894.6359/1-145--12-3146-47-48-49

BRITISH EMBASSY,
WASHINGTON 8, D. C.

Ref:145/ /46

March 5th, 1946.

Dear Whitman,

Some time ago the State Department informed His Majesty's Embassy that a quantity of antimony was available for export from Japan and we replied that we were not interested in this metal. During the last few months, however, less antimony has been available to the United Kingdom and it is now found that, unless we can supplement our supplies from fresh sources, stocks in the United Kingdom will be reduced to such a low level by April 30th that smelting will have to cease shortly after that date. From that time until supplies from Bolivia become more freely available (which is expected to be in September, 1946), the United Kingdom will need an additional 6,000 tons of ore. Details of the position have been communicated to the Civilian Production Administration.

/In

Mr. R. H. Whitman,
JK Division,
United States Department of State,
Washington, D. C.

In the circumstances I am instructed by my Government to put in a claim on their behalf to the stock of antimony which is available from Japan.

I am sending a copy of this letter to Mr. Trevelyan of the Indian Agency General.

Yours sincerely,

F. C. Everson.

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U. S. COMMERCIAL COMPANY
811 VERMONT AVENUE NW.
WASHINGTON 25, D. C.

Reply drafted 7/11/46 5Z

Honorable William L. Clayton
Assistant Secretary of State
Washington, D. C.

Dear Mr. Clayton:

During a recent meeting between representatives of the U. S. Commercial Company and representatives of the Department of State, we were advised that the question of the prices which should obtain in connection with exports of metals from Japan was being reviewed.

Since we have been asked to handle the disposal of such of these materials as may be moved to the United States, we were requested to advise you of our views on the subject. This matter has been discussed with representatives of the Office of Metals Reserve of the Reconstruction Finance Corporation, to whom we expect to sell such copper, lead, tin and antimony as is allocated to the United States, and we join them in the following comments.

It is our opinion that in establishing the prices at which these commodities may be sold that serious consideration should be given to the possible impact of these prices on the active buying programs of the Government. In this connection, although naturally the Reconstruction Finance Corporation wishes to purchase the material on the most economical basis, it is our joint opinion that fair prices would be: [18.5 cents per pound of antimony metal, 12.25 cents per pound of electrolytic copper, 58 cents per pound of Grade A refined tin and 7.25 cents per pound of refined common lead.] Establishment of these prices for delivery at United States ports, would not adversely affect the RFC buying programs and, of course, these prices should be reduced by the amount of the current freight and insurance rates in the event it should be decided to fix export prices f.o.b. vessel Japanese port.

We would greatly appreciate being advised as quickly as possible in the event any minimum export prices should be established for these materials, since it will be necessary for us to know of these prices before we can conclude contracts of sale.

With kind personal regards,

Sincerely yours,

Charles B. Henderson
Chairman of the Board

DC/R

JUL 17 1946

In reply refer to
IR

My dear Mr. Henderson:

Please accept my apologies for the delay in answering your letter of June 11, in which you suggested prices to be paid for metals exported from Japan. Specifically, the prices you suggested were: 18.5 cents per pound of antimony metal, 12.25 cents per pound of electrolytic copper, 58 cents per pound of Grade A refined tin, and 7.25 cents per pound of refined common lead.

The Department agrees with your statement that in setting these prices serious consideration should be given to the possible impact of these prices on the active buying programs of this Government. Consideration must, of course, also be given to the impact of such prices on Japan's capacity to pay for the costs of occupation and prices in competing markets. It is understood that this Government is currently offering to pay much higher prices for lead and tin from other sources and is likely to have to pay higher prices for copper purchased abroad. It is suggested, therefore, that prices paid for exports of these commodities from Japan could perhaps be increased to levels more nearly approximating prevailing prices without embarrassment to the Government procurement program.

The following

The Honorable
Charles B. Henderson,
Chairman of the Board,
Reconstruction Finance Corporation.

A true copy of the signed original

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811.5017

894.6359/6-1146

CSA

894.6359/6-1146

The following prices at United States ports, somewhat below the current market, are suggested for your consideration:

Copper	14 cents
Lead	8.5 cents
Tin	62.5 cents

The Department would appreciate your views as to whether the prices suggested above would result in undesirable repercussions on the procurement programs of this Government.

Sincerely yours,

W. L. Clayton
Assistant Secretary

The following prices at United States ports, somewhat below the current market, are suggested for your consideration:

Copper	14	cents
Lead	8.5	"
Tin	62.5	"

The Department would appreciate your views as to whether the prices suggested above would result in undesirabe repercussions on the procurement programs of this Government.

Sincerely yours,

W. L. Clayton
Assistant Secretary

cc to WCR - 1946

SL WLA
IR:SLipkowitz:jg
7/11/46

JK

ITP WS

A-C 71

ACIR

AUG 12 1946

In reply refer to:
JK

My dear Mr. Smart:

Antimony from Japan

This is in reference to your letter of July 22, 1946 to Miss Worthing of the Civilian Production Administration. You will remember that the original proposal was a price as antimony of 18.5 cents per pound delivered New York City, which it was believed would work out at about 17 cents f.o.b. Japanese ports. I am now informed, that the proportionate f.o.b. Japanese price is 17.2 cents based on a freight charge of $124.75 per short ton from Japan to New York and an insurance of 47.5 cents per $100.00 value. The price applies to antimony metal 99.0 percent or better. I hope this minor adjustment will be satisfactory to you.

I am sending copies of this letter to Miss Worthing and Mr. Trout of the USCC.

Sincerely yours,

Roswell H. Whitman
Associate Chief,
Division of Japanese and Korean
Economic Affairs.

Mr. J. A. Smart,
Raw Materials Section,
British Embassy,
3100 Massachusetts Avenue,
Washington, D. C.

JK:RHWhitman:mw 8-7-46 IR

894.6359/8-1246

CS/V 894.6359/8-1246

AUG 13 1946

In reply refer to:
JK

My dear Mr. Trout:

Enclosed is a copy of a letter to Mr. Smart covering the price of antimony allocated to the British. The same price will apply to any sale you make to the French. Since sale of antimony is reserved to Washington authorities, this price does not need to be cleared with SCAP, but he should be informed so that he will charge the British properly.

I understand the deal with the French is being held up because of contract change delays. I have tried to expedite the release of the antimony in Tokyo, so that it can be shipped at once. If you fail to complete the transaction later, no doubt we shall collect from the French by some other method.

You indicated that there are alternative methods of selling to the French. Any of the alternatives is satisfactory to the Department except that we cannot insist the French pay the 3 percent in addition to the 17.2 cent price if they decline to do so.

It is hoped that the handling of this problem can be expedited.

Sincerely yours,

Roswell H. Whitman
Associate Chief,
Division of Japanese and Korean
Economic Affairs.

Enclosure:

Letter to Smart

Mr. William H. Trout, Chief
Commercial Transactions Division,
United States Commercial Company,
2656 Tempo "T",
12th & Constitution Avenue,
Washington, D. C.

JK:RHWhitman: 8-9-46

OCT 12 1946

In reply refer to
JK

My dear Mr. Gardiner:

This is in reference to my letter of September 30, 1946 concerning the price to be charged the various recipients of the Japanese antimony.

I understand that you feel the price is too low. You have also suggested that my previous letter did not make it sufficiently clear how we arrived at the price of 18.5 cents. On July 17, Mr. Clayton wrote to Mr. Henderson objecting to three of the four prices which the Reconstruction Finance Corporation proposed to purchase metals from Japan, on the grounds that the prices were too low in view of prevailing prices throughout the world. No objection was made to the price of 18.5 cents proposed by the Reconstruction Finance Corporation for antimony. Our records show, however, that the price of antimony was studied along with the prices of lead, tin and copper and the 18.5 cent price proposed by the Reconstruction Finance Corporation was approved after a review of the confused world situation with regard to antimony prices. The facts are summed up in a memorandum of May 10, 1946 from Mr. Kennedy, Chief of the Division of International Resources, a copy of which I attach.

About six weeks later the British questioned this price as possibly being too high, whereupon we reviewed the data and decided that the price was, if

anything,

Mr. Arthur Z. Gardiner,
Vice-President,
U. S. Commercial Company,
Washington 25, D. C.

anything, too low but at that time the Department decided we were too far committed to seek an upward adjustment. This commitment, of course, was strengthened by my subsequent correspodence with Mr. Smart of the British Embassy.

To sum up, the Reconstruction Finance Corporation proposed and the Department agreed to an antimony price of 18.5 cents F.O.B. New York on the basis of analysis of existing world prices, exactly as was done for lead, tin and copper. This price was confirmed in writing to the British and by telephone and informal conversations with the French. The British may have already finalized contracts on the 17.2 basis F.O.B. Tokyo. Reconsideration does not indicate any way in which the price can be altered at this late date.

Sincerely yours,

Roswell H. Whitman
Associate Chief,
Division of Japanese and Korean
Economic Affairs

Enclosure:

Copy of memorandum.

OCT 11 1946 F.M.

JK:RHWhitman:emh 10/10/46

A true signed original

Copied in JK:emh

May 10, 1946

TO: JK - Mr. Whitman

FROM: IR - Mr. Kennedy

SUBJECT: Price for Japanese Antimony

At the meeting held April 17, 1946 at Miss Worthing's office in CPA, it was decided that USCC and IR should recommend an equitable price for the Japanese antimony stocks now allocated among US, UK, and France.

The present situation regarding the price of antimony is as follows:

1. The United States ceiling price is 15.265 cents per pound, f.o.b. New York, including 2 cents duty.

2. The British selling price is now about 22-1/2 cents per pound, f.o.b. London.

3. The last USCC contract for Chinese antimony called for 15 cents, f.o.b. Chinese airport, for deliveries during 1945. Considering the antimony as ballast on the air haul, this price approximates 16-1/2 cents delivered New York.

4. Oxide ores purchased from Mexican mines and treated at the Laredo, Texas, smelter under toll arrangement, costs the MRC about 18-1/2 cents per pound, including subsidies.

5. MRC is paying about 22-1/2 cents per pound of antimony produced by the Wah Chang Trading Corporation under a toll arrangement. These ores were purchased from Bolivian sources in 1943.

6. USCC is currently negotiating with the Chinese National Resources Commission for certain stocks of antimony metal in China. It is not known at what price the contract will be concluded, but it may be expected to be substantially above the present ceiling price of 16.265 cents per pound New York, but possibly not as high as the London price.

<u>Recommendation</u>

In view of the above factors, it is considered that an equitable price for the Japanese antimony stocks is about 18.5 cents per pound, delivered New York City. This would probably mean a price of about 17 cents f.o.b. Japanese port.

UNITED STATES POLITICAL ADVISER
FOR JAPAN

UNRESTRICTED

Tokyo, December 3, 1946.

No. 753

SUBJECT: Tungsten and Molybdenum Metallurgy of Japan.

The United States Political Adviser for Japan has the honor to enclose copies of a publication "Tungsten and Molybdenum Metallurgy of Japan" prepared by the Natural Resources Section, General Headquarters, Supreme Commander for the Allied Powers. The report is prefaced by a short but adequate summary.

ACTION
FE
COPIES TO:
IR Ltr
2 Mines - 1 encl
4 CAM - 1 encl
3 War - 1 encl
Ad 13

Enclosures:

Five copies of "Tungsten and Molybdenum Metallurgy of Japan".

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TUNGSTEN AND MOLYBDENUM METALLURGY OF JAPAN

GENERAL HEADQUARTERS
SUPREME COMMANDER FOR THE ALLIED POWERS
NATURAL RESOURCES SECTION
REPORT NO 61
TOKYO 1946

REPORT NUMBER 61

30 November 1946

TUNGSTEN AND MOLYBDENUM METALLURGY OF JAPAN

GENERAL HEADQUARTERS
SUPREME COMMANDER FOR THE ALLIED POWERS
Natural Resources Section

NATURAL RESOURCES SECTION
REPORT NUMBER 61
30 November 1946

TUNGSTEN AND MOLYBDENUM METALLURGY OF JAPAN

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(Cont'd)

NATURAL RESOURCES SECTION
REPORT NUMBER 61
30 November 1946

TUNGSTEN AND MOLYBDENUM METALLURGY OF JAPAN

SUMMARY

1. Although one Japanese company was established in 1890 to manufacture electric lamps, it was not until 1919 that the same company commenced refining and reducing imported tungsten and molybdenum concentrates to metal powder for making filaments and filament supports. As late as 1934, Japan only produced approximately 7.6 tons of tungsten powder and 4.9 tons of molybdenum powder. In 1944, however, output had increased to 113 tons and 38 tons of refined tungsten and molybdenum powders, respectively, from stockpiles of imported concentrates augmented by the small output of concentrates from her own mines. Approximately 36 times as much tungsten and 42 times as much molybdenum were smelted into ferroalloys as were consumed in making radio tubes, incandescent lamps, and tungsten carbide tools.

2. Metallurgical processes for refining both tungsten and molybdenum concentrates to high purity metallic powders are relatively simple. Both processes disslolve most of the metal content of the concentrates and by repeated dissolutions and precipitations discard impurities. The pure metal oxides are reduced in a hydrogen atmosphere in electric or gas fired furnaces. The powders are moulded into the desired form, sintered, and then are ready for fabrication.

3. Tungsten and molybdenum refineries are operating on a reduced scale making powders for radio tubes, electric lamps, and cutting tools for peacetime purposes.

NATURAL RESOURCES SECTION
REPORT NUMBER 61
30 November 1946

TUNGSTEN AND MOLYBDENUM METALLURGY OF JAPAN

INTRODUCTION

1. In 1919 Tokyo Shibaura Electric Company, Ltd started refining tungsten and molybdenum concentrates; about 1934 several other companies entered the industry. Table 1 lists tungsten and molybdenum refineries in the country, and Figure 1 shows their approximate location. Japan was slow in developing its small tungsten and molybdenum resources. Tungsten was first mined in 1926 and molybdenum in 1934. Imported concentrates and ores from Korea, Manchuria, Siam, Burma, Great Britain, and the United States sufficed to meet the limited needs.

2. No standard specifications, analogous to those for steel or other materials have been established although several grades of tungsten and molybdenum powders are generally recognized. The larger plants usually buy tungsten and molybdenum concentrates, refine them to the final metal powder, fabricate the metal into parts for radio tubes and incandescent electric lamps, assemble them, and market the final product. If small refineries sell metal powders to manufacturers, the specific individual requirements of the particular consumer are met. The same condition prevails in the cutting tool industry; the companies start with tungsten concentrates and market finished tungsten carbide tools. Table 2 lists refiners and tungsten carbide tool makers.

3. This study is confined to the steps between the refining of the crude concentrates and the production of metal powder, ingot, or bar; consequently, milling methods for treating mine-run ore to recover tungsten and molybdenum concentrates were not investigated. Ferroalloy smelting is described in another report 1/. Mill flowsheets, however, were submitted by the two companies with the largest production, the Hirase mill treating molybdenum ore and the Otani mill beneficiating tungsten ores. The 30-ton-per-day Hirase mill treats hand cobbed mine rejects by screening, crushing, and further hand sorting, followed by fine grinding and flotation, yielding molybdenite concentrates. At the Otani mill, crude ore is crushed, hand sorted, and concentrated by tables and then by selective flotation. Rougher concentrates are floated, recovering

1/ Natural Resources Section Report No 62, Ferroalloy Metallurgy of Japan (in preparation)
This report was prepared by Mr John D. Bardill, Scientific Consultant, Mining and Geology Division

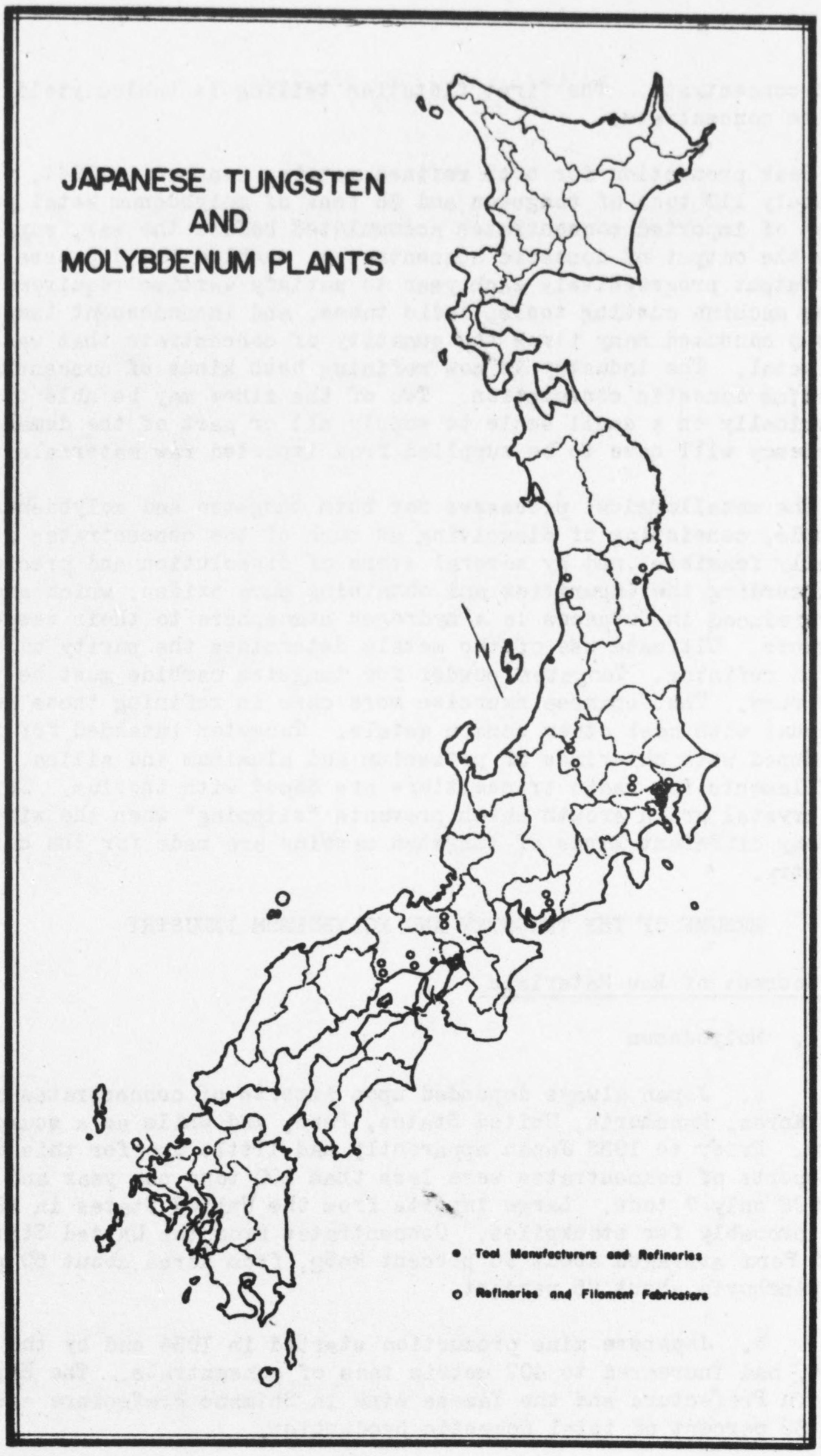


Figure 1

scheelite concentrate. The first flotation tailing is tabled yielding cassiterite concentrate.

4. Peak production for both refined metals, reached in 1944, was approximately 113 tons of tungsten and 38 tons of molybdenum metal powders. Stockpiles of imported concentrates accumulated before the war, supplemented by the output of domestic concentrates, enabled the Japanese to increase output progressively each year to satisfy wartime requirements for making machine cutting tools, radio tubes, and incandescent lamps. Ferroalloys consumed many times the quantity of concentrate that was refined to metal. The industry is now refining both kinds of concentrate for peacetime domestic consumption. Two of the mines may be able to operate economically on a small scale to supply all or part of the demand, but any deficiency will have to be supplied from imported raw materials.

5. The metallurgical processes for both tungsten and molybdenum are quite simple, consisting of dissolving as much of the concentrates as is economically feasible, and by several steps of dissolution and precipitation discarding the impurities and obtaining pure oxides, which are carefully reduced in furnaces in a hydrogen atmosphere to their respective metal powders. Ultimate use of the metals determines the purity to be attained in refining. Tungsten powder for tungsten carbide must be particularly pure. The Japanese exercise more care in refining these metals than is usual with most other common metals. Tungsten intended for filaments is doped with chlorides of potassium and aluminum and silica. Special filaments for radio transmitters are doped with thorium. Doping controls crystal grain growth which prevents "slipping" when the wire is drawn. Many different kinds of tungsten carbide are made for the cutting tool industry.

RESUME OF THE TUNGSTEN AND MOLYBDENUM INDUSTRY

A. Sources of Raw Materials

1. Molybdenum

a. Japan always depended upon imports of concentrates and ores from Korea, Manchuria, United States, Peru, and Chile as a source of molybdenum. Prior to 1933 Japan apparently had little use for this metal because imports of concentrates were less than 100 tons per year and as late as 1926 only 7 tons. Large imports from the United States in 1938 and 1939 were probably for stockpiles. Concentrates from the United States, Chile, and Peru averaged about 90 percent MoS_2, from Korea about 50 percent, and from Manchuria about 85 percent.

b. Japanese mine production started in 1934 and by the peak year, 1944, had increased to 407 metric tons of concentrate. The Hirase mine in Gifu Prefecture and the Yamasa mine in Shimane Prefecture accounted for about 38 percent of total domestic production.

c. Tables 3-6 show the salient statistics on molybdenum mines, concentrate production, and imports.

2. Tungsten

a. Table 7 summarizes tungsten mine production and imports, and ferrotungsten production. Japan always has depended on imports for most of its tungsten. Peak domestic concentrate production only supplied about 15 percent of the Home Island consumption. Korea exported approximately 60 percent of Japan's requirements; the balance, except for domestic production, was imported from Great Britain, China, Siam, Burma, and Latin America.

b. The consumption of tungsten concentrate in the Home Islands increased from less than 200 metric tons to about 7,000 metric tons between 1933-43. Mines were heavily subsidized by the Army and Navy during the war to increase output. Consequently, many low grade deposits were exploited and in the peak year, 1942, yielded 940 metric tons of 55-60 percent WO_3. Normally, during peacetime, only a few of the mines can be worked profitably.

B. Production

1. Table 7 summarizes mine production, imports, and output of ferroalloys and other products.

2. Tables 3-6 give detailed and summarized data on mine production of molybdenum concentrate, imports, ferromolybdenum production, and output of refined molybdenum products.

3. Table 1 lists the tungsten and molybdenum refineries in Japan Proper showing the rated plant capacities, present rate of production, power and hydrogen consumption, and approximate overall recoveries in the final metal powder. Table 8 shows metallic tungsten powder production by individual plants and by year from 1925-45, and Table 9 gives the same information for refined tungsten trioxide to be reduced to metallic tungsten powder. Tokyo Shibaura Electric Company's electric furnace equipment for reduction was destroyed in an air raid. Nevertheless it continued to refine tungsten oxide for future reduction to the metal. Table 10 indicates annual metallic molybdenum powder production by plant from 1925-45. Roasted molybdenite concentrate tonnage to be refined is shown in Table 11.

4. Currently production of both metals is on a greatly reduced scale, because of lack of raw materials and curtailed demand. Consumption is mainly by makers of radio tubes, incandescent lamps, and cutting tools.

C. Uses

1. Chief consumption of tungsten in Japan has been in the form of ferrotungsten for smelting special alloy steels. Approximately 36 times as

much tungsten was smelted into the ferroalloy as was consumed in other products during the war. In 1943 more than 113 metric tons of metallic tungsten powder were recovered by tungsten refineries. Of this amount, an estimated 39 metric tons or 34.5 percent was consumed by the tool making industry in fabricating machine tools, particularly cutters, such as lathe bits, reamers, twist drill bits, pipe drilling plugs, wire drawing dies, and innumerable other similar items. The balance was made into contact points, heating elements, and parts for incandescent, radio, and x-ray bulbs and tubes, especially filaments, grids, plates, cathodes, and supports for them.

2. Although no Japanese standards for tungsten powder for filaments are established, four grades of powder are generally recognized; "N", "NC", "B", and "V" wires. "N" grade is the common metal powder containing 99.95 percent tungsten doped with silica, aluminum, and potassium chlorides used for making non-sag coiled filament wire. "NC" grade powder has been leached with hydrofluoric acid to remove silica, and is considered better quality for special non-sag coiled filament wire. "B" powder tungsten, which has been thoriated with thorium nitrate, contains from 98.9 to 99.0 percent tungsten and from 0.75 to 1.05 percent thorium dioxide and is used for straight filaments in vacuum tubes. "V" powder is similar to "B", but its thorium dioxide content varies from 1.95 to 2.05 percent with correspondingly lower tungsten content; it is used primarily for transmitter vacuum tube filaments.

3. Table 9 shows total known production of about 14,690 kilos of tungsten trioxide. An estimated one ton was reported used for oxide coating in daylight fluorescent lamps. The balance is stockpiled for later reduction to metallic powder.

4. In 1940, roughly 42 times as much molybdenum was smelted into ferroalloys for alloy steels as was consumed in the radio tube and incandescent lamp industry. Molybdenum powder is fabricated into wire, plate, and rods for supports, grids, cathodes, and plates for radios, light bulbs, and to some extent, for heating elements. Molybdenum is not used for filaments. An alloy known as HM wire, containing 80 percent molybdenum and 20 percent tungsten is malleable enough to be bent and is used for radio vacuum tube cathode heaters. Table 11 shows total known production of about 203 tons of roasted or calcined molybdenite concentrate and not the refined oxide. The calcines are sold to other refineries or consumed by the maker to yield metallic molybdenum powder.

METALLURGICAL PRACTICES

A. General

1. Metallurgical processes and practices for recovering tungsten and molybdenum in ferroalloys are treated in a Natural Resources Section report entitled, "Ferroalloy Metallurgy of Japan" (in preparation). This

discussion is concerned only with the treatment of tungsten and molybdenum ores from the mine to refined metal powders or refined metal oxides, and specifically, from the mill concentrates to the refined metals and oxides. Milling methods of tungsten and molybdenum concentration plants were not investigated. However, Figures 2 and 3 are flowsheets of the Hirase mill treating molybdenum ores and the Otani mill treating tungsten ores from their respective mines. These are the two largest producers in their fields.

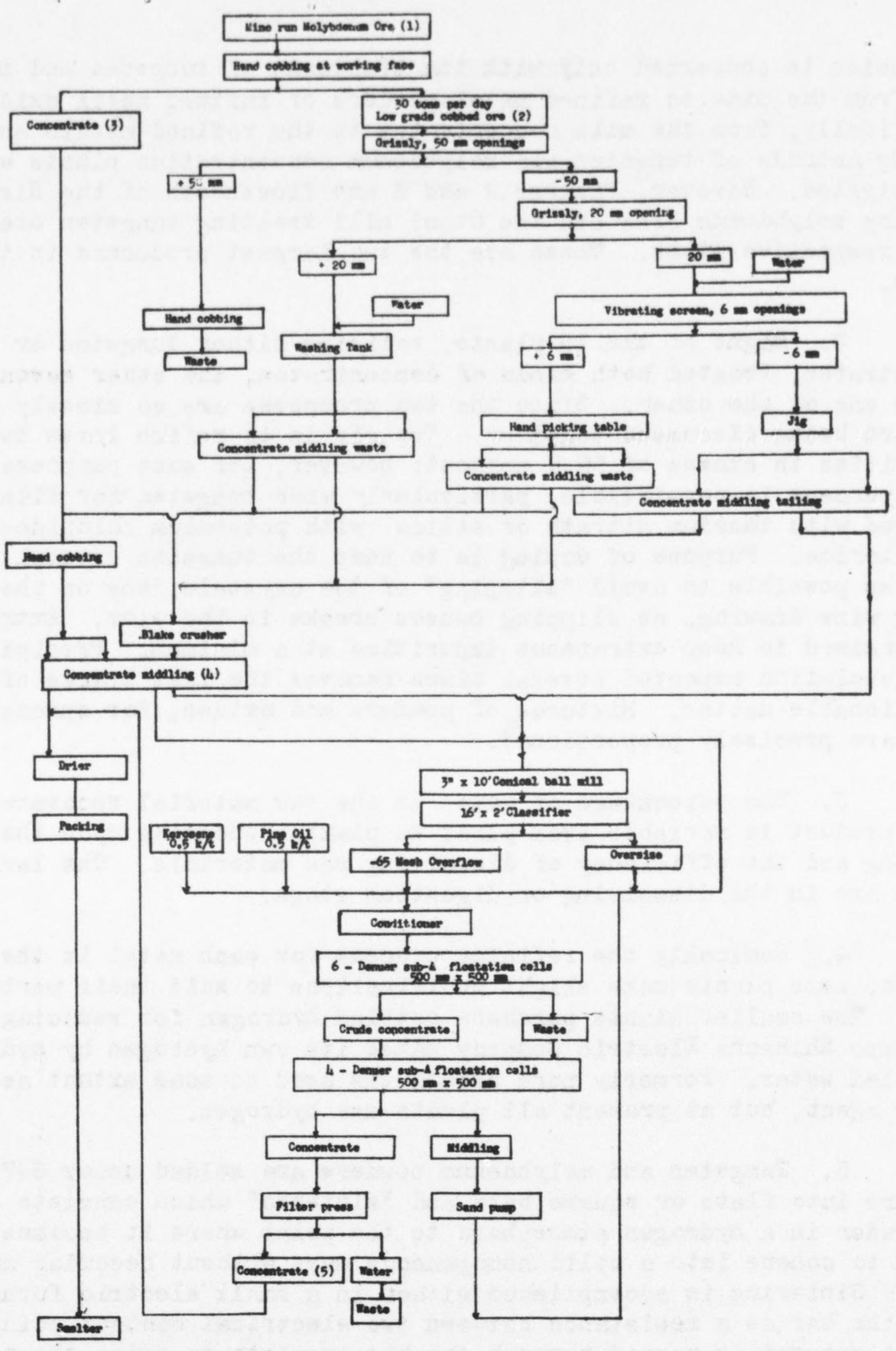
2. Eight of the 15 plants, refining either tungsten or molybdenum concentrates, treated both kinds of concentrates, the other seven plants refine one or the other. Since the two processes are so closely related, they are being discussed together. The aim is to refine these two metals to purities in excess of 99.9 percent; however, for some purposes as low as 98 percent is permissible, particularly when tungsten for filament wire is doped with thorium nitrate or silica with potassium chloride and aluminum chloride. Purpose of doping is to keep the tungsten crystal size as small as possible to avoid "slipping" of the crystals, one on the other during wire drawing, as slipping causes breaks in the wire. Extreme care is exercised to keep extraneous impurities at a minimum. Precipitation and dissolution repeated several times removes the last traces of objectionable matter. Mixtures of powders and oxides, for special cutting tools are precisely proportioned.

3. The percentage of metal in the raw material recovered in the final product is variable from plant to plant, depending upon the care in handling and the efficiency of dissolving raw materials. The largest losses are in the dissolving or digestion stage.

4. Basically the refining process for each metal is the same; however, some plants make slight modifications to suit their particular cases. The smaller plants purchase bottled hydrogen for reducing oxides. The Tokyo Shibaura Electric Company makes its own hydrogen by hydrolyzing distilled water. Formerly pure carbon was used to some extent as a reducing agent, but at present all plants use hydrogen.

5. Tungsten and molybdenum powders are molded under 6-7 tons pressure into flats or square bars and "sintered" which consists of heating the powder in a hydrogen atmosphere to the point where it becomes sticky enough to cohere into a solid homogeneous mass without becoming molten or fluid. Sintering is accomplished either in a small electric furnace or by using the bar as a resistance between two electrical contact points. Sufficient current is passed through the bar or plate to raise the temperature to the sintering point while in a hydrogen atmosphere. The sintered plate or bar, after inspection, is ready to be rolled or drawn into wire.

6. Figures 4 and 5 are generalized composite diagrammatic flowschemes for refining tungsten and molybdenum concentrates.

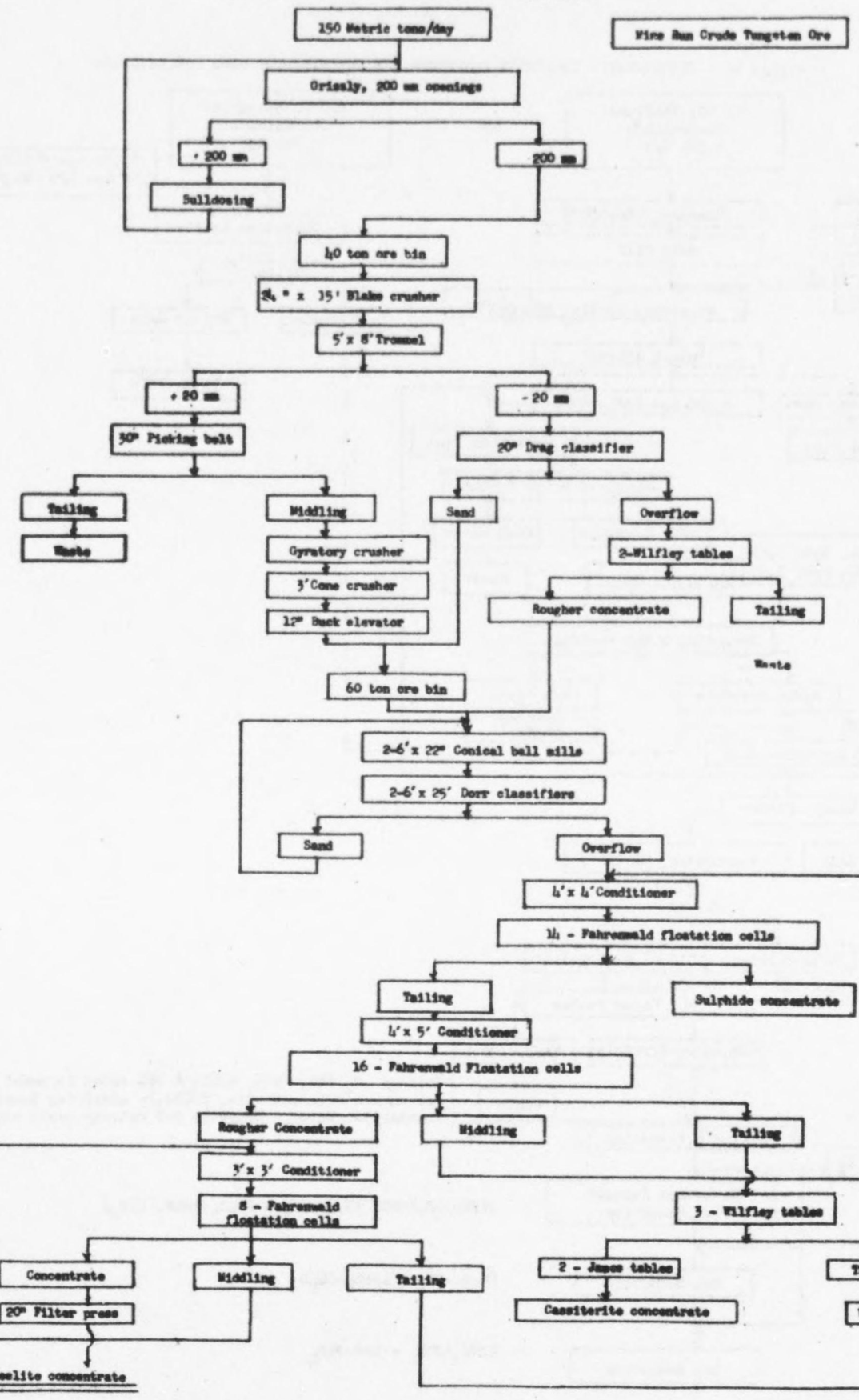


APPROXIMATE ANALYSIS OF ORE AND CONCENTRATES a/			
	%Mo S_2	%SiO_2	%Fe_2O_3 Al_2O_3
1 Mine run ore	1.5	87.65	8.60
2 Low grade cobbed ore	0.30	88.52	8.84
3 High grade hand cobbed concentrate	90.00	6.02	3.94
4 High grade recobbed concentrate	98.00	1.00	0.70
5 Floatation concentrate	88.00	8.20	2.80
Overall combined recovery of MoS_2	94.2%		

a/ Analysis submitted by Nippon Suisan Kogyosho K K

Figure 2

Figure 3. - DIAGRAMMATIC FLOWSHEET OF OTANI TUNGSTEN CONCENTRATION MILL, AMAMURA MINING COMPANY, KAMEOKA, KYOTO PREFECTURE

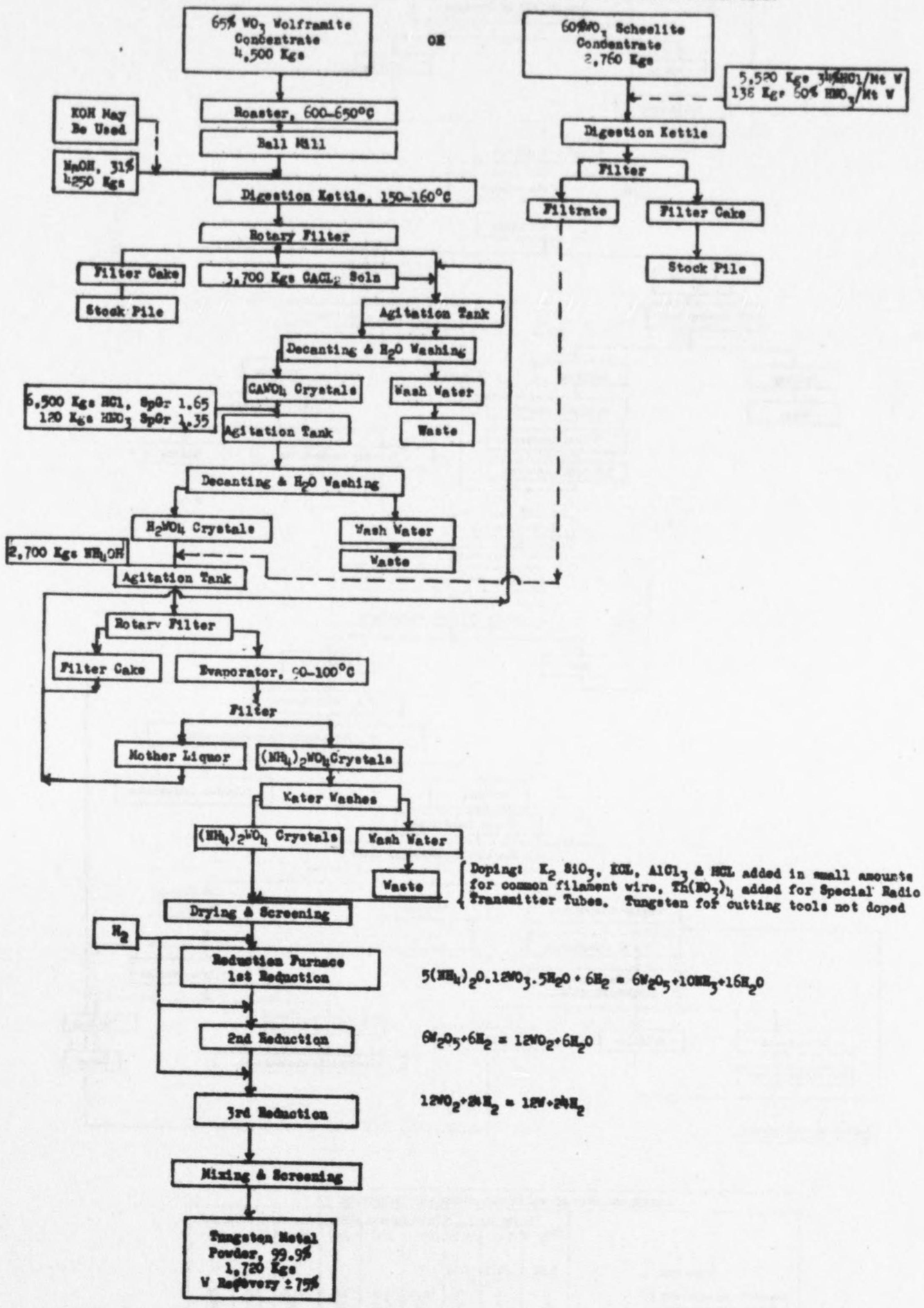


AVERAGE ANALYSIS AND RECOVERIES OF ORE AND CONCENTRATES 1/									
	Crude ore			Concentrates grade			Total recovery		
	WO_3	% Cu	% Sn	WO_3	%Cu	%Sn	WO_3	%Cu	%Sn
Crude ore	0.51	0.13	0.19	0	0	0	0	0	0
Scheelite concentrate 2/	0	0	0	65.4	0.17	ND	81.6	ND	ND
Sulphide concentrate	0	0	0	ND	6.7	ND	ND	66.7	ND
Cassiterite concentrate	0	0	0	26.3	0.04	48.0	ND	ND	14.8
Combined waste tailings	0.11	0.10	0.14	0	0	0	0	0	0

1/ Average based on mine production recor for years 1938 - Aug 1945
2/ Contains 0.4 gms au/mt and 500 gms ag/mt.
ND No data available

Figure 3

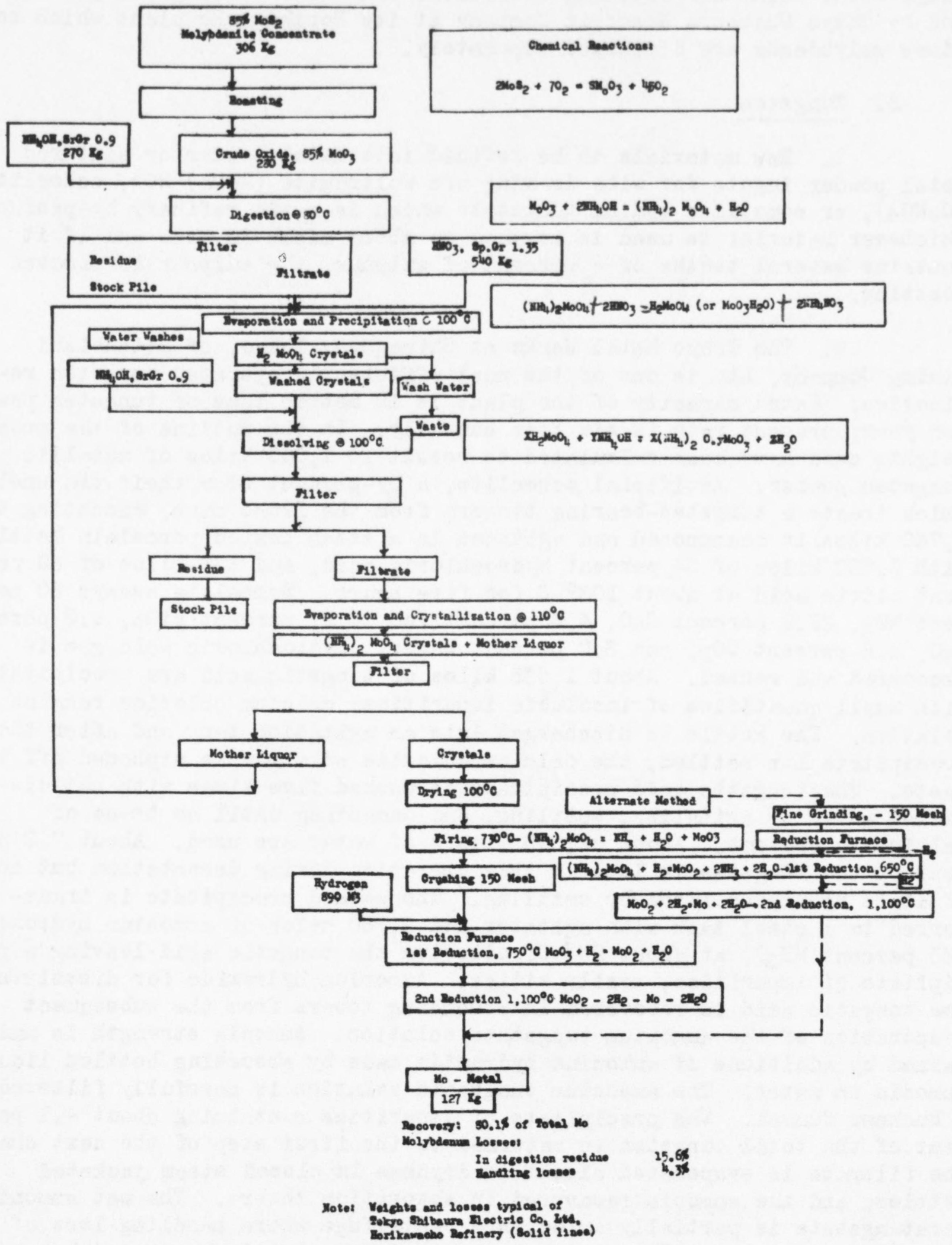
Figure 4. - DIAGRAMMATIC COMPOSITE FLOWSHEET FOR REFINING TUNGSTEN CONCENTRATES



Note: Principal tungsten loss in digestion residue; other losses in handling.

Figure 4

Figure 5. - DIAGRAMMATIC COMPOSITE FLOWSHEET FOR REFINING MOLYBDENUM CONCENTRATES



Recovery: 80.1% of Total Mo

Molybdenum Losses:

In digestion residue	15.6%
Handling losses	4.3%

Note: Weights and losses typical of Tokyo Shibaura Electric Co, Ltd, Horikawacho Refinery (Solid lines)

Figure 5

7. The process as practiced by Mitsubishi Mining Company at its Tokyo Metal Works for refining artificial scheelite to tungsten powder, and by Tokyo Shibaura Electric Company at its Horikawacho plant which refines molybdenum are discussed separately.

B. Tungsten

1. Raw materials to be refined into metal powder or sintered metal powder ingots for wire drawing are wolframite (FeMn) WO_4, scheelite ($CaWO_4$), or sometimes sodium tungstate which is a tin refinery by-product. Whichever material is used is crushed to about minus 80 mesh and if it contains several tenths of a percent of sulphur, the sulphur is removed by roasting.

2. The Tokyo Metal Works at Shinagawa, Tokyo, of Mitsubishi Mining Company, Ltd is one of the most efficiently operated tungsten refineries. Rated capacity of the plant is 12 metric tons of tungsten powder per year; present rate is six tons annually. In the outline of the process, weights used have been calculated to result in 1,000 kilos of metallic tungsten powder. Artificial scheelite, a by-product from their tin smelter, which treats a tungsten-bearing tin ore from the Ikuno mine, amounting to 2,760 kilos, is decomposed and agitated in a steam heated porcelain kettle with 5,520 kilos of 34 percent hydrochloric acid, and 138 kilos of 60 percent nitric acid at about 108° C for five hours. Scheelite assays 60 percent WO_3, 23.9 percent CaO, 4.6 percent FeO, 0.27 percent SiO_2, 1.2 percent MgO, 4.8 percent CO_2, and 3.0 percent water. Hydrochloric acid gas is recovered and reused. About 1,635 kilos of tungstic acid are precipitated with small quantities of insoluble impurities; calcium chloride remains in solution. The kettle is discharged into an agitation tank and after the precipitate has settled, the calcium chloride solution is siphoned off to waste. The tungstic acid precipitate is washed five times with hot distilled water oy agitating, settling, and decanting until no trace of calcium is present. About 92,000 liters of water are used. About 7.2 percent of the tungsten is lost in this operation during decantation but most of it is recovered later by settling. The washed precipitate is transferred to a steel tank with agitator and 2,760 kilos of ammonium hydroxide (25 percent NH_3), at about 20° C, dissolve the tungstic acid leaving a precipitate of impurities, mostly silica. Ammonium hydroxide for dissolving the tungstic acid is recovered in absorbing towers from the subsequent evaporation of the ammonium tungstate solution. Ammonia strength is maintained by additions of ammonium hydroxide made by absorbing bottled liquid ammonia in water. The ammonium tungstate solution is carefully filtered in a Buckner funnel. The precipitate of impurities containing about 4.1 percent of the total tungsten is returned to the first step of the next charge The filtrate is evaporated almost to dryness in closed steam jacketed kettles, and the ammonia recovered in absorption towers. The wet ammonium paratungstate is partially dried in a centrifuge where handling loss of 1.2 percent is incurred. The tungstate crystals are dried about nine hours in a drying room equipped with steam coils. yielding 1,592 kilos of ammonium

tungstate, containing 88.82 percent WO_3, a trace of calcium, 0.02 percent Fe, and 0.03 percent silica.

3. The electric resistance furnace has fire brick exterior and is rectangular in shape. A number of boiler tubes, six meters long and about three inches in diameter, lying horizontal extend thru both ends of the furnaces. Nichrome resistance coils in the furnace are the heating elements. Thermocouples connected to pyrometers placed at strategic points in the furnace permit close temperature control. Charges of about 200 grams are loaded into porcelain boats and charged end to end in the tubes. The hydrogen supply enters one end of the tubes and discharges at the other end. Furnace design varies from plant to plant; some are banks of individual furnaces with only one tube.

4. Reduction to metal is accomplished in three stages. The first operation, in which the ammonium tungstate is reduced with hydrogen gas at a temperature of about 400° C, requires two hours to produce what is known as "blue oxide" or W_2O_5, which contains about 78.8 percent tungsten. The charge is allowed to cool and then removed from the furnace. The yield of blue oxide is 1,336 kilos after deducting a one percent handling loss. Consumption of electric power is approximately 7,000 kw-h per ton and of hydrogen gas, 720 cubic meters per ton at atmospheric pressure. The blue oxide is screened through a 200 mesh sieve and again charged into boats for the second reduction operation. The same procedure is followed except the temperature is increased to 600° C. Reduction to the "brown oxide" or WO_2 requires two hours. Weight of the brown oxide, which assays 84.0 percent tungsten after deducting a two percent handling loss, is approximately 1,223 kilos. Power consumption is 7,400 kw-h per ton and 3,590 cubic meters of hydrogen gas per ton. The brown oxide is screened through a 200 mesh screen and is again charged into boats for the final reduction which is carried out in the same manner as the other steps, but at a temperature of 820° C for four hours, resulting in 1,000 kilos of final product with a one percent spillage loss during the final screening thru a 200 mesh sieve. Power consumption in the last stage is 16,640 kw-h per ton and 3,595 cubic meters of hydrogen gas per ton. The tungsten powder is analyzed and, depending upon the analysis, classified as one of the following grades:

GRADES OF TUNGSTEN POWDER

	Analysis (percent)			
	W	Ca	Fe	SiO_2
Grade 1, maximum	99.95	Trace	0.02	0.02
Grade 2, maximum	99.87	0.03	0.05	0.03
Grade 3, maximum	99.75	0.06	0.05	0.06

5. An approximate total for the power consumed in the three reduction operations is 31,000 kw-h per ton and 7,900 cubic meters of hydrogen per ton. Based on the metal content in the original artificial

scheelite and in 1,000 kilos of final product, the apparent recovery is 76.0 percent. However, return residues and oversize from the three screenings are recoverable, so that the real losses noted in the text increase the actual recovery to 83.5 percent. Recovery can be further increased by recovering some of the tungsten in the decomposition stage residue which is currently stockpiled for future treatment.

CHEMICAL REACTIONS IN THE THREE REDUCTION STAGES OF AMMONIUM TUNGSTATE

(1) $5(NE_4)_2 \cdot O \cdot 12WO_3 \cdot 5H_2O + 6H_2 = 6W_2O_5 + 10NH_3 + 16H_2O$ (Blue oxide)

(2) $6W_2O_5 + 6H_2 = 12WO_2 + 6H_2O$ (Brown oxide)

(3) $12WO_2 + 24H_2 = 12W + 24H_2O$

6. Japanese metallurgists prefer to reduce ammonium tungstate in three operations instead of one. They do not seem to know the exact reason but believe that, as the ammonia and water are driven off during the reaction, the water tends to make the powder lumpy and effect the particle size about which they are critical. After each reduction, the powder is screened through 200 mesh screens to keep it consistently fine. Probably the repeated screening and reduction does maintain a more uniform grain size and yield a more homogenous ingot for subsequent filament wire drawing than reduction in one operation would. The three stage method evidently has considerable merit, since the Japanese have adopted it after much experimentation.

7. Variations in the processes are practiced at different plants depending upon the purity of the final metal powder desired, but basically all methods are the same. The more often the tungsten products are dissolved, filtered to remove impurities, and precipitated, within reasonable limits, the higher the purity of the final product. Common practice is to decompose the tungsten concentrates with potassium hydroxide, calcium hydroxide, or sodium hydroxide, the last being popular at present. Some plants prefer to make and reduce ammonium tungstate to the metal, but others prefer to reduce purified tungstic acid.

8. Another example of a flowsheet is the Kobe plant of Kawanishi Kikai Seisakusho, Ltd. Tungsten concentrate is treated with hot sodium hydroxide solution, after which calcium chloride is added to the sodium tungstate filtrate precipitating calcium tungstate which is washed free of sodium chloride with hot water. Calcium tungstate is converted to tungstic acid with hydrocholoric acid, filtered, and then dissolved with hot ammonium hydroxide. After filtering, the filtrate is evaporated recovering ammonium tungstate crystals which are dissolved in a sodium hydroxide solution and precipitated again as tungstic acid with hydrochloric acid. Tungstic acid is thoroughly washed with water and dried at 200° C which changes it to tungstic trioxide. This oxide is doped with silica, aluminum chloride, and potassium chloride solution, and after drying reduced in three steps to metallic tungsten powder.

9. Tungsten "N" metal which is used for common single coil electric lamp filaments and is less pure than some of the other grades is made simply by dissolving tungsten concentrates in hot potassium hydroxide forming potassium tungstate which is filtered. The filtrate is treated with hydrochloric acid forming tungstic acid which, after washing and drying, is reduced to metallic tungsten powder.

10. Doping may be accomplished by two different processes, depending upon the ultimate use of the product, and consists of treating the tungsten trioxide powder before reduction to the metal. The purpose of doping is to prevent reoxidation of the metal during and after reduction and to minimize crystal growth in the case of additions of small amounts of silica, potassium, and aluminum chlorides. Tungsten trioxide powder also is doped with thorium nitrate to control crystal growth and increase emissivity of radio waves from transmitter vacuum tube filaments. Maintaining small crystal size facilitates wire drawing, because there is less tendency for small crystals to "slip" on each other as is the case with large crystals. Slipping results in breaks in the filament wire in the drawing operation. Plants like those of Mitsubishi Mining Company do not dope tungsten to be made into cutting tools.

11. Tokyo Shibaura Electric Company adds per 400 kilos of metallic tungsten 20.8 kilos of silica, 15.6 kilos of potassium chloride, and 1.0 kilo of aluminum chloride to the tungstic acid crystals before drying. When the powder is to be thoriated, thorium nitrate is added before reduction, in amounts desired in the final product.

12. Figure 4 is a diagrammatic composite flowsheet based on refining practices at several plants. Figures 6-9 are photographs of the Kobe Tungsten Refinery of Kawanishi Kikai Seisakusho, Ltd.

C. Molybdenum

1. Imported molybdenite concentrate, or calcines obtained by

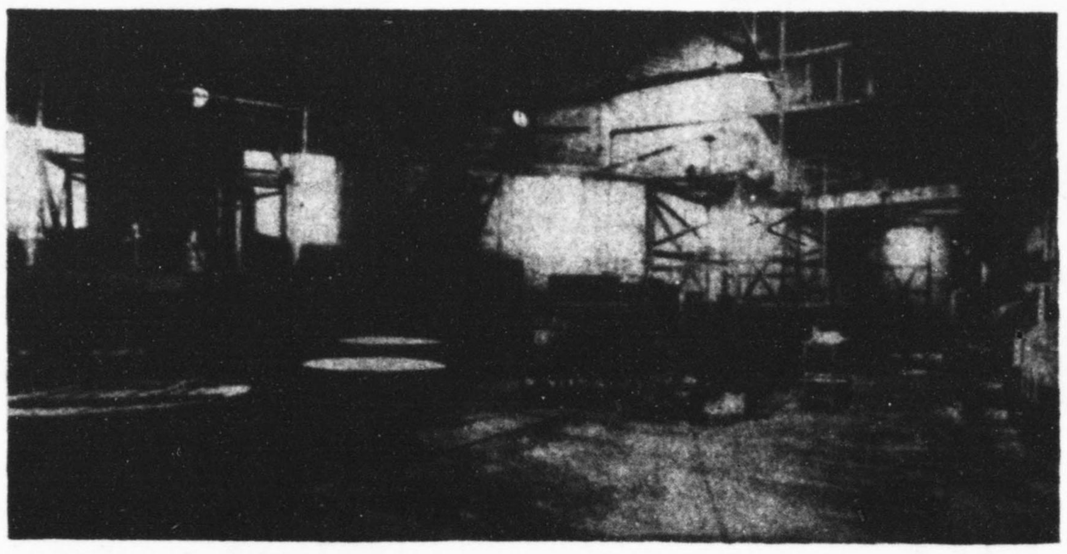


Figure 6. - General plant layout showing precipitation and evaporation kettles

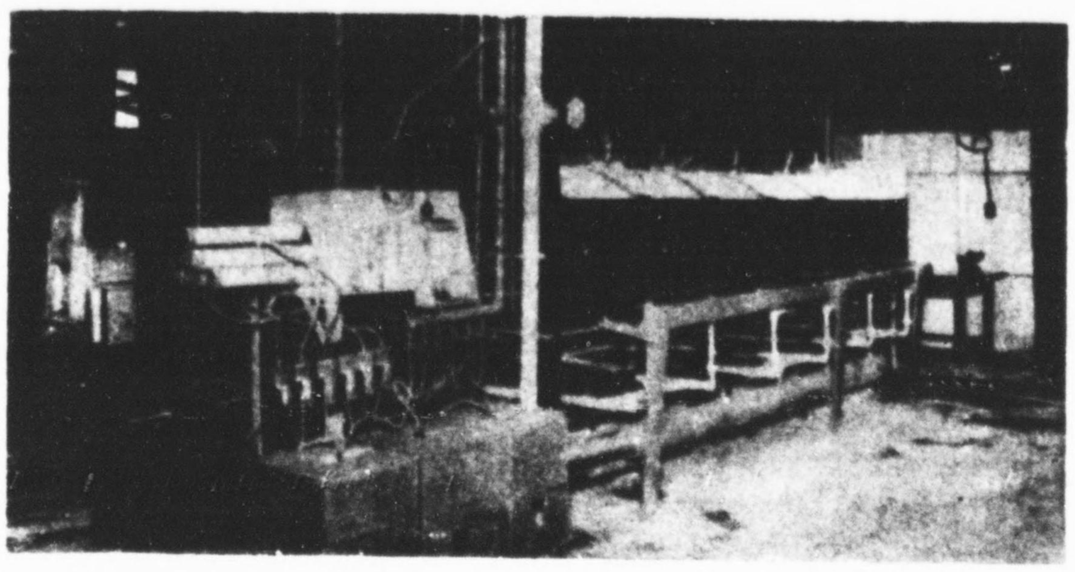


Figure 7. - Six tube gas fired reduction furnace with accessory pyrometer and hydrogen flow control equipment

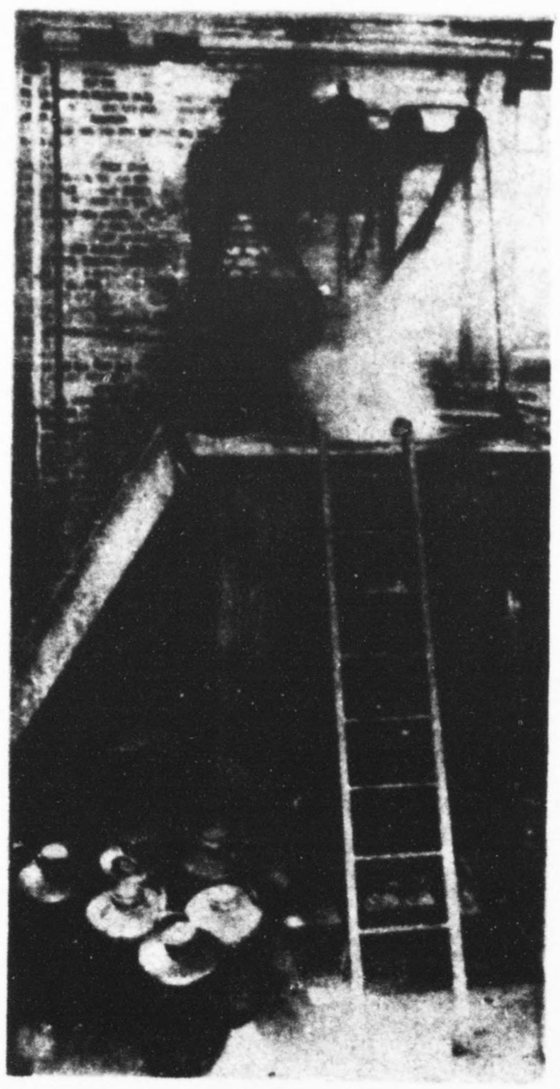


Figure 8. - Gas fired tungsten concentrate digesting kettle

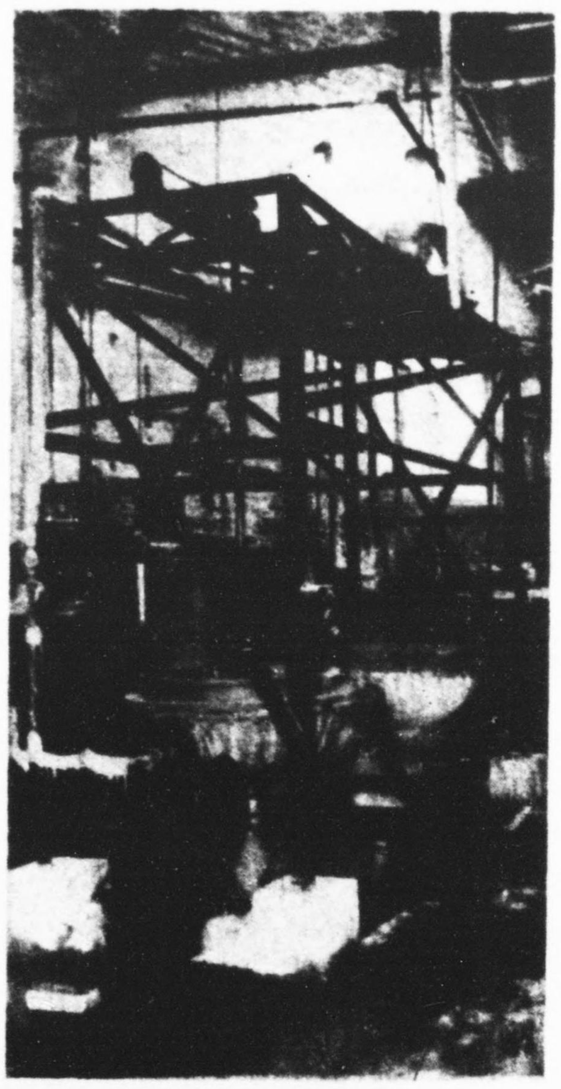


Figure 9. - Steam jacketed evaporating kettles

roasting molybdenum concentrate to eliminate the sulphur, are the usual raw materials for refineries. If the concentrate has not been previously roasted it is generally roasted in gas fired pan roasters at 600-700° C for several hours until the sulphur has been oxidized and driven off.

2. The Horikawacho works of the Tokyo Shibaura Electric Company, Ltd at Kawasaki, Kanagawa Prefecture, is the oldest molybdenum refinery in the country and has produced several times the tonnage of the next largest plant. This company obtained calcined concentrate made by roasting imported Korean concentrate from Awamura Mining Company, Ltd. A typical batch charge, to conform to the capacities of their equipment, is 280 kilos of roasted concentrate containing 85 percent MoO_3 which are digested in a kettle for about 1.5 hours with 270 kilos of ammonium hydroxide having a specific gravity of 0.9 at 80° C. The residue which contains 15.6 percent of the molybdenum in the original charge is thoroughly washed with water and stockpiled for future treatment. Molybdic acid is precipitated from the filtrate at 100° C by adding 540 kilos of 1.35 Sp. gr. nitric acid. Mother liquor from a subsequent crystallization step which contains some molybdenum is returned and 1.3 percent of total molybdenum recovered. The precipitate is water washed by decantation; the wash water containing 2.1 percent of the molybdenum is discarded. The molybdic acid precipitate is dissolved in 270 kilos of ammonium hydroxide solution having a specific gravity of 0.9, then filtered to remove any iron or alumina as hydroxides. The filter residue is rejected causing a molybdenum loss of 0.6 percent. The clear ammonium molybdate filtrate is partially evaporated at 110° C in casseroles yielding pure ammonium molybdate crystals and a small amount of mother liquor, which is separated from the crystals by filtering and returned to the process at the point where nitric acid is added. Handling losses during evaporation and filtration account for 1.8 percent of the total molybdenum. The crystals are dried at 100° C for 24 hours and then charged into pans and placed in a homemade electric furnace where ammonia is driven off at about 730° C for 12 hours. The WO_3, in lump form, is crushed to pass a 150 mesh screen, and charged into nickel boats of one kilo capacity, for reduction in single tube electric resistance furnaces holding about eight kilos each. Hydrogen manufactured by electrolyzing distilled water is passed thru the tube to maintain a reducing hydrogen atmosphere while the oxide is being reduced to metal powder at a temperature of about 1,050° C for eight hours. About 900 cubic meters of hydrogen per ton are required. A loss of 1.1 percent results during the reduction operations owing to careless handling. About 127 kilos of metallic molybdenum powder are recovered analyzing approximately 99.95 percent Mo. Overall recovery, which is 80.1 percent, could be improved materially by retreating the residue from the first step where the calcined concentrates are digested with ammonium hydroxide.

3. In the past, carbon was used as the reducing agent, but all plants changed to hydrogen because it gives a purer product.

4. Different plants vary their flowsheets to some extent from that of Tokyo Shibaura Electric Company, Ltd, but basically they are the same. The variation also is true of plant equipment, particularly of reduction electric furnaces which are usually individually designed.

5. Figure 5 is a diagrammatic composite flowsheet of several different plant practices. Figures 10-13 are photographs of the Kawanishi Kikai Seisakusho, Ltd, Molybdenum Refinery at Kobe.

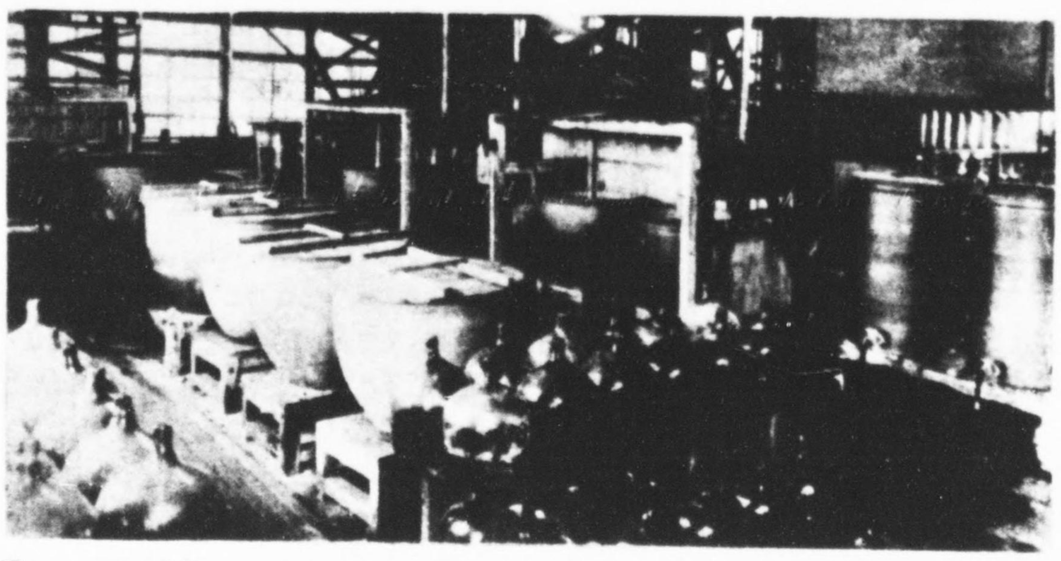


Figure 10. - General view of molybdenum plant

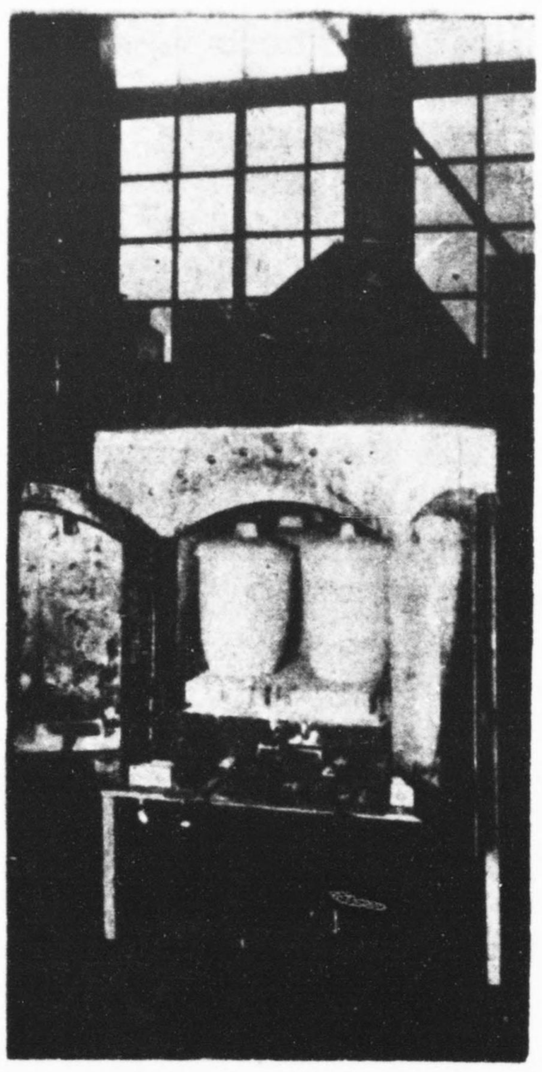


Figure 11. - Gas fired furnace reducing molybdic acid to molybdenum oxide

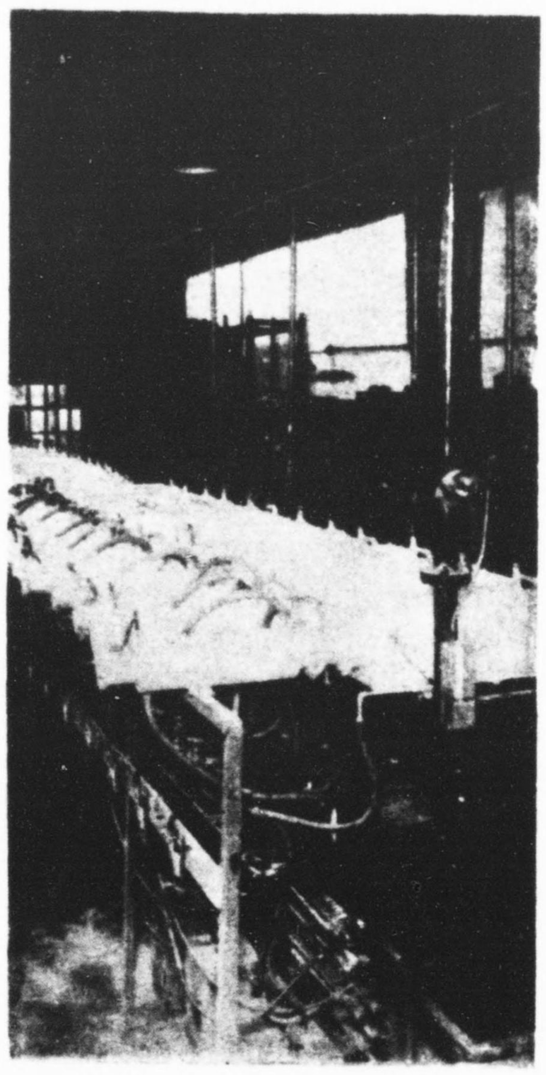


Figure 12. - Single tube electric reduction furnace for reducing molybdic acid to metal powder

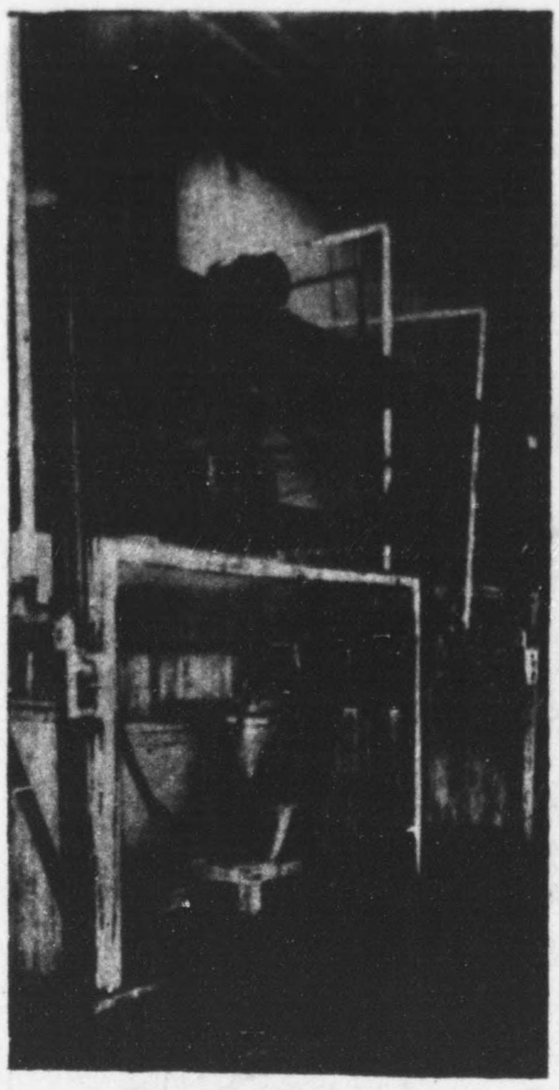


Figure 13. - Crockery precipitation vessels with agitators

SOURCES OF DATA

1. Most of the data contained in this report were obtained from replies to questionnaires submitted to all of the known refiners of tungsten and molybdenum. Several of the refineries were also visited and first hand information gained by observing the operation of the processes and by interrogating the technical staffs. Production figures submitted by the Japan Tungsten and Molybdenum Council are not considered as accurate as replies to the questionnaires because some of the refining companies are not members of the council.

2. Several tables on mine production and imports were taken from Natural Resources Section Report No 44, Mineral Resources of Japan Proper, 1925-1945, 5 July 1946.

TABLE 1. - JAPANESE TUNGSTEN AND MOLYBDENUM REFINERIES

Company, Plant & Location	Products	Rated Capacity (kg/yr)	Present Production Rate (kg/yr)	Power Consumption (K W H /ton)	A_2 Consumption (cu m /ton)	Approximate Recovery %
Fujikura Dennen K K Fukagawa Tokyo	W powder Mo powder W carbide	24,000 3,600 ND	0 0 ND	20,200 20,800 314,000 (WC alloy)	4,800 4,000 8,960	82 80 72
Fuji Vacuum Industry Aichi Works, Anjo, Aichi Pref	W powder Mo powder	ND	ND	ND	ND	74
Kawanishi Kikai Seisakusho Kobe Plant, Kobe, Hyogo Pref	W powder Mo powder	15,600 14,400	2,630 1,580	13,000 48,000	3,550 5,565	88.5 75.10
Kon Kagaku Kogyo K K Amagasaki Works, Amagasaki, Hyogo Pref	W powder	ND	600	18,000	15,000	ND
Kotobuki Sangyo K K Osaka Works, Osaka Pref	Alloy tool (High speed steel)	ND	720	ND	ND	ND
Kyoritsu Gokin Seisakusho Nishinomiya Works, Nishinomiya, Hyogo Pref	W powder W carbide	ND ND	1,800 ND	75,000 ND	2,500 ND	40 ND
Mitsubishi Kogyo K K Shinagawa, Shinagawa, Tokyo	W powder	12,000	6,000	16,640	3,594	83.5
Mitsubishi Kogyo K K Niigata Works, Niigata Pref	W powder Mo powder	2,000 2,400	0 0	180,000 (metal) 360,000 (wire)	4-5,000 3,000	80 (metal) 90 (metal) 80 (wire)
Nippon Electric Co, Ltd Takasaki Works, Gunma Pref	W powder	ND	108	500,000 (wire)	ND	ND
Nippon Tungsten Co, Ltd Onoehima Plant, Fukuoka Pref	W powder Mo powder	ND ND	3,000 1,800	ND ND	ND ND	ND ND
Nippon Tungsten Co, Ltd Fukuoka Plant, Fukuoka Pref	W powder Mo powder	12,000 6,000	ND ND	212,000 ND	ND ND	ND ND
Nippon Yakin K K Fushimi Plant, Kyoto Pref	W wire Mo powder	2,400 12,000	1,200 6,400	108,680 ND	2,500 ND	33 ND
Nippon Yakin K K Kyoto Plant, Kyoto Pref	WO_3 Conc MoO_3 Conc	12,000 24,000	ND ND	ND ND	ND ND	78 66.6
Sumitomo Electric Ind Co Itami Works, Hyogo Pref	WO_3 Conc	12,000	60,000	54,000	ND	75
Tokyo Shibaura Electric Co Sunamachi Works, Tokyo	W powder Mo powder	93,600 18,000	48,000 0	16,704 ND	ND ND	74.2 ND
Tokyo Shibaura Electric Co Horikawacho Works, Tokyo	W powder Mo powder	28,800 12,000	9,900 5,000	3,800 4,200	2,880 890	79.3 80.2
Tohoku Metal Industry Co Sendai Works, Miyagi Pref	W powder Mo powder	4,080 14,520	5,160 9,000	2,900 0	ND ND	ND ND
Tokyo Electric Co Kamata Metal Works, Kamata, Tokyo	W powder Mo powder	6,000 1,000	2,700 700	60,000 44,000	4,000 3,300	27.2 63
Toa Yakin K K Katayama Plant, Saitama Pref	W powder Mo powder	2,400 3,600	0 0	ND ND	ND ND	ND ND
Tokyo Tungsten Co Sakata Works, Yamagata Pref	WO_3	6,000	0	0	0	90-92
Tokyo Tungsten Co Aoto Works, Tokyo	W powder Mo powder	ND ND	5,860 1,020	34,300 46,800	4,200 6,300	ND ND

ND No data available
Source: Replies to questionnaires submitted by individual companies

TABLE 2. - TUNGSTEN CARBIDE TOOL MAKERS AND REFINERS

Company Name	Plant Name
Sumitomo Denki Kogyo K K	Itami
Mitsubishi Kogyo K K	Tokyo Kinsoku Kogyojo
Mitsubishi Kogyo K K	Niigata Kinsoku Kogyojo
Koa Kagaku Kogyo K K	Honsha
Toko Denki K K	Yaguchi Daiichi
Tokyo Tungsten K K	Aoto
Kabushiki Kaisha Kawanishi Kikai	Seisaksho Kobe
Nippon Yakin K K	Moji
Nippon Tungsten K K	Fukuoka
Kabushiki Kaisha Kyoritsu Gokin	Seisakusho Nishinomiya
Kotobuki Sangyo K K	Honsha
Toa Yakin K K	Katayama
Fujikura Densen K K	Fukagawa

Note: All of above refine tungsten concentrates and fabricate finished tungsten carbide tools
Source: Tungsten Carbide Tool Makers Association

TABLE 3. - SALIANT STATISTICS ON MOLYBDENUM IN JAPAN PROPER 1925 - 1945
(metric tons)

Year	Concentrates Mine production a/	Imports b/	Ferro-molybdenum Production	Refined molybdenum c/ Production
1925	0	9	0	1
1926	0	7	0	1
1927	0	29	0	1
1928	0	31	0	1
1929	0	30	0	3
1930	0	26	0	1
1931	0	24	21	2
1932	0	45	85	3
1933	0	105	286	5
1934	5	103	132	5
1935	6	106	188	5
1936	6	80	199	6
1937	6	539	285	9
1938	3	1,025	672	15
1939	3	4,361	1,415	20
1940	15	1,271	1,802	26
1941	45	677	988	29
1942	79	1,500	546	38
1943	139	1,154	365	123
1944	407	1,858	337	123
1945	232	92	65 d/	41

a/ No record of production prior to 1934; production, if any, did not exceed annual value of ¥10,000. Data for 1934-45 from Tungsten - Molybdenum Mine conference, Japanese Bureau of Mines, and Mining Company records
b/ See Table 5 for notes and sources
c/ Mostly "powder" products, but includes wire and rods
d/ April - September, inclusive
Source: Data of MRS report 44 revised. Based on later more complete statistics

TABLE 4. - SUMMARY OF MOLYBDENUM INDUSTRY IN JAPAN PROPER 1931 - 1945
(metric tons)

	MoS_2 Conc	Approx Mo content
Mine production	946	490
Imports	13,072	6,400 a/
Total available to Japanese Industry	14,018	6,890 b/
Recorded production of ferromolybdenum (Molybdenum content estimated at 60%)	7,386	4,432
Recorded production of all other molybdenum products	223	200
Total recorded production	7,609	4,632

a/ MoS_2 content of concentrate calculated on following basis: Concentrate from USA, Chile and Peru @ 90% MoS_2; concentrate for Korea @ 50% MoS_2; from Manchuria @ 85%; from Japan according to mine data
b/ If available data are complete and estimates of grade are correct, metallurgical loss has been 2,258 tons Mo or about 33% of the Mo contained in the concentrate
Source: Data of MRS report No 44 revised. Based on later and more complete statistics

TABLE 5. - IMPORTS OF MOLYBDENUM CONCENTRATES AND ORE INTO JAPAN PROPER 1925 - 1945
(metric tons)

	Country of Origin					
Year	Korea	Peru	Chile	United States	Manchuria c/	Total
1925	9	ND	ND	ND	0	9
1926	7	ND	ND	ND	0	7
1927	29	ND	ND	ND	0	29
1928	31	ND	ND	ND	0	31
1929	30	ND	ND	ND	0	30
1930	26	ND	ND	ND	0	26
1931	24	ND	ND	ND	0	24
1932	45	ND	ND	ND	0	45
1933	105	ND	ND	ND	0	105
1934	103	ND	ND	ND	0	103
1935	106	ND	ND	ND	0	106
1936	80	ND	ND	ND	0	80
1937	85	0	0	454 b/	0	539
1938	118	0	0	907 b/	0	1,025
1939	115	0	0	4,241 b/	0	4,356
1940	200 a/	364 b/	654 b/	53 b/	0	1,271
1941	200 a/	227 b/	0	0	250	677
1942	200 a/	0	0	0	1,300	1,500
1943	400 a/	0	0	0	754	1,154
1944	600 a/	0	0	0	1,258	1,858
1945	50 a/	0	0	0	42	92
TOTAL	2,563	591	654	5,655	3,604	13,067

a/ Estimate by Mitsubishi Trading Co of Molybdenum for exclusive use of Japanese Army and Navy
b/ Mineral Resources of Japan, U S Bureau of Mines, Foreign Mineral Survey, Vol 2 No 5, July 1945
c/ Totaled estimates of Japan Mining Bureau, Mitsubishi Trading Co, and Tungsten Molybdenum Council
ND No data available

TABLE 6. - PRODUCTION OF FERROMOLYBDENUM IN KOREA 1940 - 1945
(metric tons)

Year	Recorded by iron and steel control association a/	Direct procurements by Army	Total b/
1940	28	ND	28
1941	38	60	98
1942	27	80	107
1943	188	250	438
1944	291	170	461
1945	110	ND	110
TOTAL	682	560	1,242

a/ Does not include direct procurements by the Army and Navy
b/ Probably incomplete, for Navy is believed to have made direct procurements of which no record is available
ND No data available

TABLE 7. - SUMMARY OF TUNGSTEN INDUSTRY IN JAPAN PROPER, 1925 - 1945

(metric tons)

Year	Concentrates available a/		Total	Approximate production of tungsten products b/		
	Mine production 55-60 % WO_3	Imports 60-65 % WO_3		Ferro-tungsten	Other products	Total
1925	0	0	0	5	2	7
1926	18	0	18	14	3	17
1927	45	0	45	7	1	8
1928	50	0	50	11	2	13
1929	56	0	56	30	4	34
1930	74	10	84	27	4	31
1931	52	1	53	32	4	36
1932	20	19	39	59	5	64
1933	29	127	156	26	6	32
1934	63	762	825	232	8	240
1935	69	852	921	272	11	283
1936	193	883	1,076	447	13	460
1937	218	1,544	1,762	804	15	819
1938	318	2,610	2,928	1,479	26	1,505
1939	299	4,122	4,421	2,499	43	2,542
1940	519	4,483	5,002	3,274	57	3,331
1941	678	5,123	5,801	2,649	61	2,710
1942	942	5,900	6,842	2,152	67	2,219
1943	804	6,550	7,354	3,256	88	3,344
1944	660	5,900	6,560	1,567	124	1,691
1945	194	2,000	2,194	19	62	81
TOTAL	5,301	40,886	46,187	18,861	606	19,467
Approx W content	2,300	20,000	22,300	15,089	600	15,689 c/
W content of stocks (Dec 1945)			300			
Reported export to Germany			2,000			
Probable consumption			20,000 c/			

a/ Sources: Tungsten - Molybdenum Mine Conference, Tungsten - Molybdenum Mfg Control Assn, Japan Bureau of Mines, Mitsubishi Shoji, First and Second Demobilization Ministries. MIS Report No 44, p 44

b/ Source: Data based on answers to ferroalloy and tungsten - molybdenum questionnaires

c/ At least half of the difference between these two figures may be attributable to metallurgical loss. The remainder is believed due to either (1) overestimate of imports from Korea, or (2) incomplete record of production of tungsten products in Japan

TABLE 8. - PRODUCTION OF METALLIC TUNGSTEN POWDER BY PLANTS, 1925-1945
(kilograms)

Company, Plant, and Location	1925-1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	TOTAL
Toko Denki KK, Kanata, Kanata, Tokyo a/	4,260	1,500	1,720	1,980	1,840	2,020	1,950	2,600	3,100	3,350	4,040	5,350	3,950	5,800	2,200	1,330	46,990
Tohoku Metal Ind Co, Ltd, Sendai Sendai, Miyagi	ND	ND	ND	ND	ND	ND	ND	ND	ND	240	360	600	960	1,800	3,000	1,500	8,460
Kyoritsu Yokin Seisakusho, Nishinomiya, Nishinomiya, Hyogo	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	781	781
Tokyo Tungsten Co, Ltd, Aoto, Katsushika, Tokyo	ND	ND	ND	ND	ND	ND	ND	ND	ND	8,228	14,471	12,673	11,089	13,375	11,163	4,008	75,007
Sumitomo Elec Ind Ltd, Itami, Itami, Hyogo	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	4,700	13,271	17,971
Fuji Vacuum Ind Co, Ltd, Aichi, Aichi, Aichi b/	ND	ND	ND	ND	300	300	300	300	300	300	300	300	300	300	300	0	3,300
Kawanishi Kikai Seisakusho Ltd Kobe, Kobe, Hyogo	ND	ND	ND	ND	ND	2,992	3,226	2,641	2,644	4,267	6,050	7,451	7,469	7,143	11,899	4,376	60,158
Tokyo Shibaura Elec Co, Ltd Horikawacho plant, Kawasaki, Kanagawa c/	11,212	2,545	2,813	4,237	5,474	5,835	6,158	7,000	17,421	24,495	29,338	28,035	34,275	43,620	36,580	13,298	272,336
Toa Yakin KK, Katayama, Katayama, Saitama d/	ND	ND	ND	ND	ND	ND	1,200	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	600	21,000
Tokyo Shibaura Elec Co, Ltd, Sunamachi, Sunamachi, Tokyo	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	27,600	11,000	38,600
Mitsubishi Kogyo KK, Tokyo, Shinagawa Tokyo	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3,757	5,588	10,641	12,538	3,988	36,512
Nippon Tungsten Co, Ltd, Unoshima Chikogyo, Fukuoka	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	4,875	4,875
Fujikura Densen KK, Fukagawa, Fukagawa, Tokyo	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	480	960	960	960	240	3,600
TOTAL	15,472	4,045	4,533	6,217	7,614	11,147	12,834	14,941	25,865	43,280	56,959	61,046	66,991	86,039	113,340	59,267	589,390

a/ Commenced production in 1928
b/ Estimated; records destroyed
c/ Commenced production prior to 1925
d/ Estimated; records destroyed
ND No data available
Source: Individual Company replies to questionnaires

TABLE 9. - PRODUCTION OF TUNGSTEN TRIOXIDE BY PLANTS, 1925-1945
(kilograms)

Company, Plant, and Location	1925-1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	TOTAL
Nippon Yakin KK, Kyoto, Kyoto, Kyoto	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	90	90
Tokyo Shibaura Elec Co, Ltd, Sunamachi, Sunamachi, Tokyo	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1,770	10,237	2,593	14,600
TOTAL																	14,690

ND No data available
Source: Individual company replies to questionnaires

TABLE 10. - PRODUCTION OF METALLIC MOLYBDENUM POWDER BY PLANTS, 1925-1945
(Kilograms)

Company, Plant, and Location	1925-1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945
Nippon Yakin KK, Fushimi, Fushimi, Kyoto	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	167
Toko Denki KK, Kamata, Kamata, Tokyo a/	670	250	280	310	280	430	520	530	680	600	730	1,070	1,450	770	1,380	191
Tohoku Metal Ind Co, Ltd, Sendai plant, Sendai, Miyagi	ND	ND	ND	ND	ND	ND	ND	ND	ND	1,200	1,800	2,400	4,800	6,000	6,600	3,700
Tokyo Tungsten Co, Ltd, Aoto, Katsushika, Tokyo	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3	105	317	609	609	174
Fusi Vacuum Ind Co, Ltd, Aichi, Aichi, Aichi b/	ND	ND	ND	ND	300	300	300	300	300	300	300	300	300	300	300	0
Kawanishi Kikai Seisakusho Ltd, Kobe plant, Kobe, Hyogo	ND	ND	ND	ND	ND	1,379	894	1,551	1,865	3,374	3,571	4,655	7,074	7,676	8,086	5,443
Tokyo Shibaura Elec Co, Ltd, Horikawacho plant, Kawasaki, Kanagawa c/	6,491	1,748	3,080	4,770	4,310	3,180	3,620	5,000	9,950	12,628	15,557	16,613	16,100	16,250	15,870	5,521
Toa Yakin KK, Katayama, Katayama, Saitama d/	ND	ND	ND	ND	ND	ND	900	1,800	1,800	1,800	3,600	3,600	3,600	3,600	3,600	1,000
Tokyo Shibaura Elec Co, Ltd, Sunamachi plant, Sunamachi, Tokyo	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	481	ND
TOTAL	7,161	1,998	3,360	5,080	4,890	5,289	6,234	9,181	14,595	20,102	25,561	28,743	33,641	35,205	37,926	16,196

a/ Commenced production in 1928
b/ Estimated; records destroyed
c/ Commenced production prior to 1925
d/ Estimated; records destroyed
ND No data available
Source: Individual company replies to questionnaires

TABLE 11. - SUPPLY OF ROASTED MOLYBDENITE CONCENTRATE IN JAPAN PROPER, 1925-1945
(Kilograms)

Company, Plant, and Location	1925-1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945
Nippon Yakin KK, Kyoto, Kyoto, Kyoto	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	4,384	87,897	85,219	24,708
Tokyo Shibaura Elec Co Ltd, Sunamachi plant, Sunamachi, Tokyo	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	512
TOTAL																

ND No data available
Source: Individual company replies to questionnaires

TABLE 10. - PRODUCTION OF METALLIC MOLYBDENUM POWDER BY PLANTS, 1925-1945
(Kilograms)

Company, Plant, and Location	1925-1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	Total
Nippon Yakin KK, Fushimi, Fushimi, Kyoto	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	167	167
Toko Denki KK, Kamata, Kamata, Tokyo a/	670	250	280	310	280	430	520	530	680	600	730	1,070	1,450	770	1,380	191	10,141
Tohoku Metal Ind Co, Ltd, Sendai plant, Sendai, Miyagi	ND	ND	ND	ND	ND	ND	ND	ND	ND	1,200	1,800	2,400	4,800	6,000	6,600	3,700	26,500
Tokyo Tungsten Co, Ltd, Aoto, Katsushika, Tokyo	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3	105	317	609	609	174	1,817
Yusi Vacuum Ind Co, Ltd, Aichi, Aichi, Aichi b/	ND	ND	ND	ND	300	300	300	300	300	300	300	300	300	300	300	0	3,300
Kawanishi Kikai Seisakusho Ltd, Kobe plant, Kobe, Hyogo	ND	ND	ND	ND	ND	1,379	894	1,551	1,865	3,374	3,571	4,655	7,074	7,676	8,086	5,443	45,568
Tokyo Shibaura Elec Co, Ltd, Horikawacho plant, Kawasaki, Kanagawa c/	6,491	1,748	3,080	4,770	4,310	3,180	3,620	5,000	9,950	12,828	15,557	16,613	16,100	16,250	15,870	5,521	140,888
Toa Yakin KK, Katayama, Katayama, Saitama d/	ND	ND	ND	ND	ND	ND	900	1,800	1,800	1,800	3,600	3,600	3,600	3,600	3,600	1,000	25,300
Tokyo Shibaura Elec Co, Ltd, Sunamachi plant, Sunamachi, Tokyo	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	481	ND	481
TOTAL	7,161	1,998	3,360	5,080	4,890	5,289	6,234	9,181	14,595	20,102	25,561	28,743	33,641	35,205	37,926	16,196	253,162

a/ Commenced production in 1926
b/ Estimated; records destroyed
c/ Commenced production prior to 1925
d/ Estimated; records destroyed
ND No data available
Source: Individual company replies to questionnaires

TABLE 11. - SUPPLY OF ROASTED MOLYBDENITE CONCENTRATE IN JAPAN PROPER, 1925-1945
(Kilograms)

Company, Plant, and Location	1925-1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	Total
Nippon Yakin KK, Kyoto, Kyoto, Kyoto	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	4,384	87,897	85,219	24,708	202,208
Tokyo Shibaura Elec Co Ltd, Sunamachi plant, Sunamachi, Tokyo	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	512	512
TOTAL																	202,720

ND No data available
Source: Individual company replies to quaitionnaires

NATURAL RESOURCES SECTION
REPORT NUMBER 61
30 November 1946

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Supplement to NRS Report No. 12 (Sources of Phosphate for Japan, 31 Dec 1945)			15 Mar 46
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Report No.	61.	Tungsten and Molybdenum Metallurgy of Japan	30 Nov 46

NATURAL RESOURCES SECTION
REPORT NUMBER 61
30 November 1946

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(Subject to Change)

S/C

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EH
HR

U. S. COMMERCIAL COMPANY

~~1111 VERMONT AVENUE NW~~
WASHINGTON 25, D. C.

December 10, 1946

CABLE ADDRESS
"USCOMCO"

EH
HR

Mr. Paul Nitze, Acting Director
Office of International Trade Policies
Room 132½ Main State Building
Washington 25, D. C.

Dear Paul:

Mr. Gardiner has suggested that it might be advisable to keep you informed as to the current status of certain bauxite deposits located in the Japanese Mandated Islands of the Pacific. These deposits were operated by the Japanese for some years before the war, but there is at present little left in the way of equipment and operating facilities.

Reply drafted 12/14/46

Without going into more elaborate detail, it will perhaps be sufficient to enclose copies of the following:

1. Copy of memorandum to Jesse C. Johnson, dated December 10, 1946.

2. Copy of memorandum to A. Z. Gardiner, dated December 5, 1946.

3. Copy of memorandum to A. Z. Gardiner, dated December 2, 1946.

Sincerely yours,

G. H. Parker, Chief
Pacific Ocean Division

Enclosures

Reply prepared 12/18/46

//////////////////////

December 10, 1946

MEMORANDUM TO JESSE C. JOHNSON, DEPUTY DIRECTOR, OFFICE OF METALS RESERVE

Subject: Bauxite Deposits in Palau Islands

As you are probably aware, this Division of U. S. Commercial Company is engaged in various economic activities in the Pacific area, principally of the mandated islands. Recently there has been considerable discussion as to development of bauxite on Babelthuap Island in the Palau Group. At a meeting this morning between Mr. Schieck, Mr. Gardiner, and myself, it was suggested that I give you the background and such material as is available. Very possibly all the essential information is contained in my memoranda of December 2nd and December 5th to Mr. Gardiner, copies of which are attached. In the latter you will note that in paragraph (1) reference is made to concurrence on the part of the Department of State. This phase of the matter is under discussion.

I think Mr. Gardiner felt that you might be able to make some helpful comments on the quantity and quality of the deposits, as set forth in memorandum of December 2nd referred to, particularly as to how the analyses given compare with other sources of supply. It will also be interesting to know if there are other factors which might render this particular grade of ore less adaptable to aluminum production than present sources, and whether or not it might be assumed that from the quality standpoint the ore might be competitive.

G. R. Parker, Chief
Pacific Ocean Division

Attachments

GRParker:dg

cc: Gardiner
Nitzi
Parker
Reading

C O P Y

December 5, 1946

MEMORANDUM TO MR. GARDINER:

Subject: Bauxite deposits in Palau Islands

With further reference to my memorandum of December 2, 1946, yesterday I discussed the question of private business entering the islands, with Navy Military Government.

No objection was made by Captain Jennings, with whom I talked, but who stated that certain conditions would have to be complied with. These may be summarized as follows:

(1) It was felt that the concurrence of the Department of State was a necessary preliminary and to secure this will probably be our responsibility.

(2) The Navy will insist on a strict control over labor, i. e., both native and imported. It was pointed out that in the case of the latter, outside labor which would probably be necessary, could not be brought in with any idea of permanent residence. Such labor would have to be on a contract basis, with the expectation of ultimate deportation.

(3) The operators would have to provide suitable living quarters for any imported labor in a controlled area, at their expense.

(4) It is probable that if such labor importations were in considerable numbers it would be necessary to set up additional island facilities. Among these might well be an additional police force, certain public utilities and other services. The arrangement would have to include some provision for taking care of this additional expense.

(5) Obviously some provision would have to be made for payment to native populations for bauxite removed. It was suggested that this take the form of a royalty per ton mined. This would not involve any transfer of title to land and would take the form of a fairly long term lease or concession. The amount of such royalty would be a matter for discussion and negotiation. The disposition of the funds so accruing need not be predetermined. Instead of anything in the way of individual payments to native populations, it might be applied toward some form of public welfare, e. g., schools, hospitals, access roads, etc.

G. R. Parker, Chief
Pacific Ocean Division

GRP-vrh
cc: Reading
Parker

COPY

December 2, 1946

MEMORANDUM TO MR. GARDINER:

Subject: Bauxite deposits in Palau Islands

Following our conference of November 26 at which were present besides you and myself, Messrs. Oliver, Bridge and Useem, Mr. Bridge prepared certain statistics requested on Bauxite deposits and certain collateral data. This he has summarized as follows:

Location: Northern End Babelthuap, 1 to 3 miles south of Village of Ngardenau.

Distances:		
	From Korror, Palau Islands	20 miles
	From Apra Harbor, Guam	840 miles
	From Tokio, Japan	2,000 miles
	From Portland, Oregon	6,400 miles

Area of Babelthuap: 153 square miles.

Area underlain by known bauxite deposits - about 5 square miles.
Area underlain by possible deposits - Much larger

Deposits on hill tops and slopes--not in valleys--
Average depth - 3' - 10'

Reserves: Measured ore - 2,000,000 tons less amount produced to date.
Indicated ore - 8,000,000 tons (estimated)
Inferred ore - 40,000,000 tons (estimated)

Grade: Uniformly high as shown by tests of following samples:

No.	Insoluble Largely SiO_2	FE_2O_3	TiO_2	Al_2O_3	Loss on ignition
1	5.29	12.02	1.0	52.13	29.28
2	1.85	15.84	.9	51.65	29.74
3	3.81	21.42	1.3	44.16	28.80
4	2.67	18.28	1.0	47.09	29.72
5	3.84	19.41	.5	45.42	31.90
6	10.71	21.60	1.0	33.41	34.66
7	14.27	20.79	1.0	32.03	30.90
8	11.42	29.25	1.8	35.68	22.20

The equipment salvaged from Japan appears to be somewhat meagre consisting of few damaged locomotives, trucks and hoists. There are also the remains of cable way, loading pier, ore-bin and miscellaneous buildings. It is apparent however that a substantially complete new investment would be required. Production figures are as follows:

Production			Quality		
	ton				
1938	5,335	:			
1939	11,995	:	Al_2O_3	Fe_2O_3	SiO_2
1940	30,630	:			
1941	53,214	:	51.5	16.50	2.50
1942	115,946	:			
1943	119,971	:	Size of ore grains:		
1944	32,136	:	1 inch - 2 inches		
	369,227		16		

I intend discussing with the Navy at the first opportunity their views as to if and when private enterprise might be admitted to the islands.

G. R. Parker, Chief
Pacific Ocean Division

GRP-vrh

cc: Ryan
Reading

25

TR
DCK

DEC 26 1946

In reply refer to
IR

Dear G:

I refer to your letter of December 10, 1946 in which you inform me of the current status of certain bauxite deposits located in the Japanese Mandated Islands of the Pacific.

I appreciate your keeping me informed with respect to developments regarding the possibilities for commercial exploitation of these deposits. Would you keep me informed of further developments?

Sincerely yours,

Paul H. Hitze
Acting Director, Office of
International Trade Policy

Mr. G. R. Parker, Chief,
Pacific Ocean Division,
U.S. Commercial Company,
Washington 25, D.C.

IR:LLister:bl 12-19-46

In reply refer to
JK

Dear Arthur:

I would like to revert to the subject of antimony from Japan and the price thereof. Bob Paige spoke to you about this the other day on the phone.

From certain remarks made at the USCC board meeting on December 11, Paige got the idea that USCC may have sold Japanese antimony to the RFC for something less than 18.5 cents per pound of antimony content. Your October 31, 1946 statement shows sales proceeds of $246,046.87 from 1,683,142 pounds of antimony. These figures indicate a price of 14.6 cents per pound gross and a rather low percentage content of antimony if a price of 18.5 cents per pound of antimony metal was in fact paid by RFC. I would appreciate it if you would at your convenience check this point and let me know what the facts are.

Sincerely yours,

Roswell H. Whitman
Associate Chief
Division of Japanese and Korean
Economic Affairs

Mr. Arthur Gardiner,
U.S. Commercial Company,
Washington 25, D. C.

Room 2087
Tempo "T"

cc: Lt. Col Hartman

JK:RMPaige:bcb 12/18/46

UNITED STATES POLITICAL ADVISER
FOR JAPAN

DIVISION OF FR

UNRESTRICTED

Tokyo, January 3, 1947

No. 799

SUBJECT: "Ferroalloy Metallurgy of Japan."

The United States Political Adviser has the honor to enclose five copies of "Ferroalloy Metallurgy of Japan," report No. 62 published by the Natural Resources Section of General Headquarters, Supreme Commander for the Allied Powers.

Enclosures:

Five copies of report No. 62

Original and hectograph to Department

S-863.5
RHBushner:mm

UNITED STATES POLITICAL ADVISER
FOR JAPAN

SECRET

Tokyo, February 7, 1947

No. 858

SUBJECT: Tin and Other Mineral Deposits Reportedly Discovered During Building of Burma-Siam Railroad

The Honorable

The Secretary of State

Washington

Sir:

I have the honor to refer to a telegram from the War Department (WDSCA IO) to CINCAFPAC, No. W 85524, dated November 15, 1946, regarding the Department's desire for information on tin and other mineral deposits reportedly discovered during the building of the Burma-Siam Railroad on the Siamese side of the border, and to enclose copies of the following documents:

(a) Interrogation report of Lt. Gen. KIMURA, former Commanding General, Burma Theater;

(b) Interrogation report of Lt. Gen. NAKAMURA, former Commanding General, Bangkok Hq. Group, Siam;

(c) Interrogation report of ITO, Mamoku, Railway Transportation Officer, Pranksahi;

(d) Interrogation report of IMATA Noboru, Map & Liaison Officer, Siam;

(e) Interrogation report of MATSUDA Yukichi, Engineer, Siam;

(f) Interrogation report of SUGIYAMA Isamu, Railway Transportation Officer, Konkoita;

(g) Document from Natural Resources Sections, General Headquarters, Supreme Commander for the Allied Powers, subject: "Mines in Burma and Siam";

(h) Extracts from "H. Q. Air Command, S. E. Asia W. I. S. No. 71" dated 25 March 1945, "Siamese Tin Mines,"; and

(i) Map showing location of various mines in the Burma-Siam area.

SECRET

The above documents contain all data available in this Headquarters on mineral deposits along the Burma-Siam border.

Respectfully yours,

Max W. Bishop

Enclosures:

As stated.

Original and Hectograph to Department

863
GAAbbey:vr

S E C R E T

GENERAL HEADQUARTERS
UNITED STATES ARMY FORCES PACIFIC
MILITARY INTELLIGENCE SECTION GENERAL STAFF
ALLIED TRANSLATOR AND INTERPRETER SECTION
CENTRAL INTERROGATION CENTER

INTERROGATION REPORT
PHASE III

KIMURA, HEITARO (NAME)	SUGAMO PRISON (ADDRESS)
(OCCUPATION)	Burma Area Army (UNIT)
Commanding General (WHAT)	Burma Theater (WHERE) / Sep 1944 to end of War (WHEN)
SUGAMO (WHERE INTERROGATED)	11 Dec 1946 (WHEN) / Lt. Oyama, T/Sgt H. Oshiro (INTERROGATOR)

INFORMATION: TIN MINES

PREAMBLE: The informant was very cooperative and sincere in his statements. All statements by the informant are by heresay only and should be assessed accordingly.

TIN MINES: BURMA

The informant stated that there were tin mines at BAWDWIN, BURMA, north of MANDALAY. The railroad runs to LASHIO terminal, and from thereon the track is much narrower gauge to BAWDWIN. The informant believes the above mine is destroyed. This mine operated prior to the Great East Asia Co-prosperity War.
The informant stated that there is a Tin Mine east of TOUNGOO, midway between TOUNGOO and CHIENGMAI, BURMA. This mine was also an old Tin Mine before the Japanese invasion.

OTHER MINERALS IN BURMA:

The informant stated that in TAVOY, south BURMA peninsula, tungsten was mined. In North BURMA, he heard that mica is also mined. The informant does not know the name of the place or whereabouts in North BURMA.

PRODUCTION:

The informant does not know the output of minerals in the above-mentioned mines. According to informant's knowledge, all Tin mined during Japanese occupation was dormant since the lines of communication were severed with Japan. He also stated that no new mines were discovered during the Japanese occupation.

BAWDWIN MINE MANAGER:

The former Lt. Gen IZEKI, RYUSHO, who prior to the War, resided in TOKYO, JAPAN, volunteered for the BAWDWIN Mine position. Lt. Gen. IZEKI returned to Japan prior to Gen. Kimura's new assignment in RANGOON, BURMA. Lt. Gen. IZEKI was connected with the YAWATA IRON FOUNDRY (YAWATA SEITETSUJO) in FUKUOKA Prefecture and his status at the BAWDWIN mine was as government official.

cl. A.

S E C R E T

GENERAL HEADQUARTERS
UNITED STATES ARMY FORCES PACIFIC
MILITARY INTELLIGENCE SECTION GENERAL STAFF
ALLIED TRANSLATOR & INTERPRETER SECTION
CENTRAL INTERROGATION CENTER

INTERROGATION REPORT
PHASE III

NAKAMURA, Akito (NAME)	Tokyoto, Kitatama-Gun Musashisakai 441 (ADDRESS)
(OCCUPATION)	Garrison Thailand ~~Area~~ Army (UNIT)

Commanding General (WHAT)	Headquarters in Bangkok (WHERE)	Feb 43 - Mar 46 (WHEN)
Central Interr. Center (WHERE INTERROGATED)	12 Dec 46 (WHEN)	Lt. Oyama T/Sgt. Oshiro (INTERROGATOR)

1. PREAMBLE:

General NAKAMURA was very frank and willing in his statements.

a. SIAM:

The informant stated that during his three years in SIAM he had not heard of the finding of minerals of any sort.

b. BURMA-SIAM RAILWAY:

The BURMA-SIAM Railway connecting BANGKOK, SIAM to RANGOON, BURMA, started in 1942 and completed around Oct 43, although repairing of track was still going on until the end of the war. The distance of the new track from BANPON in SIAM to TANBIZAYA in BURMA is about 400 kilometers. During the construction of railway informant stated that he never heard rumors concerning finding of tin or other minerals.

c. Tin in MALAY States:

The informant once observed large quantity of tin being mined (while flying above Malay States). He believed it was around South PENANG area.

GENERAL HEADQUARTERS FAR EAST COMMAND
MILITARY INTELLIGENCE SECTION GENERAL STAFF
ALLIED TRANSLATOR & INTERPRETER SECTION
CENTRAL INTERROGATION CENTER

INTERROGATION REPORT
PHASE III

ITO, Mamoku (35) NAME	Aichi-Ken, Hazu-Gun, Nishio Cho, Oaza Kinjo #247 PRESENT ADDRESS
Unemployed PRESENT OCCUPATION	5th Railroad Regiment FORMER UNIT OR PLACE OF EMPLOYMENT
Capt.-Railway Trns. Officer PRANKASHI (99°58'-14°40') July 1945 FORMER MILITARY OR CIVILIAN DUTIES WHAT? WHERE? WHEN?	Central Interr. Center WHERE INTERROGATED
INFORMATION IN BRIEF	T/3 K. Yano INTERROGATOR

1. PREAMBLE

Informant had very little information on minerals in the near region of the BURMA-SIAN Railroad.

2. CHRONOLOGY

December, 1942 went to SANBISAYA (BURMA) near AMHERST (97°46' - 16°14') to build the BURMA-SIAM Railroad. Completed October, 1943 and from there went to MYTICYINA (96°50' - 25°30'), repairing damage to the railroad from bombings, (January, 1945). He worked on the LASHIO Railroad line as engineer, (March, 1945). In June, 1945, they started to retreat before the British offensive and went to PRANKASHI, which is near BANGKOK, and he worked as engineer under British rule until 4 Nov 46, when he was repatriated at URAGA.

18. SPECIAL INTELLIGENCE

(a) Tungsten mine at TAKANOAN, 18 kilometers from NONBURADOKKA (100°40' - 140°1'), near BANGKOK. Transportation was carried on the river down to BANGKOK. There was a gravel road leading to the mine.

Tin mine at a place called KUIE, 140 kilometers from BANGKOK, on the THAILAND-BURMA Railroad.

NOTE: Informant heard this from people.

S E C R E T

GENERAL HEADQUARTERS FAR EAST COMMAND
MILITARY INTELLIGENCE SECTION GENERAL STAFF
ALLIED TRANSLATOR & INTERPRETER SECTION
CENTRAL INTERROGATION CENTER

INTERROGATION REPORT
PHASE III

IMATA, Noboru NAME	Tokyo-To, Tachikawa-Shi, Takamatsu-Cho, Sanchome 125 PRESENT ADDRESS
Civil Engineer PRESENT OCCUPATION	Railroad, 5th Regiment FORMER UNIT OR PLACE OF EMPLOYMENT
Map and Liaison Office KANCHANABURI, SIAM (99°58' - 14°40') Dec 45 - 10 Oct 46 FORMER MILITARY OR CIVILIAN DUTIES WHAT? WHERE? WHEN?	Central Interr. Center WHERE INTERROGATED
INFORMATION IN BRIEF	Pfc. Teruo Yamamoto INTERROGATOR

1. PREAMBLE

Informant was very cooperative, although he seemed a little nervous. Believe his statements are reliable.

2. CHRONOLOGY

Aug. 40: South CHINA, CHINHSIEN (KINKEN) (120°10'-41°10'). Attached to railroad 5th Regiment.

Nov. 40: CANTON (113°50' - 23°50'). Railroad 5th Regiment worked here on small neighboring railroads repairing, etc.

Aug. 41: 5th Regiment was then transferred to SAIGON INDO CHINA (106°30' - 10°50'). At CAP ST. JACQUES (107°20' - 10°30'), one battalion of the 5th Regiment constructed a ship dock. (Ships up to 200 tons are capable of docking there.) Informant was a platoon leader (2nd Lt.) in the construction of this dock.

At SAIGON, informant heard there were no mineral mines in SIAM, and no "tin".

Nov. 41: PNOMPENH, INDO-CHINA, (105°00' - 11°55'). Headquarters of railroad 5th Regiment - Col. HAYASE, Hideo, Regimental Commander. Here informant did map and liaison work.

Railroad 5th Regiment did not construct any railroad from SAIGON to PNOMPENH.

5th Regimentconstructed a ship dock at MEKONG River at PNOMPENH. Informant believes docks were built because there was a lack of

available

available shipping docks in FRENCH INDO-CHINA.

8 Dec. 41: Railroad 5th Regiment moved to BANGKOK. (100°10' - 14°05'). Interrogee said that the Japanese did not construct any railroad from PNOMPENH, FRENCH INDO-CHINA to BANGKOK, SIAM, nor from SAIGON to BANGKOK.

20 Feb 42: Informant then came to SINGAPORE. Large amount of tin in IPOH vicinity (100°04' - 04°55'), KUALA LUMPUR (102°05' - 03°30'), MALAY. Railroad 5th Regiment repaired damage done by the retreating English Army.

Mar 42: Mineral mines east of TOUNGOO. Informant does not know the location of the mine, nor the name of the specific mineral product. Repaired railroad from TOUNGOO to MANDALAY, (96°05' - 22°10'), and from MANDALAY to MYITKYINA (97°58' - 25°10'). This work was completed in June, 1942.

Jul 42: Railroad 5th Regiment began construction of railroad from THANBYUZAYAT, BURMA (97°40' - 16°50') to NANTKA BURI, SIAM (102°10' - 13°50'), joining RANGOON from BANGKOK by rail, Oct 43.

Jan 45: Railroad 5th Regiment was at PRACHUAPGIRIKHAND (99°55' - 11°58'), SIAM, when the Japanese surrendered.

NOTE: Informant does not know of, nor has heard of, any "tin" in SIAM. Also, does not know of any mineral mines in SIAM.

S E C R E T

GENERAL HEADQUARTERS FAR EAST COMMAND
MILITARY INTELLIGENCE SECTION GENERAL STAFF
ALLIED TRANSLATOR & INTERPRETER SECTION
CENTRAL INTERROGATION CENTER

INTERROGATION REPORT
PHASE III

MATSUDA, Yukichi (29) NAME	Ishikawa-Ken, Kanazawa-Shi Okawa-Machi To 23 PRESENT ADDRESS
Unemployed PRESENT OCCUPATION	Engineers, 5th Regiment FORMER UNIT OR PLACE OF EMPLOYMENT
Captain SIAM Phurankashi (99°58' - 14°40') February 1946 FORMER MILITARY OR CIVILIAN DUTIES WHAT? WHERE? WHEN?	Central Interr. Center WHERE INTERROGATED
Tin Mines - SIAM INFORMATION IN BRIEF	T/4 Isami Makio INTERROGATOR

1. PREAMBLE

(a) Informant was very willing to give information, but he did not actually see any mines himself.

2. CHRONOLOGY

(a) Sept. 44: Stationed at SAGAING, BURMA (96°- 20°15') and took charge of the transportation of railroad material across the IRRAWADDY to MANDALAY, (96°-01' - 20°17').

May 45: Stationed at SIAM, BANKOK, (100°46' - 14°30'). In charge of railroad supplies.

Aug 45: Disarmed by the English and the Dutch at BANPON.

Feb 46: Was in charge of cutting "Maki" for fuel due to the shortage of coal at PHURANKASHI under the English.

Oct 46: Repatriated from BANKOK.

18. SPECIAL INTELLIGENCE

Railroad, double track, completed Oct 1940, from BANPON, SIAM to THANBIZAYA, BURMA, (97°43'-15°53'), a distance of approximately 430 kilometers over mountainous terrain.

Tin mine believed to be situated somewhere southwest 50 kilometers from PURANKASHI, thirty kilometers south of TAKANUN, and 100 kilometers southeast (Three Pagoda) on the border of SIAM and BURMA.

Coal mine is believed to be situated somewhere eighty kilometers northeast of THANBIZAYA, BURMA, approximately sixty kilometers from the railroad.

Incl. E.

S E C R E T

GENERAL HEADQUARTERS FAR EAST COMMAND
MILITARY INTELLIGENCE SECTION GENERAL STAFF
ALLIED TRANSLATOR & INTERPRETER SECTION
CENTRAL INTERROGATION CENTER

INTERROGATION REPORT
PHASE III

SUGIYAMA, Isamu NAME	Aichi-Gun, Chita-Gun, Otaka-Cho Aza Nakayashiki PRESENT ADDRESS
Unemployed PRESENT OCCUPATION	5th Railroad Regiment FORMER UNIT OR PLACE OF EMPLOYMENT
Capt.-Railway Trans. Officer KONKOITA (300 km. from BANGKOK) August 1945 FORMER MILITARY OR CIVILIAN DUTIES WHAT? WHERE? WHEN?	Central Interr. Center WHERE INTERROGATED
INFORMATION IN BRIEF	T/3 K. Yano INTERROGATOR

1. PREAMBLE

Although the informant worked as a railway officer/had and been to many places he has very little information concerning minerals.

2. CHRONOLOGY

Arrived at SAIGON, FRENCH INDO-CHINA, (107°11' - 11°25') in Aug 41 and worked at CAPE ST. JACQUES (107°41' - 11°). Built piers until Nov 41.

Dec 41, went to BANGKOK (100°46' - 14°30'), and farther down to MALAY Peninsula to a place called TAIPING, (100°-5°). Repaired the damaged bridge on the PALAKU River near TAIPING. From there went up north into BURMA to a place called YE (97°30' - 15°45'), through MOULMEIN (97°11' - 16°1'), and into RANGOON, (96°5' - 16°30'), on 10 Mar 42. After repairing the MANDALAY Railway Line, troops were transported from TANGOON to MANDALAY, (95°7' - 22°46').

May 42, went up to MYTKYINA (97°52' - 25°46'), and finished repairing the line, June 43. Moved into MOULMEIN to build a new railroad line (THAILAND-BURMA Railroad), connecting SANBISAYA (BURMA) near AMHERST (97°21' - 16°15'), to NONBURADOKKA (THAILAND), near AYUDHYA, (100°46' - 14°11'). Its length is about 415 kms. long, and it was completed 25 Oct 43. They went back to MOULMEIN to repair docks which had been damaged by British bombings. Started retreating in Sep 44, due to British offensive, to SHWENYANG, (97°- 21°15'), and marched across the border into CHIENG MAI (98°52' - 18°23'), June 45. Retreated farther down into BEJRABURI, (100° - 13°20'), and was captured by the British in August 44. Sent to KONKOITA, near the border of BURMA, (and 300 kms. from BANGKOK), and worked under British rule operating the railway line until Oct 46. Came back 6 Nov 46 at URAGA.

INTERROGATION REPORT - PHASE III

THAILAND-BURMA RAILROAD:

(1) Width - one meter - small gauge.
(2) Single track.
(3) No tunnels; follows mountain sides and rivers.
(4) Outskirts of KONCHANABURI - Steel railroad bridge on MAKURON River, 1,500 meters.
(5) Estimate about 500 bridges, and majority are wooden bridges.
(6) About 50 stations between KONCHANABURI and SANBISAYA.
(7) Trains are all run by wood, not coal.

18. SPECIAL INTELLIGENCE

(1) Heard that tungsten is being mined at TAKANONAN. near the BURMA border about 208 kms. from NONBURADOKKA.
(2) BURMA-YENANGYANG (ENANJON) (95° - 20°56'), big oil field. Used formerly by Japanese.
(3) MALAY Peninsula - TAI-PING, chief tin producing city. Also saw many tin factories near vicinity.

S E C R E T

Natural Resources Section

HGS/RYG/hed
17 December 1946

NR 000.91 (17 Dec 46) MG

MEMORANDUM FOR: Record.

SUBJECT: Mines in Burma and Siam

1. The following is a list (Figure 1) of mines in Burma and Siam reported to have been operated either before or during World War II. Unless otherwise specified, the mines produced tin and tungsten concentrates.

	Mine	Map Reference
a.	Dawna Range	1
b.	Thaton, Zingyaik, Kadeik	2
c.	Bilugyun	3
d.	Ye	4
e.	Heinze Basin, Pyingyi	5
f.	Pilok	6
g.	Zimba	7
h.	Nyaunchaung	71
i.	Kanbauk, Paya, Khechaung	8
j.	Pachaung	9
k.	Hermyingi	10
l.	Kalonta, Tantonlong	11
m.	Pagaye, Khaumaunghla, Bawbin Thingandon, Padatchaung	12
n.	Byaukchaung	13
o.	Wagon, Tsungpilla, Heidna	14
p.	Pulerto, Widness, Hpaunddaw, Dechaung	15
q.	Meke	16
r.	Paulauk	17
s.	Tagu	18
t.	Theindaw	181
u.	Thaybu (antimony)	19
v.	Lampha (antimony)	20
w.	Surisawat (lead-zinc)	21

2. It is stated by the Japanese that the area shown on Figure 1 known as the "blockaded" area was not explored during the war by the Japanese but that the tin-tungsten mine at Pilok (6) and the lead-zinc deposit at Surisawat (21) operated on a small scale.

3. More detailed information is being obtained on the area along the Burma-Siam Railway but has not as yet been received.

/s/ John B. Gregg, 1st Lt.

for ROBERT YL GRANT
Scientific Consultant
Mining and Geology Division

1 Incl: as indic, par. 1.

Incl. G.

GENERAL HEADQUARTERS
UNITED STATES ARMY FORCES PACIFIC
MILITARY INTELLIGENCE SECTION GENERAL STAFF
ALLIED TRANSLATOR & INTERPRETER SECTION
CENTRAL INTERROGATION CENTER

SIAMESE TIN MINES

The following information was extracted from "H.Q. Air Command, S. E. Asia W. I. S. No. 71" dated 25 March 1945.

RANONG TIN MINING - Ranong (Ranohng; Renong) town is situated on the east of Victoria Point. There are several alluvial tin mining areas in the Ranong district, mainly dredge operated, with a reported pre-war total production capacity of about 2,936 tons of ore per annum.

Ground sources report that there was an increase in dredging activity in the Ranong district during 1944, and the ore was despatched by launch from Rangong to Ban Thap Li (Tapli), then forwarded by lorry to Jumbhorn (Chum phon; Chumphaun). It was also reported that at least a portion of the tin produced in Siam was destined for Germany.

The area dredged by the Ranong Consolidated Tin Dredging Co. Ltd., is approximately 1½ to 2 miles south of the town of Ranong in the Haadsompan Valley. The Ranong -Ngow road passes through the area.

Ground reports indicate that the Company operated one Diesel Electric Dredge, in the Haadsompan Valley, and dredging started in 1929. Power was supplied by three 330 H.P. Mirrless vertical marine type engines driving B.T.H. generators; A.C. at 450-500 volts was used and the plant had a total capacity of 600 KW. The capacity of the dredge is variously reported at 175,000 and 250,000 cubic yards per month. There was a machine shop with a 14 H.P. Petters engine, one radial drill, one lathe (12 in. centres), shears for ½" plate and a 300 amp. welding set; small castings could be made.

Ground reports also state that in December 1941 there was a Municipal wharf equipped with a hand operated Jib crane, also a wharf owned by the Ranong Consolidated Tin Dredging Co. Ltd., at the junction of the Bagnaum and Haad Som Pan Rivers, the river being navigable only at high tide.

Another ground report states that the Haadsompan Mining Co. have a Diesel electric plant, capacity 90 kW. operating in the Haadsompan Valley. Identification of this plant has not been possible on photo cover available.

Examination of photo cover shows that a considerable area has been cleared and contains several pools which probably have been dredging areas, but now appear disused. In only one pool has a dredge been seen operating.

Although activity over the whole area appears fairly persistent, the actual area dredged is comparatively small, the one dredge having been noted in the same pool of 100 yards by 140 yards throughout the period of cover, i.e., nine months. It is considered that dredging activity during this period has been considerably below normal level.

SIAMESE TIN MINES

BANGRIN TIN DREDGING COMPANY LIMITED - The Bangrin Tin Dredging Co. Ltd., is situated about three and a half miles south of Ranong and served by a light railway. The Rangon - Ngow road skirts the east side of the site.

Ground sources indicate that the Company operated three dredges, two of which had a capacity of 150,000 cubic yards per month each. All three dredges were electrically operated, current being supplied from the Company's thermal power plant on the shore. Power plant equipment included three Babcock and Wilcoxwater-tube boilers, two or three Belliss & Morcom steam engine sets, generating A.C. at 3,300 volts. The total capacity of the plant was 1,500 kW. and the transformers were probably housed in the dredges, which operated at 400 volts.

The Company's workshops were reported to be equipped with steam engine power and the plant included lathes, steam hammer, radial drill, planing machine, saw and shears, in addition to welding equipment. There were no facilities for making castings.

The light railway serving the mining area was used for despatching ore to the Company's wharf (reported location 9°54'30"N, 98°37'E.), which was equipped with a 15 ton hand-operated jib crane for loading ore on to rivercraft. There was no road connection between the wharf and the mine.

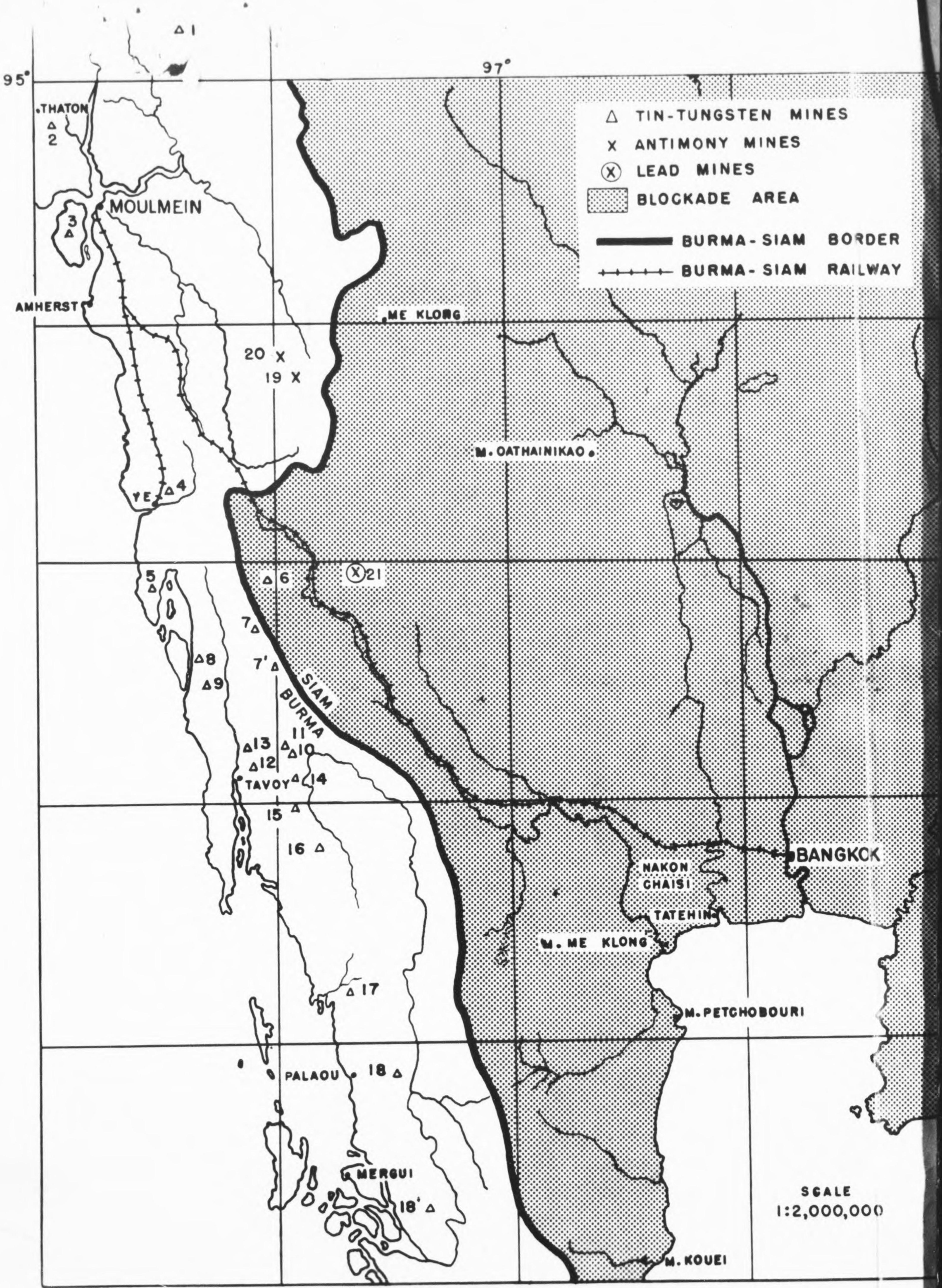
Examination of photo cover shows that a considerable area has been cleared and includes a number of dredging pools, three of which are occupied by tin dredges. The two larger dredges appear to have been consistently active throughout the period of cover, but the smaller dredge has not changed position and is probably inactive. There have also been some indications on photo cover of a limited amount of dredging by primitive methods, probably tributor hand-dredging.

The Thermal power plant has been active and movement of wagons on the light railway and of rivercraft at the wharf has been noted.

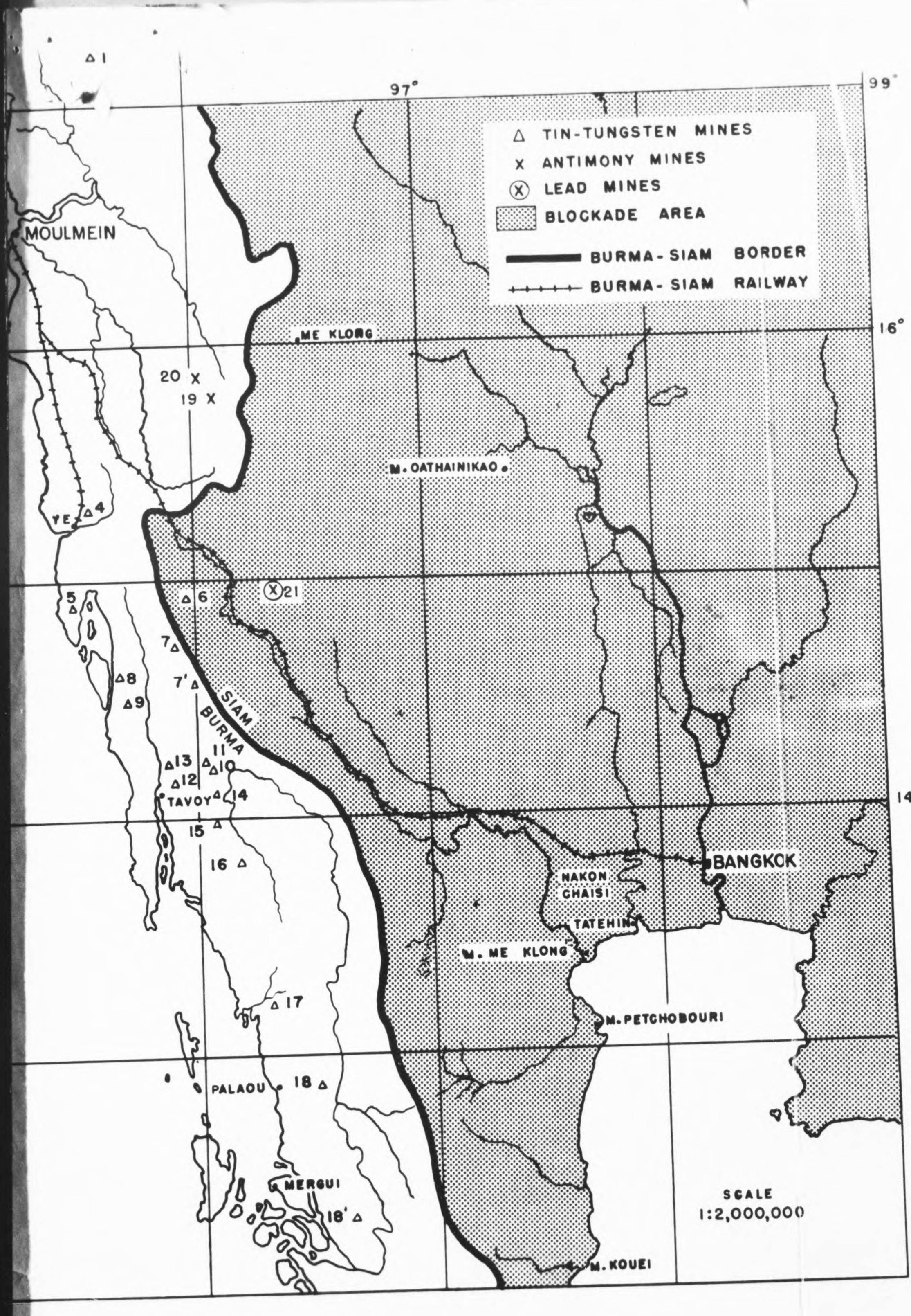
Generally speaking, there appears to have been consistent activity at the Company's dredging area throughout the period of cover, but the inactivity of one dredge and the limited areas worked by the two active dredges suggests that production of ore has been well below normal capacity.

(Report S.218.)

Incl. H.



Ans 1



McCormick 661

U. S. COMMERCIAL COMPANY

~~[illegible]~~
WASHINGTON 25, D. C.

Whitman E. Bjerregaard

April 8, 1947

CABLE ADDRESS
"USCOMCO"

Mr. Edwin M. Martin, Chief
Division of Japanese and Korean
Economic Affairs
Department of State
Washington 25, D. C.

894.6359/12-1046

Dear Mr. Martin:

Please refer to my letter of March 26th and previous correspondence on the subject of bauxite mining in the Japanese Mandated Islands. I take it for granted that the decision by the Security Council as to American trusteeship will clarify the situation and permit of a decision as to our policy.

I should be very glad to have your comments at your convenience.

Sincerely yours,

ar

G. R. Parker, Chief
Pacific Ocean Division

894.6359/4-847

CSIA

Bill, give him + tell him we are preparing a position

Notified him by phone 4/11. Following with Comments if Letter doesn't come back.

572

In reply refer to
JK

My dear Mr. Parker:

This is in reply to your letter of April 8, 1947 concerning the private operation of bauxite mines in the former Japanese Mandated Islands, and to confirm the April 15th telephone conversation you had with Mr. McCornick.

The Department of State is of the opinion that it is still premature to make commitments regarding private trade in the Mandated Islands. The Security Council of the United Nations has approved a strategic trusteeship, but approval has not yet been given by the United States Congress. Final decision regarding the exact type of government in the islands has not yet been made, nor has any legislation been passed by Congress providing for the government of these islands. Until action along the above lines has been taken it is not believed advisable to go ahead with detailed plans for the exploitation of the natural resources of the islands by private groups.

Sincerely yours,

Edwin M. Martin
Chief
Division of Japanese and Korean
Economic Affairs

Mr. G. R. Parker, Chief,
Pacific Ocean Division,
U.S. Commercial Company,
Washington 25, D.C.

JK:WSMcCornick:bcb 4/16/47

In reply refer to
JK

My dear Mr. Wilson:

I am writing to you on the subject of Japanese antimony.

The Supreme Commander for the Allied Powers has advised us that representatives of the U.K. Liaison Mission in Tokyo have received no instructions to discuss the price of the 484.95 metric tons of antimony, analysis 98.5 per cent or better, shipped to Rugby, England, aboard the S.S. Samsette, September 8, 1946. As SCAP desires to conclude this transaction it would be helpful if you would pass along to your people in Tokyo, via London, the substance of the agreement relating to the price of antimony reached here last summer.

You may recall that a price of 17.2 cents per pound f.o.b. vessel Japanese port for antimony metal 99 per cent or better was arrived at after considerable discussion between Mr. Smart, Miss Worthing and various others. We have been advised subsequently by the USCC that, using this price as a base, the fair price for antimony assaying less than 99 percent would be 15.7 cents per pound of contained antimony f.o.b. vessel Japanese port. USCC has sold Japanese antimony to France and to the U.S. (RFC) at these prices and SCAP is being so advised. We trust that the UK will accept this amplification of the previously agreed pricing formula.

Sincerely yours,

RWW

Roswell H. Whitman
Associate Chief
Division of Japanese and Korean
Economic Affairs

Mr. Christopher Wilson,
Raw Materials Section,
British Embassy,
Washington, D.C.

JK:RMPaige:bcb
5/6/47

MAY 13 1947

CSW

cc: Spelman -USCC — cleared by phone
Nagle, War - CAD
Jewett - RFC — cleared by phone
SCAP - Tokyo

Dr. Hans Tiedemann
Pudding Stone Inn
Boonton, N. J.

June 3, 1947

AL D/ Didn't pu
Answer Thanks

Reply drafted 6/27/47 a/s FE

Dr. Hugh Borton
Chief, North-East Asian Division
State Department
Washington, D. C.

Dear Mr. Borton,

As I am going up to Canada on Monday next week to see Aluminium Limited, to whose territory Japan seems still to belong, I should be greatly obliged to hear from you if you could give me any indication as to the future status of the aluminum industry in that country.

Please pardon me for approaching you again on this subject and accept my best personal regards.

Sincerely yours,

H. Tiedmann

In reply refer to
NA

File

My dear Mr. Tiedemann:

With reference to our conversation concerning the future of the aluminum industry in Japan, the only information available on this subject relates to an action taken by the Far Eastern Commission on May 13, 1946. At this time the Far Eastern Commission approved a policy decision regarding interim reparations removals in the light metals industry.

This decision defined the light metal industry as "plants and establishments primarily engaged in the production of alumina, primary or secondary aluminum and magnesium, and in the rolling, extruding, drawing, forging, and casting of aluminum and magnesium and their alloys." As of May 13, 1946 all facilities identified within this category were to be made available for claim as reparations subject to the following limitations: (1) No facilities engaged in remelting light metal scrap into secondary ingot were to be made available for claim; (2) In cement plants converted to produce alumina from clays or shales, only the equipment introduced to effect such conversion was to be made available for claim; (3) Sufficient rolling and drawing equipment was to be retained to handle 15,000 metric tons per annum of fabricated aluminum. Such equipment was to be of a general purpose character and might be obtained from any surplus available in other branches of the non-ferrous metals industry.

Sincerely yours,

Hugh Borton
Chief
Division of Northeast Asian Affairs

Mr. Hans Tiedemann,
Pudding Stone Inn,
Boonton, N.J.

NA:ALDunning:bms 5-22-47

JK

1218

JUL 8 1947

Second Letter Drafted
In reply refer to
NA

My dear Mr. Tiedemann:

It is with regret that I learned, upon receipt of your letter of June 3, 1947, that you had not as yet received word concerning the future of the aluminum industry in Japan. I am therefore taking this opportunity to give you what information is available on this subject.

On May 13, 1946 the Far Eastern Commission approved a policy decision regarding interim reparations removals in the light metals industry. This decision defined the light metal industry as "plants and establishments primarily engaged in the production of alumina, primary or secondary aluminum and magnesium, and in the rolling, extruding, drawing, forging, and casting of aluminum and magnesium and their alloys." As of May 13, 1946 all facilities identified within this category were to be made available for claim as reparations subject to the following limitations: (1) No facilities engaged in remelting light metal scrap into secondary ingot were to be made available for claim; (2) In cement plants converted to produce alumina from clays or shales, only the equipment introduced to effect such conversion was to be made available for claim; (3) Sufficient rolling and drawing equipment was to be retained to handle 15,000 metric tons per annum of fabricated aluminum. Such equipment was to be of a general purpose character and might be obtained from any surplus available in other branches of the non-ferrous metals industry.

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Rev. VL
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Dist.

Sincerely yours,

Hugh Borton
Chief
Division of Northeast Asian Affairs

Mr. Hans Tiedemann,
Pudding Stone Inn,
Boonton, New Jersey.

CR ✓ won
JUL 8 1947

NA: ALDumming:ggg
6/27/47 AD KB

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894.6359/6-347
CS/V
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CONFIDENTIAL

My dear Mr. Draper;

I note that the Reynolds Metals Company has proposed that alumina be shipped from the U. S. to Japanese aluminum plants for processing into aluminum ingot, which would be sent back to the U. S. for consumption in plants of the Reynolds Company. It is also my understanding that the ESS Section of SCAP has been negotiating with the Dutch Government for the importation of 100,000 tons of bauxite from the NEI during 1948 for the production of primary aluminum in Japan.

Approved FEC policy, initiated by the U. S. Government, provides that: (1) all Japanese capacity for primary aluminum production be made available for claim under the interim reparations removals program; (2) the level established for this industry be a ceiling on capacity during the occupation period. As you know, we are now attempting, in accordance with the agreement reached in SWNCC 236/43, to secure FEC approval for permanent retention of some aluminum capacity in Japan. Any appearance of unilateral action on the part of the U. S. or SCAP at this time would seriously jeopardize our prospects of obtaining FEC agreement for this modification.

I recognize that SCAP has authority under existing policy to retain temporarily for occupation needs industrial capacity otherwise subject to removal or destruction. However, the rehabilitation of aluminum plants for temporary use during the occupation would seem inadvisable under present conditions in Japan. Until we can secure FEC agreement for permanent retention of some primary aluminum capacity, it would seem much wiser to encourage the Japanese to concentrate their efforts on the rehabilitation of plants which are certain to continue as a part of the Japanese peacetime economy.

I am, of course, in complete sympathy with any attempts by SCAP to alleviate the serious dollar position in Japanese foreign trade, and recognize also that the operation of Japanese aluminum plants might alleviate aluminum shortages in the U. S. However, I recommend that no action be taken now which would jeopardize our chances of obtaining

The Honorable
William H. Draper, Jr.
Under Secretary of the Army

CONFIDENTIAL

agreement not only to the permanent retention of Japanese aluminum plants as an aid to the long range balancing of Japanese foreign trade, but also to our entire level of industry program for Japan.

However, if negotiations should be undertaken along the line of the proposals mentioned here, the following reservations would be essential in order to protect the interests of SCAP and the U. S. Government:

(1) The commitments must not prevent allocation of aluminum plants as reparations, though delivery may be postponed.

(2) Any commitments as to rehabilitation of the plants or as to procurement of raw materials must be subject to cancellation on 30 days notice at the termination of the occupation.

(3) Such commitments must be subject to renewal at six months intervals on the basis of new determination of occupation needs for operation of the plants.

(4) The Department of State should be given ample notice in advance of any publicity as to conclusion of a contract for operation of Japanese aluminum plants to permit explaining to other FEC countries that their interests are being fully protected.

I suggest that the substance of this letter be transmitted to SCAP for his information.

Sincerely yours,

Charles E. Saltzman
Assistant Secretary

A true copy of the signed orig-ina[l]

ZK after signature
CR
JAN 30 1948 P.M.
FEB 2 1948

RBL

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STANDARD FORM NO. 64

Office Memorandum · UNITED STATES GOVERNMENT

DATE: March 9, 1948

TO : OE - Mr. Whitman

FROM : O - G. W. Lewis GWL

SUBJECT: Processing of Alumina in Japan

Enclosed is a letter which has just been received from the Under Secretary of the Army concerning shipments of alumina to Japan for processing there. This letter is in reply to one signed by Mr. Saltzman and dated February 2nd, which was drafted in your office.

I should appreciate your drafting a suitable reply if one is necessary. If no action is required, please let me know.

Attachment:

To Mr. Saltzman
from Mr. Draper,
March 5, 1948

O:GWLewis:jcd
3/9/48

O-9

Bowman, For answer in light of today's meeting

FW 894.6359/3-548

CONFIDENTIAL

DEPARTMENT OF THE ARMY
OFFICE OF THE UNDER SECRETARY
Washington, D.C.

5 Mar 1948

Honorable Charles E. Saltzman

Assistant Secretary of State

Dear Mr. Saltzman:

This is in answer to your communication dated 2 February 1948 introduced by mention of reported proposals for shipments of alumina into Japan for processing there. As you doubtless know, representatives of both the Reynolds Company and the Permanente Corporation, subsequent to conferences with representatives of the Departments of State and Army, went to Japan to discuss with SCAP the possibility of reducing alumina in Japanese plants. No proposals have yet been received from SCAP as a result of these negotiations. In fact, SCAP has made no proposals for importing alumina into Japan in order to permit the export of aluminum ingot from Japan, or other proposals for aluminum production for export which would necessarily require approval by the United States Government.

As you know, a representative of the Permanente Corporation has approached officials of this Department as well as the Department of State concerning prospects for obtaining aluminum, aluminum products and steel products from Japan. The Permanente representative suggested to Department of the Army representatives that his organization and affiliates might be willing to supply raw materials and other imports into Japan in order to accomplish the necessary production to provide the products in which they were interested. It was suggested to the Permanente representative that no policy difficulty appeared to be involved in conncection with their interest in obtaining steel products. In connection with their interest in aluminum and aluminum products, it was pointed out that negotiations in the FEC were somewhat delicate concerning approval for retention of aluminum producing capacity in Japan. It was suggested that if they would emphasize their interest in aluminum products, the matter might be handled more favorably than would an interest in aluminum ingots. In any event, it was suggested to them that any contracts which they might develop for obtaining either aluminum or aluminum products should guarantee that under no circumstances would the operation of the contract delay to any significant degree reparations removals of aluminum producing capacity once a policy determination is crystallized respecting the amount of aluminum capacity which Japan may retain and the capacity which must be made available for reparation removals. The position expressed above to the Permanente representative was discussed with Messrs. Dean Bowman and Burr Smith of OE of your Department who indicated general agreement with the position as stated.

We have as yet received no reports from SCAP concerning the results of the discussions in Japan with Reynolds and Permanente representatives. In addition, we have been withholding consideration of and reply to SCAP's recent proposal for the production of 20,000 tons of aluminum ingots in 1948 against minimum yearly needs of the Japanese economy of 15,000 metric tons of aluminum products. The views of SCAP may have changed as a result of the Reynolds and Permanente discussions. Consequently we are asking SCAP to report on the status of his proposal and to comment on the discussions with Reynolds and Permanente. When a reply has been received we may be in a better position to discuss the points mentioned in your letter.

It is believed that SCAP is thoroughly acquainted with outstanding directives and with the terms of United States policy as adopted by SWNCC and SANACC, as well as with the course of negotiations in the Far Eastern Commission as reflected in the various reports and minutes of committee meetings published by the FEC. It would seem unnecessary at this time, therefore, to send to SCAP the specific terms of the reservations contained in your letter. In any case, it would seem sufficient that arrangements made for production of aluminum or aluminum products for export assure that reparations removals of aluminum capacity would not be unduly delayed by the operation of such arrangements, and, of course, the Departments of State and Army be dept informed of developments. If, however, you feel that SCAP is not familiar with all directives and other pertinent materials pertaining to the retention and operation of aluminum production capacity in Japan so that additional information should be furnished to SCAP, the Civil Affairs Division will collaborate with your representatives in preparing a suitable communication to SCAP.

Sincerely yours,

/s/ William H. Draper, Jr.

William H. Draper, Jr.
Under Secretary of the Army

THE FOREIGN SERVICE
OF THE
UNITED STATES OF AMERICA

Office of the U. S. Political Adviser
for Japan

Tokyo, June 10, 1949.

No. 370

Action Assigned to ------
Action Taken ----------
No reply
Date of Action 6 Jun 49
Action Office Symbol
Name of Officer ----------
Direction to DC/R file.

UNCLASSIFIED

REC'D
JUN 17

ACTION
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Subject: Information on Production of Ferroalloys in Japan.

The Chargé d'Affaires ad interim has the honor to report that under date of May 20, 1949, the Norwegian Diplomatic Mission, Tokyo, requested General Headquarters, Supreme Commander for the Allied Powers, to supply information on the following points regarding ferroalloys in Japan: (1) total productive capacity; (2) actual production; (3) types of ferroalloys produced, and (4) production and export prices. The Norwegian Mission also expressed a desire to obtain "any information with regard to the future prospect of the ferroalloy metallurgy of Japan."

The Industry Division of the Economic and Scientific Section, General Headquarters, under date of June 1, 1949, informed the Norwegian Mission that present annual productive capacity in Japan for ferroalloys was as follows:

Ferroalloy	Metric Tons
Ferro Manganese (high carbon)	37,700
" " (low carbon)	2,680
Ferro Silicon	21,750
Ferro Chromium (high carbon)	8,460
" " (low carbon)	2,800
Silico Manganese	2,940
Ferro Tungsten	1,425
Ferro Phosphorus	700
Ferro Molybdenum	325
Ferro Titanium	300

The Industry Division transmitted data to the Norwegian Mission covering actual production of these ferroalloys for the years 1935 to 1948 inclusive; these figures are presented in the enclosed statement. It is obvious that these figures are in metric tons.

With respect to current export prices for Japanese ferroalloys, the Industry Division quoted representative prices which it stated were not firm and which were subject to change with or without notice. As of possible interest, however, these prices are quoted herewith:

UNCLASSIFIED

ACTION COPY RETURN TO DC/R FILES WITHIN 14 DAYS, WITH A NOTATION OF ACTION TAKEN.

ferro silicon, $0.11 per pound contained Si; ferro chromium, high carbon, $0.13 per pound contained Cr, and for ferro chromium, low carbon $0.13 to $0.18 per pound contained Cr; ferro tungsten, $1.10 to $1.40 per pound contained W; ferro molybdenum, $0.42 per pound contained Mo.

It will be noted that no information was transmitted with respect to the future prospect of the ferroalloy metallurgy of Japan, as requested by the Norwegian Mission.

Enclosure:

Statement showing annual production in Japan of Ferroalloys.

Parchment Mat to the Department.

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CHBoehringer:lee

UNCLASSIFIED

Enclosure No. 1 to Despatch No. 370 of June 10, 1949 from the Office of the U. S. Political Adviser for Japan, Tokyo, on the subject "Information on Production of Ferroalloys in Japan".

(COPY)

YEAR	Fe-Mn	Si-Mn	Fe-Si	Fe-Cr	Fe-W	Fe-Mo	Others	Total
1935	34,710		15,571	4,078	272	188	556	55,375
1936	38,695		15,313	6,424	447	199	242	61,320
1937	58,432		11,632	8,597	804	285	435	80,185
1938	70,304		20,513	15,141	1,479	672	311	108,420
1939	67,742		30,035	13,966	2,499	1,415	562	116,219
1940	70,728	10,440	36,877	14,716	3,274	1,802	5,681	143,518
1941	51,323	17,230	33,388	21,222	2,969	988	6,038	133,158
1942	67,878	18,823	25,741	21,664	2,152	546	5,445	142,249
1943	55,283	7,864	23,491	31,832	3,256	365	1,722	123,813
1944	44,533	12,733	30,578	19,998	1,567	337	2,502	112,288
1945	13,004	N.A.	4,551	3,002	19	65	214	20,855
1946	4,817	1,261	5,758	N.A.	N.A.	N.A.	1,558	13,394
1947	7,327	20	3,399	89	111	2	1,095	12,043
1948	18,448	557	7,564	148	356	0	1,057	28,130

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57

Letter of August 8, 1949

From Assistant Chief of Staff, A-2
Headquarters
Far East Air Forces
APO 925

(1)

Regarding - Availability of titantium in Japan

X 032208

SECRET

ASSISTANT CHIEF OF STAFF, A-2

HEADQUARTERS
FAR EAST AIR FORCES
APO 925

8 August 1949

AIR-2

SUBJECT: Special Request for Information

TO : Headquarters
United States Air Force
Washington 25, D.C

Attention: Director of Intelligence

1. Reference to AMC-1087 from USAF Director of Intelligence dated 17 June 1949 attached are inclosures with information collected to date.

2. Further information is anticipated and will be forwarded promptly.

3. The Guam area reports met with negative results.

4. Since all information was collected from technical sources it is believed to be A-1.

FOR THE ASSISTANT CHIEF OF STAFF, A-2:

B. J. McKINNIS
Major, USAF
Acting, Chief AIR Section

4 Incls:
Incl #1, 1st Ind from
Fifth Air Force.
Incl #2, Letter from
Fifth Air Force.
Incl #3, Information
on Titanium Ore from
Confidential Source.
Incl #4, Box containing
3 samples. Package #1
Sample Slag pile. Package
#2 Sample Iron Sand, Package
#3 Sample TiO_2.

SECRET

SECRET

BASIC: Ltr, Hqs, FEAF, APO 925, dtd 11 Jul 49, subj: "Specific Request for Information Titanium Developments SR No. 3."

1st Ind

A-2, HEADQUARTERS, FIFTH AIR FORCE, APO 710, 22 July 1949

TO: Headquarters, Far East Air Forces, APO 925
ATTENTION: Assistant Chief of Staff, A-2

1. The following information was received through the Economics Section of the Tokai-Hokuriku Civil Affairs Region which consists of Aichi, Shizuoka, Mie, Gifu, and Fukue Prefectures. According to Major Burns, OIC, this Section, the information was derived from a usually reliable source and is probably true.

a. Titanium is not found in the Tokai-Hokurika area.

b. There is no refining factory in this area.

c. Hokkaido, Tohoku, and Kyushu areas produce a small quantity of titanium.

d. It is contained in sand-iron-ore as an impurity and can be extracted.

e. Titanium oxide can be extracted from ore by using sulphuric acid. A few plants producing titanium oxide are located in Osaka and Sendai.

f. In this area the Nippon Koshuha Jukogyo KK, located in Toyama, attempted to produce titanium but discontinued due to lack of funds.

g. There is a plant in Osaka (name unknown) that is said to be producing metallic titanium.

h. During the war the Nissan Chemical Co. in Toyama produced titanium as a by-product from alumium ore.

g. There is said to be a slag pile in Toyama containing titanium. A representative from Civil Affairs is going to check on this information on his next trip to that area and give this Division a report on what he finds.

FOR THE AC OF AS-2

O'WIGHTON D. SIMPSON
Lt Colonel, USAF
Deputy A/CAS-2

Incl #1

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NF 948727 06467 10863

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HEADQUARTERS
FIFTH AIR FORCE
Office of the AC of S, A-2
APO 710

SECRET
Per Authority
Commanding General
FAF, APO 710
Date Initials
2 August 1949

350.09

SUBJECT: Information on Titanium

TO: Assistant Chief of Staff A-2
Far East Air Forces
APO 925
Attn: SR No 3

1. In reference to our 1st Indorsement, dated 22 July 1949, to letter, your Headquarters, subj: "Request for Information Titanium Developments SR No 3", dated 11 July 1949, the following additional information is submitted.

2. This information was received from a civilian employee of the local Civil Affairs Team who recently returned from an inspection trip to the Toyama area, and is as follows:

a. There is a slag pile located at Shimminato (36°46N - 137° 06E) which is owned by the Japan High Frequency Heavy Industry Company, Limited (Nippon Koshuba Jukogyu K. K.). The pile is estimated to be from 50,000 to 100,000 tons. It is difficult to estimate exact tonnage as some of it is below the surface, however, there is more than 50,000 tons. It is a product of low carbon iron and none of it is being used, and none is being sold, according to the owners.

b. This company is said to be experimenting with the making of rayon, paper, and paint with Titanium.

c. According to figures furnished by the company the following is an analysis of subject slag pile:

25 - 30%	TiO_2
7 - 13%	Fe
3 - 8%	CaO
About 10%	AL_2O_3
About 5%	MgO
20 to 30%	SiO_2
Under 1%	MnO
0.5-0.7%	V_2O_3
0.08%	P
0.2 %	S

Incl #2

Incl 2
AF 948773-3

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SECRET

BASIC: Ltr, Hq FAF, AC of S,A-2, APO 710; dtd 2 Aug 49, subj: "Information on Titanium"

3. There is attached a sample of the slag pile and samples of both Iron Sand and Titanium which were brought back from Shimminato by the representative from Civil Affairs who furnished the above information. The Iron Sand is said to have come from Hokkaido, near the town of Muroran (42°18N140°58E).

3 Incls
1. Sample Slag Pile
2. Sample Iron Sand
3. Sample TiO_2

J. W. BAYLOR
Colonel, USAF
AC of S, A-2

2 94877-4

11455

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SECRET

TITANIUM ORE

1. Metallic element - chemically refined from titanium sand ore.

2. Sand Zones: Coast of Soma-Gun Fukushima Prefecture
Coast of Minoto-Gun Aomori Prefecture
Coast of Kamikita-Gun Aomori Prefecture
Coast of Tsunabashiri-Gun Hokkaido
Mountain of Izumo-Gun Shimane Prefecture.
The sand ore is only 18 to 38% pure and not of top quality. Most of titanium used in Japan in past was imported from Malay States and India. Estimated imports for 1949 equals 4,000 tons.

3. Titanium is used in Oxidized form for paints, frosting, and bleaching of silk fibers. It is also used for welding rods. Combined with iron it makes a special strategic steel - this is not presently being done. Report will be furnished on this process.

4. Titanium Refining Companies:
Fukushima Prefecture
Takachiho Kogyo K.K.
Nippon Satesu Kogyo K.K.
Hokkaido:
Sankyo Titan Co. Ltd.
Hokkaido Titan Mining Co. Ltd.

5. Titanium is controlled by the Mining Bureau, Department of Resources, Commerce and Industry Ministry. Extraction rights are granted as mining concessions to companies approved by the bureau of mines.

6. Actual refining processes are secret with each individual company - We will attempt to secure them.

7. Current imported price at Kobe is $22 to $23 per ton (ore).

8. No estimate made of ore in Japan - very large amount.
Will try to get this.

SOURCE: Confidential.

Incl #3

Incl 3
NF 94877-5

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Lot 55-D-370

THIS DOCUMENT CONSISTS OF 1 PAGES,
COPY NO. 3 OF 5 SERIES A

File

N.C.

DEPARTMENT OF STATE

Memorandum of Conversation

DATE: September 16, 1948

SUBJECT: **Lot of Uranium Oxide Impounded by SCAP in Japan.**

PARTICIPANTS: **Colonel Lawler, Department of the Army,**
Colonel Allen, SCAP Headquarters,
C. A. Wendel - U
Mr. Lewis - O

COPIES TO: **Mr. Hall, AEC**
Mr. Lewis, O
General Snow, L/P

ero 1—1493

It was the view of Colonel Allen that to expedite release of the uranium oxide to the Japanese industry would jeopardize the security covering the movement of the large stocks of radioactive materials to the United States and that there was apparently no administrative problem in continuing to hold this specific lot in central impoundment. It was agreed that (1) no cable should be sent to SCAP at this time; (2) Colonel Allen would discuss the matter with his colleagues in Japan upon his return three weeks hence; and (3) SCAP would probably subsequently send a message to the Army indicating that there was no need of altering the status quo with regard to the subject lot of material.

894.6359/9-1548

TOP SECRET FILE

894.6359/9-1548

U:CAWendel:nrs:rkr

3036

File

DEPARTMENT OF STATE
WASHINGTON 25, D.C.

Receipt of Classified Material

To: **O - Mr. Lewis**

From: **U - Mr. Arneson**

Date: **September 20, 1948**

Description

TS Memorandum of Conversation, September 16, 1948.
(Copy 3A)

I have personally received the material described above and accept full responsibility for its safe handling, storage, and transmittal elsewhere in accordance with existing regulations.

Date 9/20/48 Signed G Lewis

Please return signed original receipt to
R. Gordon Arneson
Office of the Under Secretary
Department of State
Room 5114 New State Building

3036

DEPARTMENT OF THE ARMY
STAFF MESSAGE CENTER
OUTGOING CLASSIFIED MESSAGE

D [illegible] file

There is one to be crossed off. YCA

SECRET

PARAPHRASE NOT REQUIRED

Civil Affairs Division
Col Keating (Keyes State)
3830

1

TO: SCAP

Nr: WAR 81765 24 December 1948

From CSCAD cite ECON. Metals held by SCAP in Japan is subj.

Atomic Energy Commission interested in ascertaining whether SCAP holds any stocks of beryl ore, beryllium compounds or beryllium metal discovered in Japan after occupation. If so, request you report all pertinent avail info including quantity, chemical analysis, location ownership status.

XR 103 atomic

DCR - [illegible] Unit
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Rev. acp
Cat.
Dist.

ORIGINATOR: CAD

DISTRIBUTION: CAD (STATE), OUS

CM OUT 81765 (Dec 48) DTG: 241852Z ej

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COPY NO.

THE MAKING OF AN EXACT COPY OF THIS MESSAGE IS FORBIDDEN

16—53736-1

Dec. 16, 1948

Executive Officer, Civil Affairs Division
Department of the Army
O - A. L. Keyes

Draft Cable to SCAP - Metals in Japan.

Attached is a proposed cable to SCAP, requesting information concerning stocks of beryllium, which is requested by the Atomic Energy Commission.

Will you please obtain all of the necessary concurrences and call me on Extension 2235.

Attachment.

O:ALKeyes:fa

Dispatched as Cm Out 81765, 24 Dec.

SECRET FILE

FW 894.6 359/12-1448

SECRET

SCAP,
Tokyo.

Action

PO;OUSA; CAD; State

From CS/CAD Cite ECON

Metals held by SCAP in Japan is subject.

Atomic Energy Commission interested in ascertaining whether SCAP holds any stocks of beryl ore, beryllium compounds or beryllium metal discovered in Japan after occupation. If so, request you report all pertinent available info including quantity, chemical analysis, location and ownership status.

END

O:ALKeyes:fa
12/16/48

FW894.6359/12-2448

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THIS DOCUMENT CONSISTS OF 1 PAGES,
COPY NO. 1 OF 3 SERIES A

DEPARTMENT OF STATE

THE UNDER SECRETARY

December 15, 1948

SECRET

O - Mr. Alexander Keyes

Reference our telephone conversation today, I would appreciate your requesting the Department of Army to transmit a cable to SCAP in Japan along the following lines:

"Atomic Energy Commission interested in ascertaining whether SCAP holds any stocks of beryl ore, beryllium compounds or beryllium metal discovered in Japan after occupation. If so, request you report all pertinent available info including quantity, chemical analysis, location and ownership status."

C. A. Wendel
C. A. Wendel

Bibb O.K.

FW 894.6359/12-2448

SECRET FILE

0-2511

SECRET

DEPARTMENT OF STATE
WASHINGTON 25, D.C.

Receipt of Classified Material

To: **O - Mr. Alexander Keyes**

From: **U - Mr. C. A. Wendel**

Date: **December 16, 1948**

Description

S Memo to Mr. Keyes from Mr. Wendel, Dec. 15, 1948, (copy 1A).

I have personally received the material described above and accept full responsibility for its safe handling, storage, and transmittal elsewhere in accordance with existing regulations.

Date _____ Signed _____

Please return signed original receipt to
R. Gordon Arneson
Office of the Under Secretary
Department of State
Room 5114 New State Building

DO NOT DETACH THIS FORM

RECORD COPY

894.6359/12-1849 (REC'D.) LJ

FILE NO. TEL. C 54034 FROM TOKYO

(ARMY MESSAGE)

THE ATTACHED COPY OF A ☐ DESPATCH ☐ TELEGRAM ☐ AIRGRAM HAS BEEN DESIGNATED THE RECORD COPY TO REPLACE THE ORIGINAL ACTION COPY WHICH WAS NOT RETURNED TO THE CENTRAL RECORDS BY THE ACTION OFFICE.

THIS COPY MUST BE RETURNED TO DC/R FOR FILING.

M-184
11-9-48

INCOMING TELEGRAM

DEPARTMENT OF STATE—DIVISION OF COMMUNICATIONS AND RECORDS

TELEGRAPH BRANCH

17

RESTRICTED

A

Action: ITP
Info:
FE
CLI
DCR

1949 DEC 19 PM 12 09

Control 7402

Rec'd December 18, 1949
10:41 p.m.

FROM: Tokyo

TO: Secretary of State

NO: C 54034 (190141Z - Army Message)

FROM SCAP TOKYO TO CSUSA, AND DEPARTMENT OF STATE.

1. Re Hong Kong message (via State DTG 062234Z December 1949).

Hainan iron ore is subject.

Contract J I 20145 between E. Ott Company and Japanese Ministry of International Trade and Industry for 100,000 long tons will not be renewed at its expiration 31 January 1950.

2. Due to unsettled conditions in and near China, Ministry of International Trade and Industry will only consider future Hainan iron ore purchases on a ship by ship basis.

AGA:JP

894.6 PS-9/12-1849 Rec'd

DOE - IEP Unit
Anal. WSS
Rev.
Cat. PW
Dist.

RESTRICTED

INFORMATION COPY