffs we consume are vat dyestuffs (Pure Indigo) which we either imported, during the pre-war period from Germany (I.G.) or bought from Mitsui Chemical Industry Company. But there is no imported I.G. Pure Indigo available at present and only alternative is to purchase the Pure Indigo being produced under the monopoly of the Mitsui Chemical Industry Co. At the time of the remission of the Official Prices of dyestuffs during 1949 the prices of all other dyestuffs dropped approximately by 20% - 30% but the price of Pure Indigo, on the contrary, increased by about 40% from ¥1.187 to ¥1.638 per kilogram. Since the abolition of the official prices of dyestuffs during August 1949 the prices of other dyestuffs have been heading toward a further price-cut but the price of the pure indigo, due to the reason mentioned as above, has been rather going up.

DECLASSIFIED E.O. 11652 SECTION 3 (E)(1)(D) NARS Date

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Consequently, it has become completely impossible for our Company to reduce production cost under the present condition and further absolutely impossible to compete against the products of such rival countries as Great Britain, Holland and Germany in so far as the prices are concerned. We are at the moment Operating at the minimum capacity to meet the present orders with the determination that Operation at a loss can not be helped. If the present situation were to be continued Still further We may have to Shut down the plant, in which case the foreign markets in Africa and other countries which have been acquired by our Company in the past will be left wide open to other countries. With the result it will, we believe, constitute a factor attributable to the Stalemate of this country's export trades.

We shall certainly appreciate very much if you should assist us, taking the above facts into your consideration, in the way of either reducing the price of the home made Pure Indigo or making

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the foreign products (made in Holland and Germany) available at cheap prices through import trade. If this is materialized our company will do our best in the production of processed goods thereby contributing to the reconstruction of this country and to the development of export business.

According to the Cabinet Order NO. 266, Article 25, it is possible, we presume, that the first priority will be given in principle to the use of foreign currency for the importation of foreign dyestuffs that are not included at present in the stock on hand of the Industrial and Mineral Goods Foreign Trade Kodan (the stocked items are slated to be released soon) even if similar items are being produced in this country. We are also informed in connection with this that in case we are to make use of foreign currency under this setup we should consult with other exporters concerned regarding the respective Company's share and file an application with the government authorities concerned twenty days prior to

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the elapse of the designated period of sixty days.

We herewith file this petition with You so that we might be able to get permission for the priority-use of foreign currency and to obtain cheap foreign dystuffs through import trade by virtue of your good offices.

We are studying at the moment the procedure to get the priority-use of foreign currency.

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

陳情書

中國民事部
カイゼル經濟部長　殿

福山市西町甲八二三番地
山陽染工株式會社

弊社儀

戰前より正藍染加工々場として弊社特許になる正藍抜染、防染、ローケツ染、無地染等の製品をアフリカ方面は勿論東南アジヤ諸國にその製品の優秀と堅牢、安價なる點にて最も珍重され弊社製品の全量を擧げて之等諸地域に輸出致して居りました、然るに今次大戰に依り之が輸出は停止となつて居りましたが終戰後日ならずして待望の民間貿易の再開を見弊社にても前記正藍染の大量註文に接し既に數百萬碼の輸出を完納致し我國輸出産業の一翼として外貨獲得に産業の復興に微力を盡して參つた

次第でありますが御承知の通り昨年頭初より實施せられました我國經濟再建整備にともなひ數次に渉る加工賃の値下げ就中替爲單一レートの決定に依り我國輸出産業は一大轉換の止むなき狀態に立ち至り弊社も自然之が影響を受け企業の大整備に晃舞はれ目下種々研究實施致し製品コストの參考迄に弊社インヂゴ加工品の染色加工賃の値下り狀況を見まするに左の如くなります。

| | 昨年 | 現在 |
|---|---|---|
| 正藍無地染 | 三〇 | 一〇 |
| 正藍抜染 | 三五 | 一七 |
| 正藍ローケツ染 | 一五〇 | 六〇 |

單位圓/碼

然るに弊社使用の染料の大半をしむるバット染料（インヂゴピュアー）及內需品（三井化學工業株式會社製品）なりたは戰前は獨乙（I.G）

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るも現在獨乙製品の輸入は全く無く三井製品のみにて之は該社の獨占的製品にて昭和廿四年度公定價額改正に於て他種染料は概ね二ー三割程度値下となつて居りますがインヂゴに限り廷當り一、一八七圓より一、六三八圓と四割方値上となつて居ります、又昨年八月の公定價額廢止後他種染料は更に値下の狀態を續けて居りますがインヂゴのみは前記理由に依り寧ろ昂騰の實狀であります。

從つて弊社製品のコストの引下げも現況にては全く不可能にて弊社製品と輸出競爭國たるイギリス、オランダ、ドイツ等の製品と價格の點のみにて到底競爭出來得ず弊社現在の受註も工場操業の最少限度にて相當の出血も覺悟にて操業を續けて居る實狀にて此の儘にて推移せば早晩操業不能の狀態に立ち至るやも知れず折格輸出市場をアフリカ諸國に獲得致し居るにもかゝはらず之が販路を他國にめだねる結果となりひいては我國輸出產業の不振の一因ともなるものと存じます。

就きましては右事情充分御賢察賜り國內產のインヂゴピユアーの價格の引下げか或は外國製品（オランダ及ドイツ）を低廉にて輸入出來得る樣

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御協力賜らば弊社工場擧げて之が製品の加工に邁進致し國家再建に輸出産業の發展に微力を盡す覺悟で御座居ます。

尚染料等輸入の最優先外貨使用に關する件に依りますれば外國染料等の輸入は現在工鑛品貿易公團手持中（最近拂下豫定のもの）のものに含まれて居らぬ資材を輸入する場合は、假令國内に類似のものが生産されて居りましても政令第二六六號の第二五條に依り原則的には最優先的に外貨使用も可能の由にて若し之を使用する場合は關係輸出商社と打合せて之が分け前を決定し六ヶ月の期限が經過する二十日前迄に當局に申請して置く必要がある旨にて弊社も之が收受先使用の許可を受け低廉なる外國染料の輸入を仰ぐ樣重ねて御盡力賜り度右何卒宜敷く御取計ひ下さいます樣書狀を以つて陳情申し上げる次第でございます。

右優先外貨使用に關する件に付き目下研究中でありますが先は陳情迄申上げます。

昭和二十五年三月十日

敬具

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

# FIELD TRIP REPORT

2 March 1950

1. Purpose:

   Inspection of Sanyo Senko Co.

2. Background:

   Surveillance in accordance with O.D. 51.

3. Discussion:

   Attached are the reports submitted by the company on its brief history, production figures, and business activities, ~~etc~~..

   a. Sanyo Senko is the only company in Japan that can mechanically operate pure indigo printing and export a large amount of its products to foreign countries - 80% of the products go to Belgium Congo in Africa. Acquisition of pure indigo is the most vital problem. Although dyestuffs have been decontrolled and their prices went down by approximately 45% the price of the pure indigo which is the most essential raw material of this company is still so high that the company feels it difficult to reduce its production cost because of this bottle neck. Mitsui Kasei Co. in Kyushu is the only company in Japan that can produce the pure indigo and it is arbitrarily deciding the market price of pure indigo under its actual monopoly. Under the present government foreign trade policy the company is unable to purchase German-made pure indigo of good quality called "IG" which is priced at ¥50,000 per barrel or 60 kg. F.O.B. Kobe. The Mitsui pure indigo costs the company around ¥70,000 -¥100,000 per barrel or 60 kg. Another chemicals the company wishes to buy from Germany is a discharge agent called "LEUCOTROP/W" or Dimethyl Phenyl Benzene Ammonium Chloride.

   b. Electric power situation of the company is as follows:

| | Contract load | Allocation | Actually used | Total Amount |
|---|---|---|---|---|
| Under Old rate | 390 KW | 15,000KWH | 15,000KWH | ¥ 69,450 |
| Under New Rate | 390 KW | 18,000 " | 15,000 " | ¥103,145 |

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Mr. Wakahashi, engineer, stated electric power represented in production cost under the old rate was 4% whereas under the new rate it went up to about 6.5% in indigo dying and from 1.7% to 2.7% in sulphur black dying. Before the war the margin of profit was around 30% but at present the margin is almost nothing after wage, raw materials, tax expenses have been deducted, therefore, a small increase as it may seem the new power rate is affecting the company's production cost to a certain extent at this time.

c. A new plant is under construction by the company next to its main plant and is expected to be completed by April 1950. This plant has a complete set of printing process with printing, steam ager, washing, sizing, tenting, calender machines, etc. Its authorized printing capacity is 1,000,000 yards per month but the company just actually start with 450,000 yards per month. The number of workers needed for the new plant is about 150.

d. A total number of employees is 310 at present. The workers are not organized into a union and labor relations are satisfactory despite the fact that communist cells have its office of Fukuyama chapter in front of the company's premises. Mr. Matsumoto, President of the company stated that most of the employees are old times who have served with the company for a long period of years and labor relations do not constitute a problem.

e. This company also wishes to sent its officials to foreign countries to know more about market situations and designs suitable to the customers.

4. Conclusion:

In order to compete with Danish, British and German products, and quite recently Indian substitute products in African market Sanyo Senko Company will have to either get permission to obtain German "IG" pure indigo through import trade or get the price of Mitsui pure indigo reduced through the government channels. The company needs at least 1.5 tons of pure indigo per month.

According to Mr. Kobayashi, Mitsui Kāsei Company in Kyushu obtained the production rights of manufacturing pure indigo through Japanese Government after the world war I when Japan acquired that rights from Germany as reparations.

5. Recommendation:

In view of the significant nature of export items the company is capable of producing a special consideration be given to adjust the situations mentioned in 4 above.

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# SANYO SENKO CO., LTD.

FOREIGN TRADING DEPT.

31 2-CHOME, UTSUBOMINAMITORI, NISHI-KU,

OSAKA, JAPAN.


## Outline and present situation of Sanyo Senko Co., Ltd.

### I. History of our Real Wax Prints:

Because the printing method by indigo, since more than five thousand years ago, originated of Africa specially in Egipt, where is the cradle place of ancient culture, introduced into Japan via the South Seas and China, is primitive, less output besides high cost, the President Matsumoto has invented Pure Indigo Discharge Printing Style, Real Wax Printing Style and others after his best exertion with the intention of more productions and better quality by using chemical and machinery power.

### 2. Outline:

| | |
|---|---|
| (a) The Name of the company: | Sanyo Senko Co., Ltd. |
| (b) Foundation: | Jan. 7, I925. |
| (c) Place: Head Office, | No. Ko-823 Nishimachi, Fukuyama City, Hiroshima Prefecture. Tel. No.395,representation No. |
| Fukuyama Factory, | Same as Head Office. |
| Inagawa Factory, | Obe, Kawanishimachi, Kawabegun, Hyogo Prefecture. Tel. No.Io22 & II3I of Ikeda. |
| Osaka Office, | 2-3I, 2-Chome, Utsubominamitori, Nishiku, Osaka City. Tel. No.2666,322I,I5I7-I5I9 of Tosabori. |
| Tokyo Office, | No.2, 2-Chome, Kobune-Cho, Nihonbashi, Chuoku, Tokyo City. Tel. No.4494 & 5276 of Kayabacho. |
| (d) Authorized Capital: | ¥ 8,000,000.00 Paid up. |
| (e) Representative: | Suetaro Matsumoto, the President. |
| (f) Manufactures and monthly production: | Pure Indigo Plain Dyed, Pure Indigo Discharge Prints, Pure Indigo Resist Prints, Pure Indigo Real Wax Prints and other dyed , printed and Bleached cotton goods. Monthly Production: 2,500,000yds |

( Continued on Page 2)

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SANYO SENKO CO., LTD.
FOREIGN TRADING DEPT.
31 2-CHOME, UTSUBOMINAMITORI, NISHI-KU,
OSAKA, JAPAN.



(g) Total Number of Employees: 310

(h) Market of Manufactures: U.S.A., Central and West Africa, Australia, India, The South Seas.

(i) Main Customers in Japan: Tatsuki & Co., Ltd., Toyo Menka Co., Ltd., Nippon Menka Co., Ltd., Maruei & Co., Ltd.

3. Present situation

Since the entirly intercepted of exportation, owing to property frozen, then outbreak of the World War II in 1941, our company producted only of Pure Indigo Plain dyed for Home use, especially for laborer's clothes in farm, fishing villages and its production reached around 30,000,000 pieces.

Although our main factory was entirly destroyed by a big air raid on Aug. 8, 1945, we have soon commerced to proper revival construction as Central Designated Factory of textile Dying Working-up for exportation, appointed by Ministry of Commerce and Industrial, and the factory has been completely rehabiliated better than before the war.

At reopening of overseas trading, the popularity of our manufactures, made by special technics has shocked the world market as it was before the war.

Initial exportation was made to Indonesian Republic of 1,000,000 yds of the Sulphur Black Dyed, since then we are receiving orders from Belgian Mission, Orientex Co., U.S.A., and buyers of all over the countries.

The following list is our actual results of exportation, viz.,

Already exported since last Spring are:

| | |
|---|---|
| Pure Indigo Discharge Prints, | 500,000 yds<br>Y-25,000,000.- |
| Pure Indigo Resist Prints, | 1,000,000.yds<br>¥ 78,000,000.- |
| Pure Indigo Plain Dyed, | 1,000,000.yds<br>¥ 6,000,000.- |
| Pure Indigo Real Wax Prints, | 1,500,000 yds<br>¥200,000,000.- |

(Continued on page 3)

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SANYO SENKO CO., LTD.
FOREIGN TRADING DEPT.
31 2-CHOME, UTSUBOMINAMITORI, NISHI-KU,
OSAKA, JAPAN.



Already closed the sales contracts are:

Pure Indigo Plain Dyed, 300,000 yds
¥ 2,000,000.-

Pure Indigo Resist Prints, I50,000 yds
¥ I2,000,000.-

Pure Indigo Real Wax Prints, 50,000 yds
¥ 7,000,000.-

Now being negotiated are:

Various kinds of Pure Indigo, supposedly around 3,000,000 yds.

As mentioned above, orders for our manufacturers are supposed to be increase in future. As the matter of the fact, the economical recovery of present Japan only depends upon its encouragement of overseas trading of those textiles working-up, the most important part of post-war exportation, which is not only a grave responsibility but the key point of economical rehabilitaityn of present Japan.

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# NEW SAMPLE

## SANYO SENKO CO., LTD.

(DYEING & PRINTING WORKS)

FUKUYAMA JAPAN

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**SAMPLE No.**.....

ARTICLE ..... NET WEIGHT ..... grms. per piece

SIZE ..... " × ..... yds ..... REMARKS ..... gms per sq metre

PRICE ..... piece / per yard .....

## DESIGN & QUALITY

Testings of Fast Colour against the Sunshine
対日光堅牢度試験

試料 materials used:

A. Real Wax Print

使用染料 Dyestuffs used: Pure Indigo and other fast colouring matter 及他，堅牢色素
(山陽染工株式會社製品) (Products of San-yo Senko co)

B Imitation Wax Print

使用染料 Dyestuffs used: Basic Colours & Naphtol Colours

條件 Condition:

8月晴天の日光直射に20時間曝露.
即ち標準試料 (Safranin (Basic Colour))
の褪色する迄.

The materials were exposed in the direct sunshine for 20 HRS until the standards dyestuffs (Safranin – Basic Colour) fade away.

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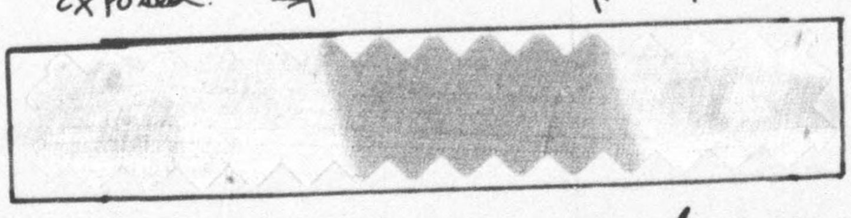
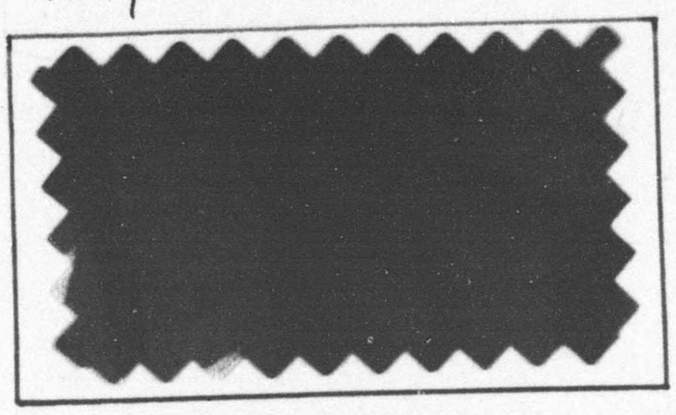
# ASSORTMENT

Standard

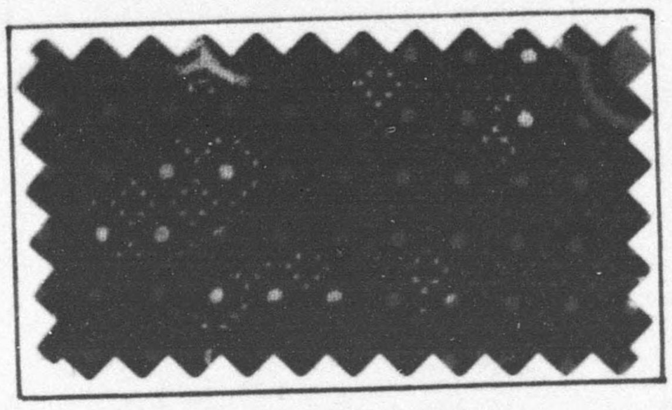
Exposed → ← Exposed

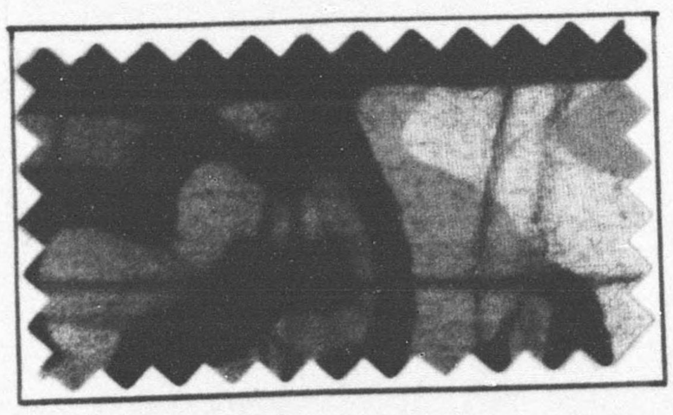


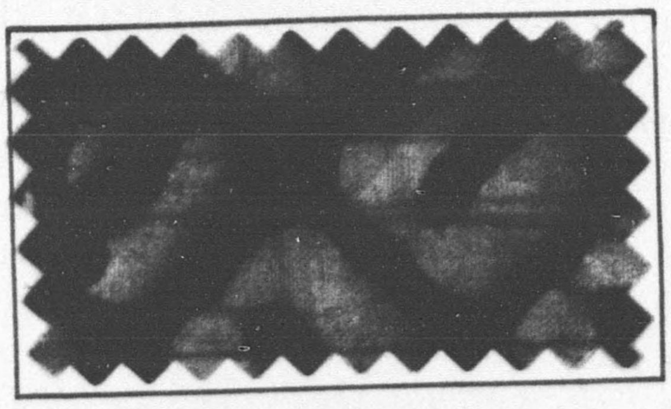
A. Real Wax Print

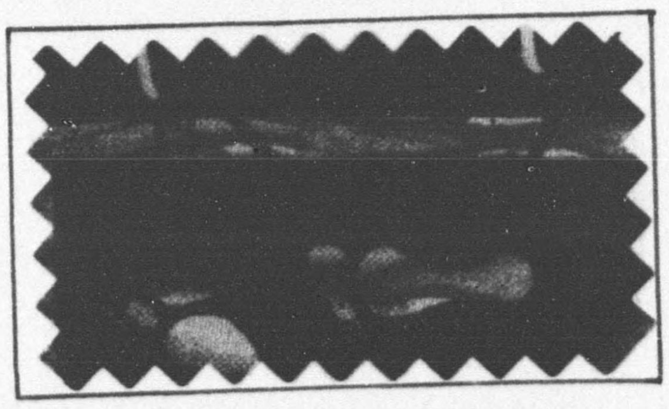


B. Imitation Wax Print











← Exposed →



← Exposed →

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-C-O-P-Y-

HEADQUARTERS
CHUGOKU CIVIL AFFAIRS REGION
ECONOMICS SECTION

D/TK/hk

24 October 1950

CCAR 319.1

SUBJECT: Report of Field Trip, Daiwa Boseki, Izumo City, Toyo Koatsu, Shimonoseki City, 16-20 October 1950

TO : Chief
Economics Section

PREPARED BY: Tetsuro Kajiya, Distribution & Industry Division

1. REFERENCE:

O.D. 11

2. PURPOSE:

Stimulation of Industries.

3. BACKGROUND:

None

4. DISCUSSION:

Routine inquiries were made at the two plants mentioned above.

a. Daiwa Boseki

(1) Production - Cotton threads 120,000 lbs per month
Fabrics 60,000 tans

(2) Outlets - 60 to 70% of the production is exported to south east Asian countries.

(3) Raw Materials - At the present adequate supply is maintained but limitation of imported cotton to 550,000 bales a year by the American Government is worrying the manufacturers.

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(4) Labor - 2,700 workers - No labor problems or communist agitation was found.

(5) Electricity - Requirement is 1,100,000 KWH
Allocation is 750,000 KWH
November allocation is 520,000 KWH

This situation is the company's major problem since use of electricity over the allocation usually cost twice the amount of the allocation.

b. Toyo Koatsu

(1) Production - Ammonium Sulphate - 1000 T. per month
Methanol - 450 T. "
Formalin - 450 T. "
Urea - 60 T. "
Urothropin - 20 T. "

(2) Raw Materials - Only problem of materials is the availability of sulphuric acid for fertilizer production. Due to poor production of acid the maximum production capacity of 1,350 tons per month cannot be met.

(3) Electricity - Allocation 2,200,000 KWH per month
Actual use 2,600,000 to 2,800,000 KWH per month.

(4) Labor - 1,500 - No anticipation of labor disputes. Purge of communist elements will be conducted. Present estimates of communists are around 8 persons who are not in high positions in the Labor Union.

5. CONCLUSIONS:

None

6. RECOMMENDATIONS:

None

TETSURO KAJIYA
Distribution & Industry Division



-C-O-P-Y-

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

# FIELD TRIP REPORT

## R.G. STRADLEY

3 May 1950

1. Purpose:

Inspection of Toyo Koatsu Kogyo Company Ltd.

2. Background:

Surveillance in accordance with O.O. 11.

3. Discussion:

Conferees,

Mr. Naito, Chief Technical Department,

Mr. Ito, Chief Investigation Section,

Mr. Hasuo, Assistant Chief General Affairs Section.

Mr. Aoki, Staff of General Affairs Section.

a. Production.

| Items | Capacity | Monthly average | Uses |
|---|---|---|---|
| Ammonium Sulphate | 1,350 ton | 1,000 1,200 ton | Fertilizer |
| Formalin | 450 | 300 | Plastics, Chemicals for Agricultural Purpose. |
| Refined Methanol | 510 | 350 | Formalin, dye, solvent, plastics |
| Urea | 150 | 120 | Chemicals, plastics |
| Hexamethylene tetramine | 38 | 20 | Chemicals, Vulcanizing agent. |
| Liquid Ammonium | 480 | 400 | |
| Methyl Acetate | 120 | Stopped | Solvent. |

b. The company has no difficulty in the procurement of raw materials.

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The company purchases 5,500 or over anthrasite coal at ¥4,200 from Mitsui Mine in Kyushu. As the company used to be a subsidiary of the Mitsui Company the relations between the two company appear to be very friendly.

c. Bottleneck

Since the company has no home-generation facility the electric power constitutes a vital problem. During April 1950, the company was allocated 2,100,000 KWH against its requirements of 3,000,000 KWH therefore the company had to purchase high priced Thermo generated power to the extent of 900,000 KWH which was consumed in excess of the allocation.

d. Bagging

Five Workers are engaged in bagging which is done by hand. Each of five workers is capable of bagging about 120 bags per day.

e. Flow sheet and other data are in our file.

4. Conclusion:

None.

5. Recommendation:

None.

BSS

R.G. STRADLEY.

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Monthly Production Report For January.

3 Febuary 1950

From : Toyo Koatsu Kogyo Co. Ltd.

| Products | Unit | Scheduled Production | Actual Production | Percentage |
|---|---|---|---|---|
| Liquid Ammonia | Kilogram | 390,000 | 401,933 | 103.1% |
| Ammonia Salphate | " | 1,200,000 | 1,205,000 | 100.4% |
| Urea | " | 80,000 | 120,533 | 150.7% |
| Crude Methanol | " | 450,000 | 435,921 | 96.9% |
| Formalin | " | 290,000 | 298,100 | 102.8% |
| Methyl Acetate | " | — | — | — |
| Hexa Methylene Tetramine | " | 15,000 | 17,837 | 108.9% |
| F. N. Solvent | " | — | — | — |

昭和二十五年二月三日

東圧 彦調第五九號

山口民事部
商工課 富永係官殿

山口縣下関市大字彦島字宮前地
東洋高壓工業株式會
彦島工

一月分生産狀況報告の件

先に電話を以て取急ぎ御報告致しました首記に付確め旁々左記の通り重而御報告申上げます故宜敷御取計願上ます。

| 製品名 | 單位 | 計畫量 | 實績量 | 實績/計畫 | 備考 |
|---|---|---|---|---|---|
| 液体アムモニア | 瓲 | 三九〇、〇〇〇 | 四〇一、九三三 | 一〇三、一 | |
| 硫酸アムモニア | 〃 | 一、二〇〇、〇〇〇 | 一、二〇五、〇〇〇 | 一〇〇、四 | |
| 尿素 | 〃 | 八〇、〇〇〇 | 一、二〇、五三三 | 一五〇、七 | |
| 精製メタノール | 〃 | 四五〇、〇〇〇 | 四三五、九二一 | 九六、九 | |
| ホルマリン | 〃 | 二九〇、〇〇〇 | 二九八、一〇〇 | 一〇二、八 | |
| 醋酸メチル | 〃 | ~~[illegible]~~ | — | — | |
| ウロトロピン | 〃 | 一五、〇〇〇 | 一七、八三七 | 一〇八、九 | |
| 粗製高級アルコール | 〃 | — | — | — | |

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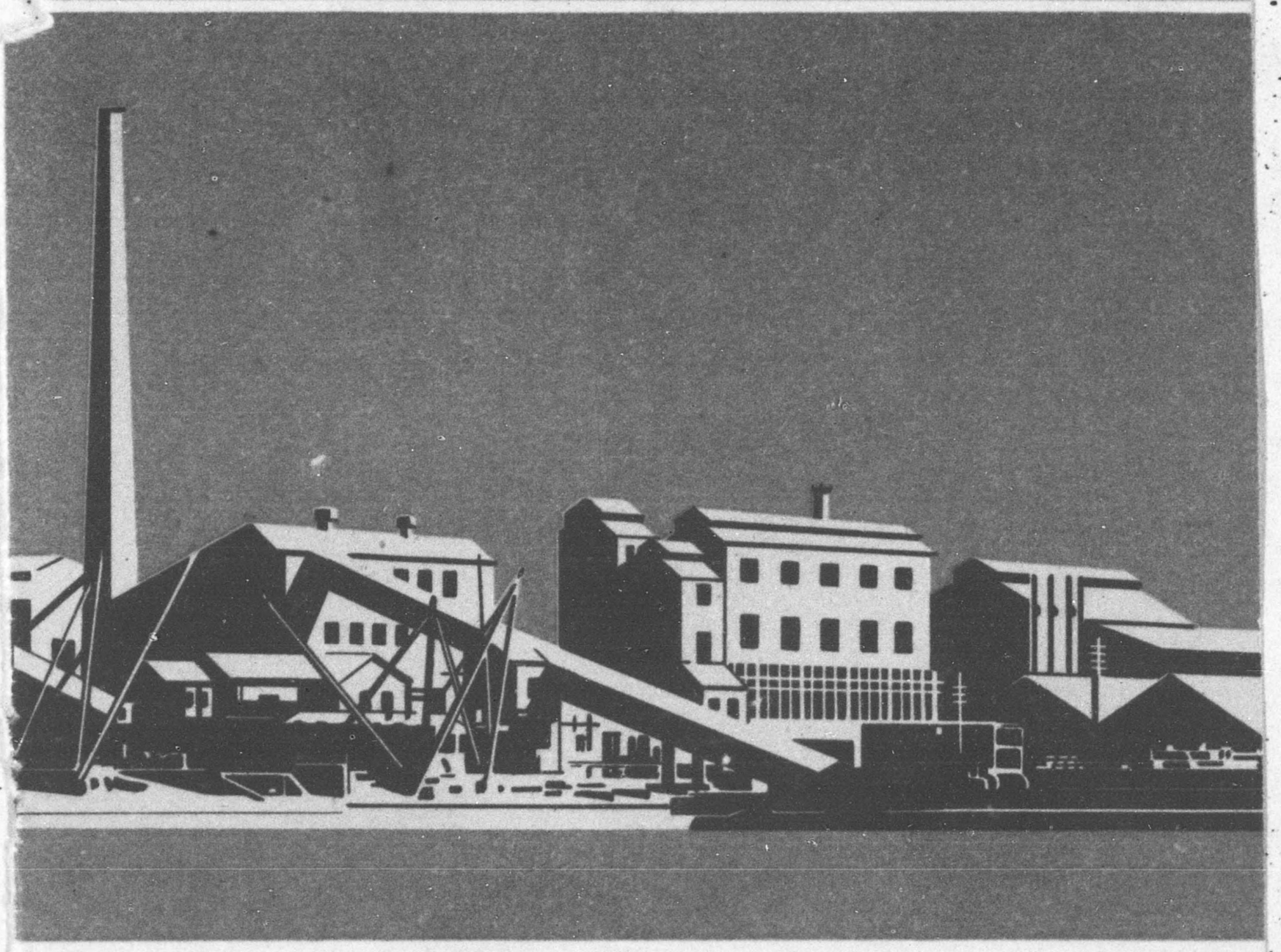
# 事業概覽



東洋高壓工業株式會社
彥島工業所

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

| | |
|---|---|
| 本　　社 | 東京都中央區日本橋室町二丁目一ノ一 |
| 大牟田工業所 | 福岡縣大牟田市三坑町八番地 |
| 北海道工業所 | 北海道空知郡砂川町豊沼三五 |
| 彦島工業所 | 山口縣下關市彦島字宮ノ前 |
| 大船工業所 | 神奈川縣横濱市戸塚區笠間町田立前 |
| 大阪事務所 | 大阪市北區中之島三丁目三井ビル内 |

## 事業目的

1、硫酸アンモニア其の他化學肥料の製造加工竝に賣買
2、化學藥品其の他各種化學工業品の製造加工竝に賣買
3、前各號に附帶關連する事業

## 主要製品

硫安、液安、硫酸、硝酸、メタノール、ホルマリン
亞硝酸ソーダ、尿素、炭安、醋酸メチル、ウロトロピン、合成樹脂接着劑、合成樹脂成型粉

# 東洋高壓工業株式會社

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



## 1. 會社の概要

化學肥料の需要の緊迫度が增した昭和6年に三井關係事業として、三池窒素工業株式會社が設立され三池染料工業所の骸炭爐より副生する瓦斯を利用してアンモニア合成を始めた。その頃アメリカのデユポン社がアンモニア合成の画期的研究に成功、三井がこの特許權を獲得する事が出來たのを機會として、大規模生產の計畫が具体化し、昭和8年4月資本金二百万圓をもつて東洋高壓工業株式會社が設立され前記三池窒素に隣接して工場が建設された。昭和12年2月には操業上の關係から三池窒素を吸合し、なほ、硫安國內增產の必要性から、昭和13年北海道砂川に硫安工場の新設計畫に着手、同年10月には彥島の合成工業株式會社を吸合し、硫安の他に有機合成品系統の事業へも進出する事になつた。

又昭和17年には時代の要請に基づく、新事業合成樹脂への製造研究に乘出し横濱市大船に試驗工場を設置、續いて北海道工業所も戰時中の困難を克服して昭和21年7月には新しい化學肥料として尿素の生產を見るに到つた。

現在の東洋高壓工業株式會社としては本社を東京に置き事業所として大牟田彥島、北海道、大船の各工業所を存し、〃アンモニア〃〃メタノール〃並に之に關連する一切の事業を併せ經營し、その將來は製品の多角性に伴い、洋々たるものがある。

資本金 ~~公稱 六千五百萬圓~~
~~增資 八千五百萬圓 (昭和24年1月第1回)~~
~~計 一億五千萬圓~~
四億五千萬円(前額拼込濟)

## 2. 彥島工業所の沿革

大正11年4月創立された鈴木商店系のクロード式窒素工業株式會社が同年7月同系の株式會社彥島製煉所構內に日產5瓲のクロード式アンモニア工場を建設し翌13年7月生產を開始した、我國窒素工業發祥の地の一つである。

昭和3年1月に當時襲つた經濟界のパニツクのため鈴木商店沒落し、三井鑛山株式會社が其の經營を繼承した。

他方東京工業試驗所にてメタノールの合成法が完成せられて昭和7年7月合成工業株式會社が設立されクロード窒素工業株式會社に隣接して日產5瓲のメタノール工場を建設原料ガスの供給を受けて生產を開始した。

昭和10年3月メタノール生產の發展と共に統一的管理の必要にせまられて、合成工業株式會社に吸收合併せられた。その後諸設備の改善、新設によつてますます擴張發展したが、昭和13年10月東洋高壓工業株式會社に合併され、同社の彥島工業所として現在に至つてゐる。

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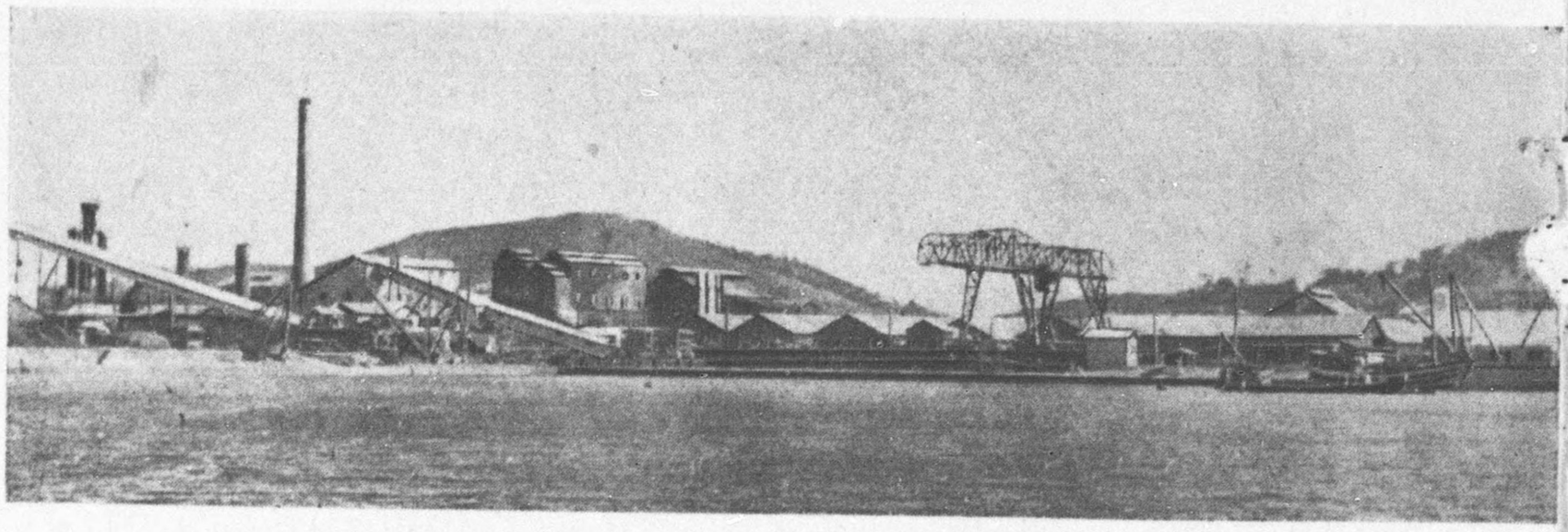


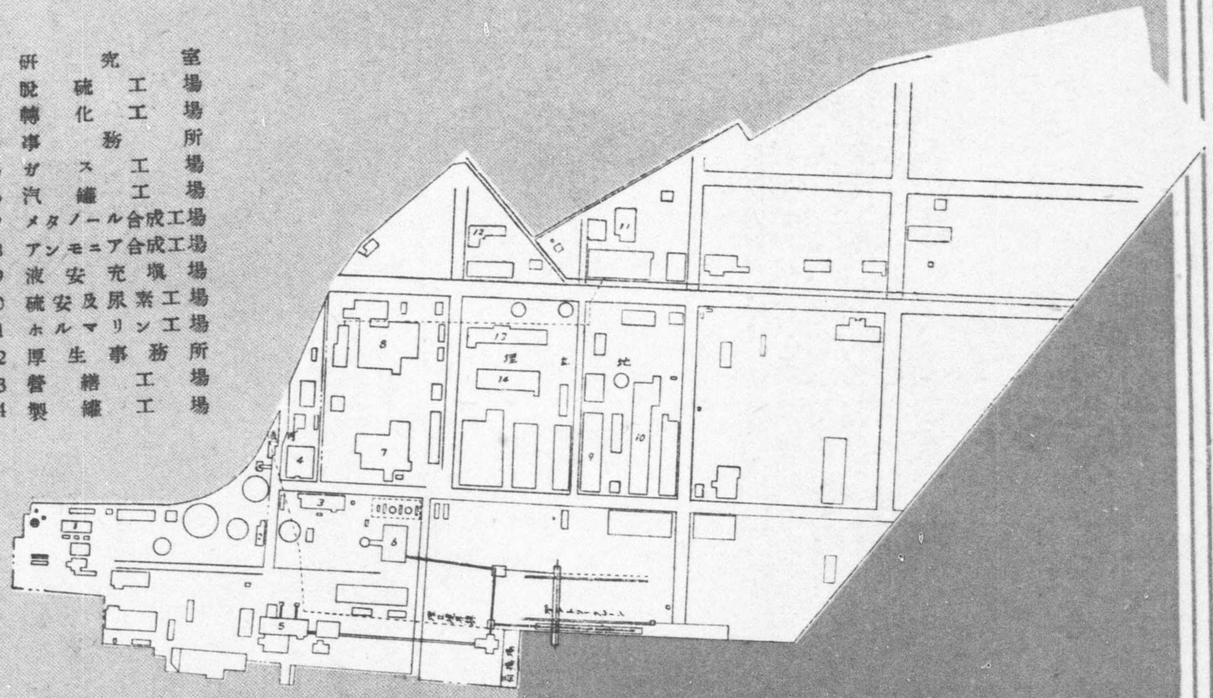
## 3. 工 場 設 備

| | 敷 地 | 建 物 |
|---|---|---|
| 工 場 内 | 58,575.24坪 | 7,047 84坪 |
| 〃 外 | 35,712 61 〃 | 6,115.75 〃 |
| 計 | 94,287.85 〃 | 13,193 89 〃 |

| | 建 築 物 (延坪) | | |
|---|---|---|---|
| | 木 造 | 鐵骨及鐵筋 | 計 |
| ガス製造部 | 112延坪 | 618延坪 | 730延坪 |
| アンモニア合成部 | 633 〃 | 1,145 〃 | 1,778 〃 |
| 硫安及尿素製造部 | 274 〃 | 415 〃 | 689 〃 |
| メタノール合成部 | 300 〃 | 625 〃 | 925 〃 |
| ホルマリン製造部 | 493 〃 | 195 〃 | 688 〃 |
| ウロトロピン製造部 | 78 〃 | — | 78 〃 |
| 其 ノ 他 | 3,077 〃 | 53 〃 | 3,130 〃 |
| 計 | 4,967 〃 | 3,051 〃 | 8,018 〃 |

## 工場配置圖

1 研究室
2 脱硫工場
3 轉化工場
4 事務所
5 ガス工場
6 汽罐工場
7 メタノール合成工場
8 アンモニア合成工場
9 液安充塡場
10 硫安及尿素工場
11 ホルマリン工場
12 厚生事務所
13 營繕工場
14 製罐工場



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## 4. 生産品目、能力、用途（月間）

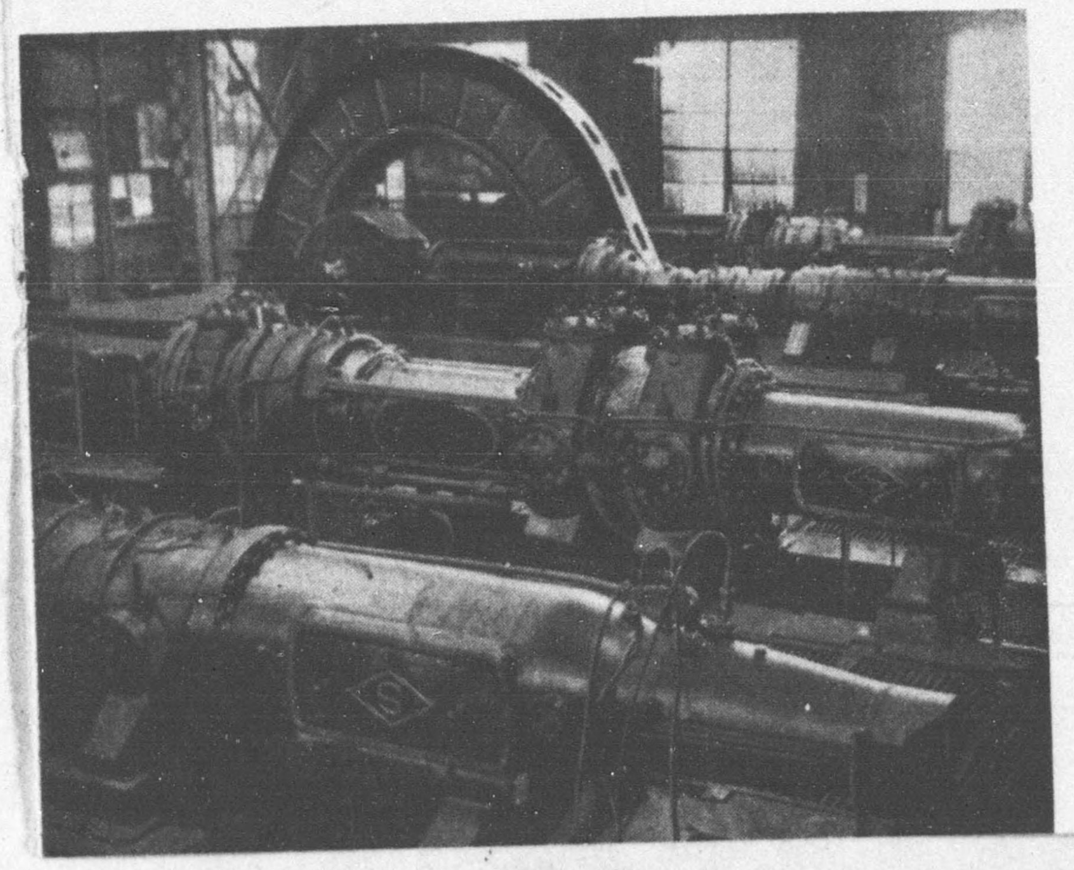
| 品名 | 設備能力 | 用途 |
|---|---|---|
| 液安 | 480 | ソーダ・製氷・人絹・硫酸・其ノ他一般藥品原料 |
| 硫安 | 1,350 | 肥料 |
| 尿素 | 150 ~~90~~ | 合成樹脂、接着劑、醫藥原料 |
| 炭安 | 60 | 製パン、製菓 |
| ウロトロピン | 38 | ゴム、合成樹脂原料、醫藥品 |
| メタノール | 570 | ホルマリン、溶劑、燃料、火藥原料 |
| ホルマリン | 450 | 農藥及一般消毒、合成樹脂原料 |
| 醋酸メチル | 120 | 溶劑 |

## 5. 機械装置概要

P.G.E式 3,800㎥/day 1基
高圧式 3,800㎥/day 2基

| 種別 | 機械名称 | 基数 | 仕様 | 用途 |
|---|---|---|---|---|
| ガス工場 | 水性ガス爐 | 3 | ~~P.G.E式 38,000㎥/day~~ ~~高圧接触酒式耐火煉瓦内張~~ | 水性ガス發生用 |
| | コットレル裝置 | 2 | 200㎥/min | ガス清淨 |
| 脫硫工場 | 脫硫塔 | 1 | 80,000㎥/day タイロックス式 | 水性ガス脫硫精製 |
| | 洗滌塔 | 1 | 80,000㎥/day | |
| | 酸化塔 | 2 | | クイロックス液回收 |
| 轉化工場 | | | | |
| アンモニア系 | 轉化爐 | 2 | 通過ガス量60,000㎥/day | アンモニア原料ガスニ變成 |
| | 熱交換機 | 3 | 〃 80,000㎥/day | |
| | 飽和凝縮塔 | 1 | 〃 80,000㎥/day | |
| メタノール系 | 轉化爐 | 2 | 〃 15,000㎥/day | メタノール原料ガスニ變成 |
| | 熱交換機 | 4 | 〃 〃 | |
| | 飽和凝縮塔 | 各1 | 〃 〃 | |
| アンモニア合成工場 | ガス壓縮機 | 2 | 1,000㎏/㎠ 3,400㎥/Hr 1,600 HP | アンモニア合成 |
| | ガス洗滌塔 | 1 | 內徑1,364 ㎜ 厚32 ㎜ 高サ30,000 ㎜ | 炭酸ガス吸收除去 |
| | アンモニア合成筒 | 6 | 14.5 ㌧/day | |
| | 副產メタノール合成筒 | 4 | 2.5 ㌧/day | |
| メタノール合成工場 | ガス壓縮機 | 1 | 360㎏/㎠ 1,500㎥/Hr 700 HP | メタノール合成 |
| | 〃 | 1 | 〃 1,250㎥/Hr 600 HP | |
| | ガス洗滌塔 | 2 | 內徑970 ㎜ 高サ20,000 ㎜ 〃 〃 15,000 ㎜ | |
| | メタノール合成筒 | 4 | 17 ㌧/day | |

| 種別 | 機械名稱 | 基數 | 仕様 | 用途 |
|---|---|---|---|---|
| | 蒸溜塔 | 2 | 〃 | メタノール精溜 |
| | 循環機 | 3 | 100 HP 2基<br>150 HP 1基 | 合成ガス循環用 |
| 硫安工場 | 飽和器 | 4 | 38 T/day | 硫安製造 |
| | 遠心分離器 | 1 | バスケット型<br>1,085 m/m × 590 m/m | |
| | 乾燥機 | 1 | 620 m/m × 8,000 m/m | |
| 尿素工場 | 炭酸ガス壓縮機 | 4 | 350 M3/Hr | 尿素製造 |
| | 尿素合成筒 | 2 | 3 T/day | |
| ホルマリン工場 | 反應塔 | 3組 | 13.5 T/day | ホルマリン製造 |
| | 氣化器 | 4 | 〃 | |
| | 反應ガス冷却器 | 3 | 〃 | |
| 汽罐工場 | B.&.W.WIF型水管式 | 4 | 120 T/d 1基 144 T/d 3基 | 水性ガス原料<br>其他蒸氣發生 |
| 變電所 | 變壓器 | 6 | 1,500 KVA × 6 | |
| | 受電盤 | 1 | 一次 20,000 v<br>二次 3,300 v | |
| | 高壓送電盤 | 3 | 3,300 v | アンモニア、メタノール<br>製品工場向 |
| | 低壓 〃 | 1 | 220 v | 動力用 |
| | 〃 〃 | 1 | 100 v | 照明用 |



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## 6. 製造工程の概要

(1) ガス製造工程

當所のガス發生爐は無煙炭、煽石、及びコークスの中何れでも原料として使用する事が出來る。卽ち最も安價なガス發生原料を自由に選擇し得ることは、本邦で特異な存在であらう、先づ爐內に空氣を吹込み、原料を赤熱狀態とする。此の時生成するガスをブローガスと稱し炭酸ガス（$CO_2$）と窒素（$N_2$）を主成分としアンモニア合成原料ガスの窒素源となる。赤熱した上記原料に水蒸氣を吹込むことによつて水性ガスを得る。水性ガスの主成分は水素（$H_2$）と一酸化炭素（CO）である。ブローガスは水洗後直接ブローガス・ホルダーに又、水性ガスは水洗後コツトレル除塵器を經て水性ガス・ホルダーに夫々貯えられる。

(2) 脫硫工程

原料炭又はコークス中の硫黃はその大部分が硫化水素となつてガス中に混入し今後の化學工程に惡影響を與え裝置を腐蝕するから硫黃を除去しなければならない。

水性ガスは濕式法（タイロツクス法）ブローガスは乾式法（酸化鐵を主成分とする脫硫劑を充塡せる脫硫器）によつて夫々脫硫する。

(3) 轉化工程

(A) アンモニア原料ガス

脫硫された水性ガス、ブローガス及び返還ガス(メタノール合成殘ガス)の混合ガスは水蒸氣を添加し鐵觸媒を充塡した轉化爐（450°C）に導かれガス中の一酸化炭素（CO）は水素（$H_2$）に變成される。

(B) メタノール原料ガス

メタノール原料ガスとして水素：一酸化炭素＝2：1のものが要求される。從つて、脫硫された水性ガスの一部を轉化し、之と水性ガスを適當に配合することによつて調節される。

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（４）アンモニア合成工程（並に副産メタノール合成工程）

轉化ガスはアンモニア工場の７段式ハイパー壓縮機（1000氣壓）で吸引壓縮され壓縮途中３段（35氣壓）で海水洗滌塔に通じ炭酸ガスを海水により吸收除去する（一度海水に吸收した炭酸ガスは常壓で放出し之を捕集して炭酸ガス・ホルダーに送り尿素製造原料に供す）次に之を4段～7段と逐次壓縮し（1000氣壓）合成筒に壓入する。合成筒は3群より成る第1群は殘存一酸化炭素を除去すると同時に副産メタノールを收得するための副産メタノール合成筒であり、第２群は猶微量に殘存する一酸化炭素を完全除去するための清淨筒（400°C）であり、第3群はアンモニア合成筒(500°C)である。

第１群の反應　$CO+2H_2 \rightarrow CH_3OH$

第２群　〃　$CO+3H_2 \rightarrow CH_4+H_2O$

第３群　〃　$N_2+3H_2 \rightarrow 2NH_3$

此等の工程によつて得られた、液体アンモニア（液安）及副産粗製メタノールは夫々貯槽に送られる、尙當所は第1群及第2群の特殊裝置を有すること、1000氣壓の超高壓を用いていることを、特徴とする。

（５）　メタノール合成工程及蒸溜工程

（３）、（Ｂ）に述べた樣に配合調整された原料ガスはメタノール合成工場6段式ハイパー壓縮機（300氣壓）て吸引壓縮され3段（25氣壓）で海水洗滌塔に通じ炭酸ガスを除去し4～6段（300氣壓）と逐次壓縮し合成筒に壓入粗製メタノールを合成する。未反應ガスはガス循環機によつて循環壓入し、その一部は返還ガスとしてアンモニア轉化原料ガスに供せられる。　$CO+2H_2 \rightarrow CH_3OH$　次に粗製メタノールを蒸溜裝置で精溜して精製メタノールとする。

此の時輕沸點部分としてヘツドを、重沸點部分として高級アルコールを收得する。

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(6) 硫酸アンモニア（硫安）製造工程

液安を氣化器で氣化し、アンモニア飽和器中の硫酸に吹込めば硫安の結晶を得る、遠心分離機に掛けて後乾燥器で乾燥する $2NH_3 + H_2SO_4 \rightarrow (NH_4)_2SO_4$

(7) 尿素製造工程

前記アンモニア合成工程の海水洗滌塔より得られた炭酸ガスを壓縮し液化炭酸を得る、送液プランヂヤー・ポンプによつて液安と液化炭酸を尿素合成塔に壓入、反應せしめる（120氣壓、150°C）と尿素が合成される。尿素蒸溜器に送り未反應アンモニアを蒸發せしめ漏過乾燥すれば尿素の結晶を得る。 $2NH_3 + CO_2 \rightarrow {NH_2 \atop NH_2}>CO + H_2O$

(8) 醋酸メチル製造工程

メタノールと醋酸を混合し微量の硫酸を添加しエステル化反應を行へばメタノールの醋酸エステルであるところの醋酸メチルを得る、之を精溜して製品とする。 $CH_3OH + CH_3COOH \rightarrow CH_3CO.O,.CH_3 + H_2O$

(9) ホルマリン製造工程

メタノールに空氣を吹込み加熱氣化し觸媒を入れた反應管（450°C）に通ずればメタノールの酸化によりホルムアルデヒドを得る之を水に吸收せしめて蒸溜し未反應のメタノールを溜出すればホルマリンを得る。

$2CH_3OH + O_2 \rightarrow 2H.CHO + 2H_2O$

(10) ウロトロピン製造工程

學名ヘキサメチレンテトラミンとも云う、之はホルマリン中にアンモニアを吹込み反應せしめ眞空効用蒸發罐で水分を蒸發した後、乾燥することによつて得られる。

$4NH_3 + 6H.CHO \rightarrow (CH_2)_6N_4 + 6H_2O$

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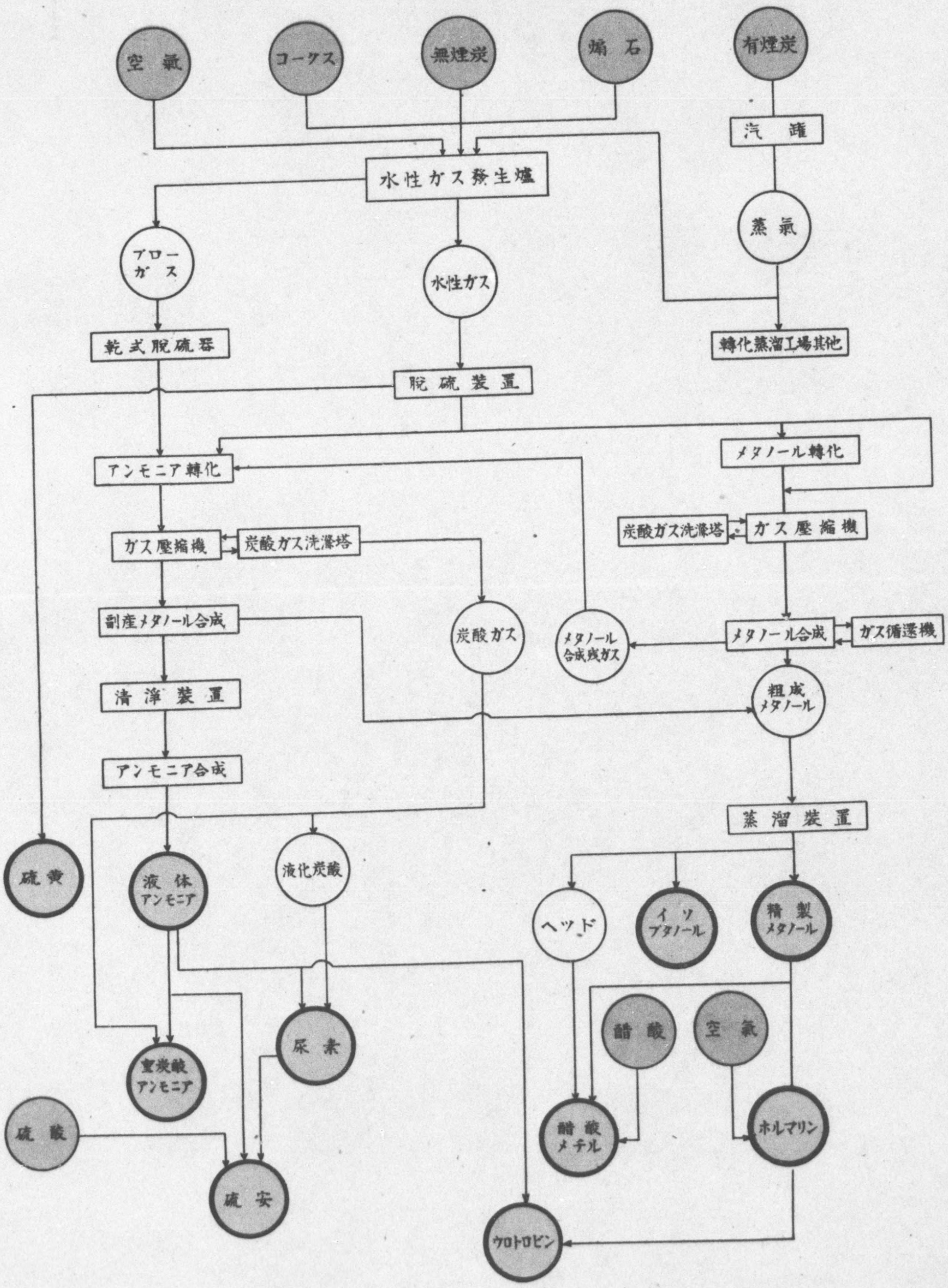
# 作業系統圖

東洋高壓工業株式會社
彥島工業所



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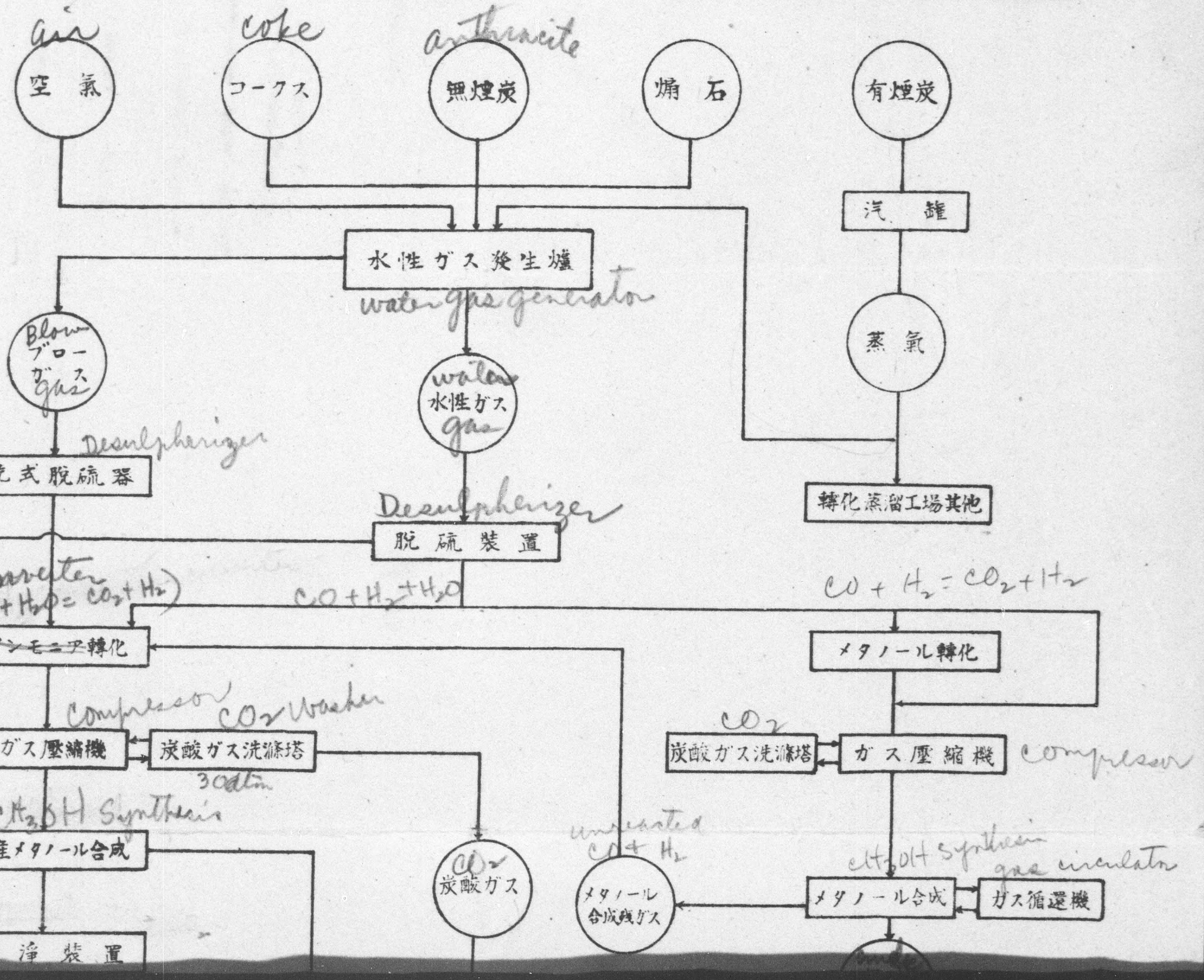
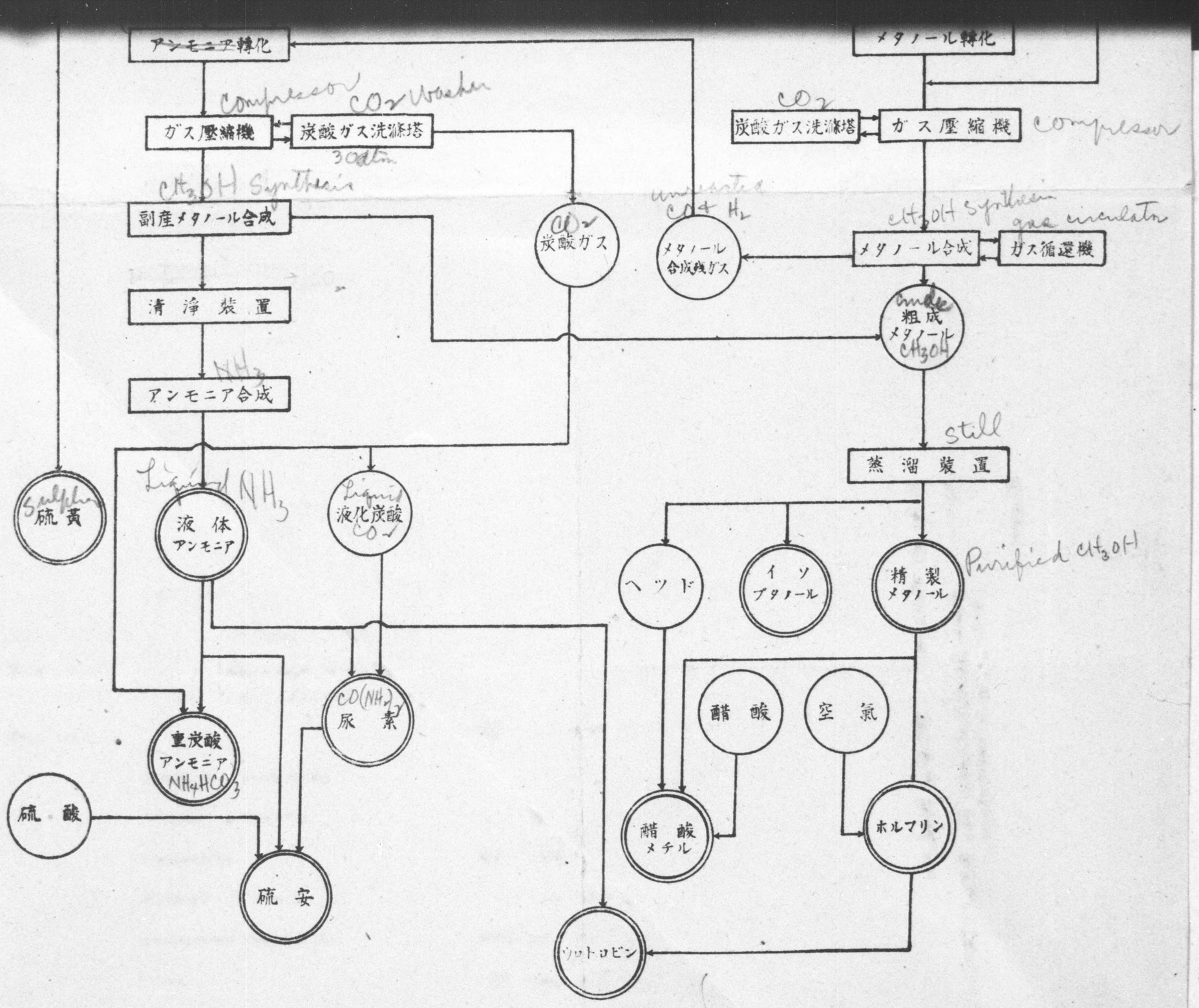
Toyo Koatsu Koatsu K.K.,

Hikojima Plant

# 作業系統圖

東洋高壓工業株式會社
彰島工業所




アンモニア転化
ガス壓縮機
炭酸ガス洗滌塔
副産メタノール合成
清浄装置
アンモニア合成
硫黄
液体アンモニア
液化炭酸
重炭酸アンモニア
尿素
硫酸
硫安
炭酸ガス
メタノール合成残ガス
メタノール転化
炭酸ガス洗滌塔
ガス壓縮機
メタノール合成
ガス循環機
粗成メタノール
蒸溜装置
ヘッド
イソブタノール
精製メタノール
醋酸
空氣
醋酸メチル
ホルマリン
ウロトロピン

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