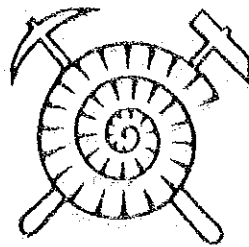


< 資 料 5 >

国営鉱山企業 ( ANEKA TAMBANG ) 紹介用パンフレット



# ANEKA TAMBANG.



24 JALAN BUNGUR BESAR  
PHONE. 410108  
JAKARTA

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## I. PT ANEKA TAMBANG

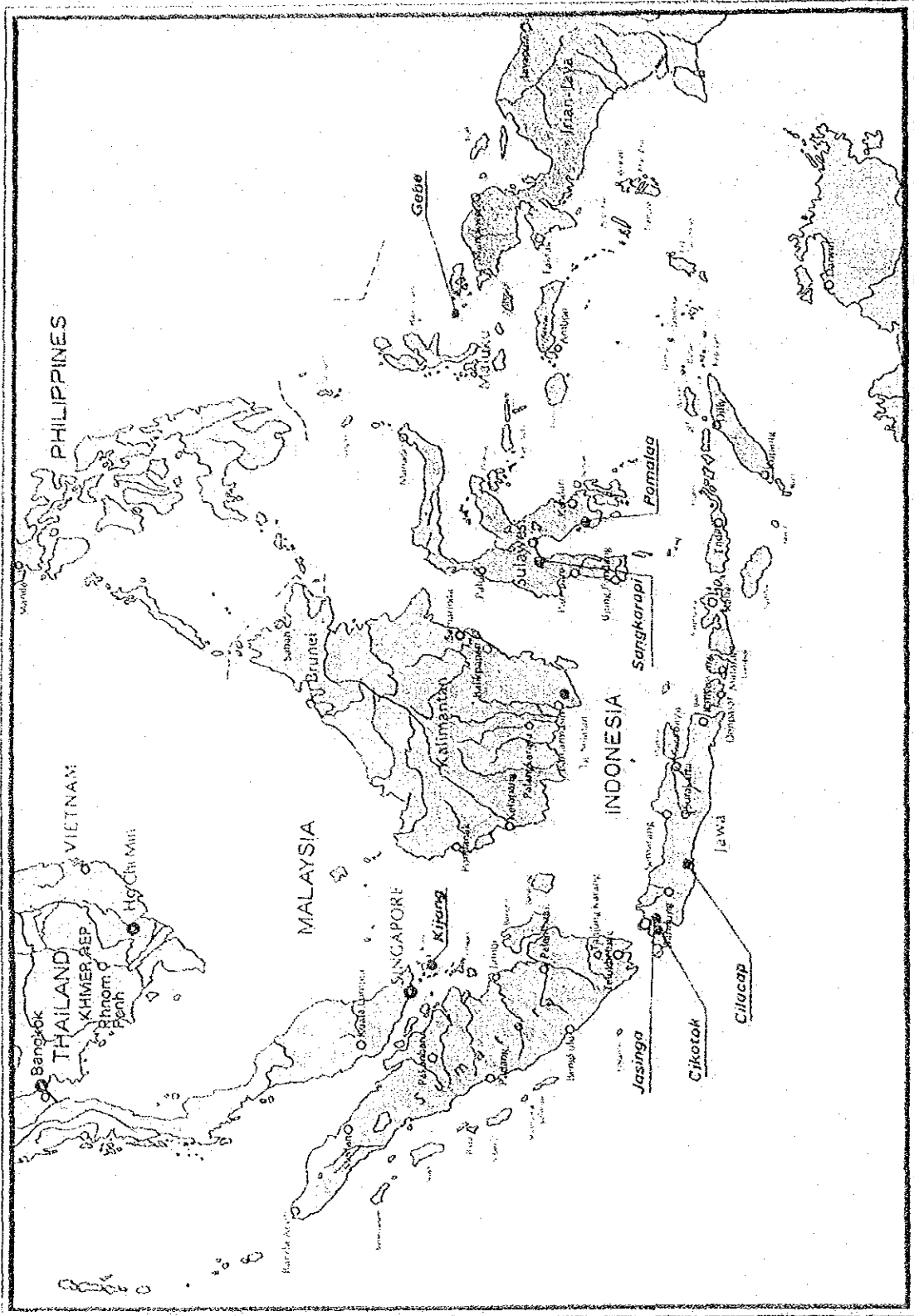
PT ANEKA TAMBANG (PERSERO) was established on December 30, 1974, based on Government Regulation No. 26/1974, which change its status from a PN into a PT (PERSERO) type state owned enterprise. As a PN, ANEKA TAMBANG, had been in existence since July 5, 1968 when Government Regulation No. 22/1968 declared the merging of :

1. BPU Perusahaan-perusahaan Tambang Umum Negara;  
(Management Board of State Enterprises for General Mining)
2. PN Pertambangan Emas Cikotok;  
(State Enterprise for Cikotok Gold Mining)
3. PN Pertambangan Bauksit Kijang;  
(State Enterprise for Kijang Bauxite Mining)
4. PN Logam Mulia;  
(State Enterprise for Precious Metals)
5. PT (Negara) Pertambangan Nikel Indonesia;  
(State Enterprise for Indonesian Nickel Mining)
6. Proyek Pasirbesi Cilacap;  
(Cilacap Iron Sand Project)
7. Proyek Emas Logas;  
(Logas Gold Project), and
8. Proyek Pertambangan Intan Kalimantan Selatan;  
(South Kalimantan Diamond Mining Project)

At present PT ANEKA TAMBANG (Persero) consists of :

1. Aneka Tambang Main Office in Jakarta;
2. Nickel Mining Unit at Pomalaa (S.E. Sulawesi);
3. Nickel Mining Unit at Gebe Island (Maluku);
4. Bauxite Mining Unit at Kijang (Bintan Island, Riau);
5. Gold Mining Unit at Cikotok, Banten (West Java);
6. Processing and Refining of Precious Metals Unit in Jakarta;
7. Iron Sand Mining Unit at Cilacap (Central Java), and
8. Geology Unit in Jakarta.

LOCATION OF ANEKA TAMBANG ACTIVITIES



## II. NICKEL MINING

Nickel ore mining by ANEKA TAMBANG is at present carried out in two locations i.e. : Pomalaa, Kolaka regency, the province of South East Sulawesi, and Gebe Island, Central Halmahera regency, the province of Maluku.

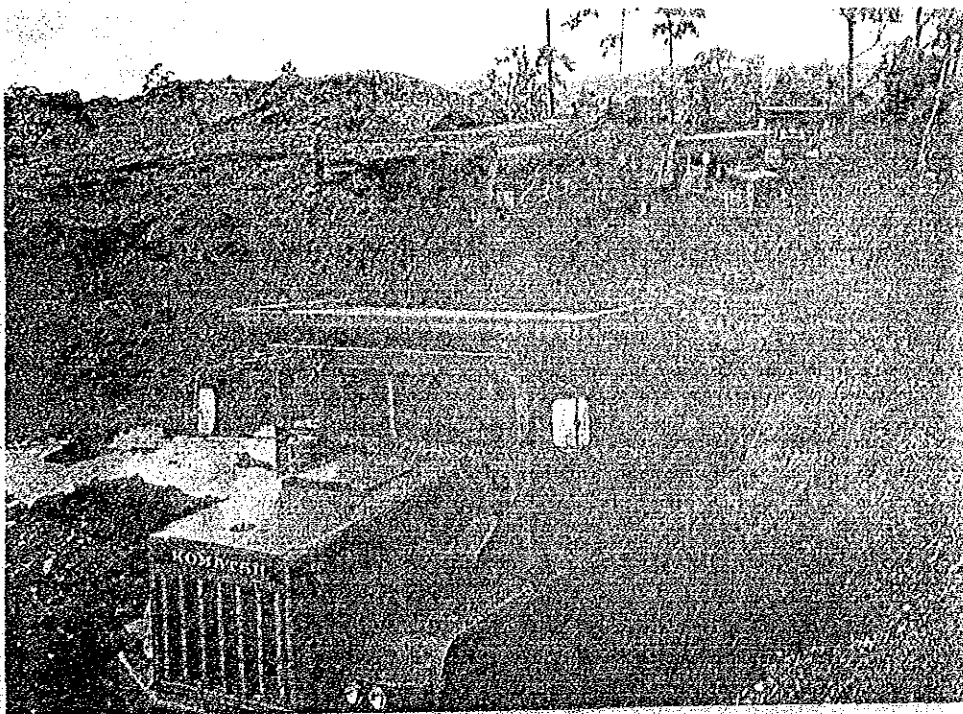
Commercial activities commenced in 1938 with small production being reported prior to the outbreak of the World War II. During the war the Japanese occupational forces continued the operation; and in fact established a smelting plant to produce nickel matte. Allied forces bombing, however, demolished the establishment and nickel mining activities at Pomalaa closed as the war ended.

Resumption of activities did not occur until 1958 when a private mining company tried to mine and export nickel ore in a primitive way.

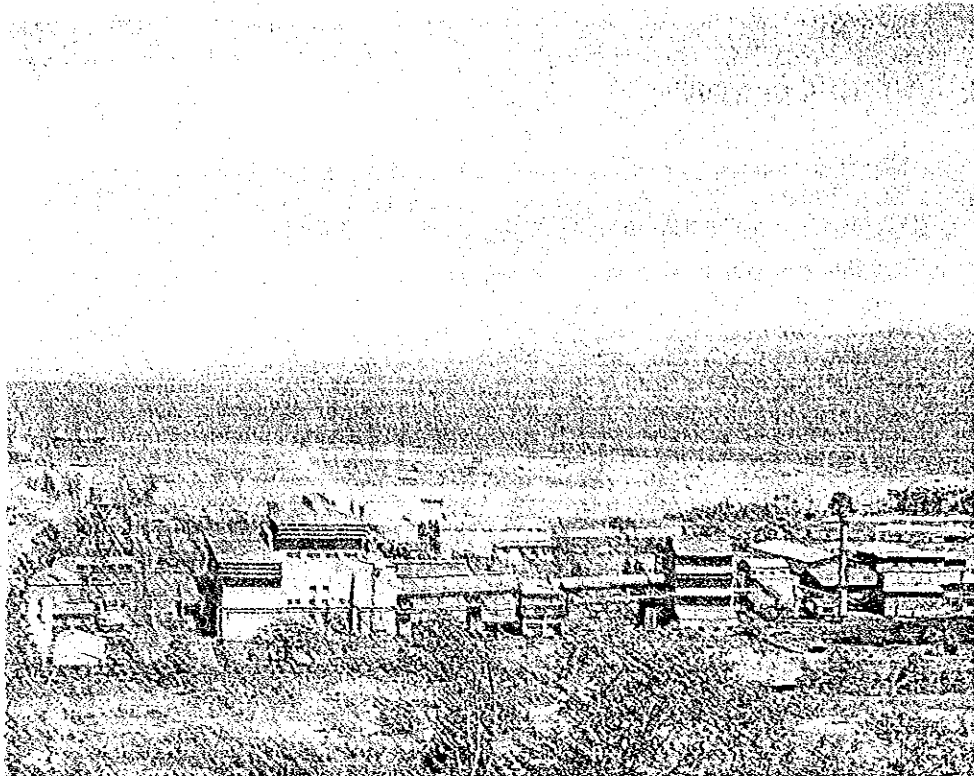
With the enactment of Law No. 37 in 1960, however, state owned enterprise was established to take over the mining venture, which later developed into significant enterprise, known as the Pomalaa Nickel Production Unit of PT Aneka Tambang.

If at the early stage high grade nickel ore only was mined and exported, in 1973 PT ANEKA TAMBANG started the construction of a ferro-nickel smelting plant to produce ferronickel from low grade nickel ore found in abundance at Pomalaa.

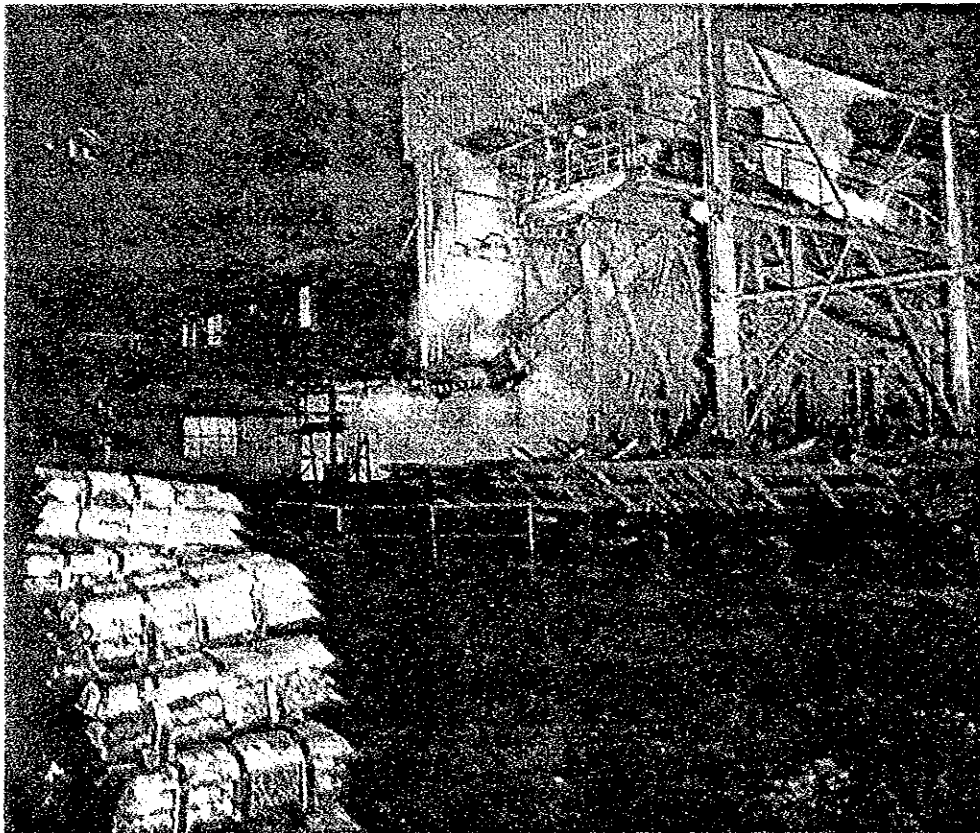
This plant was commissioned in 1976 and the product has since been exported to Japan, Europe and U.S.A. An expansion of 3 times the present capacity is now being planned; this expansion plan envisages the integration of a hydroelectric power plant at the Lower Larona River as an inexpensive and dependable energy source.



Mining of nickel ore at Pomalaa

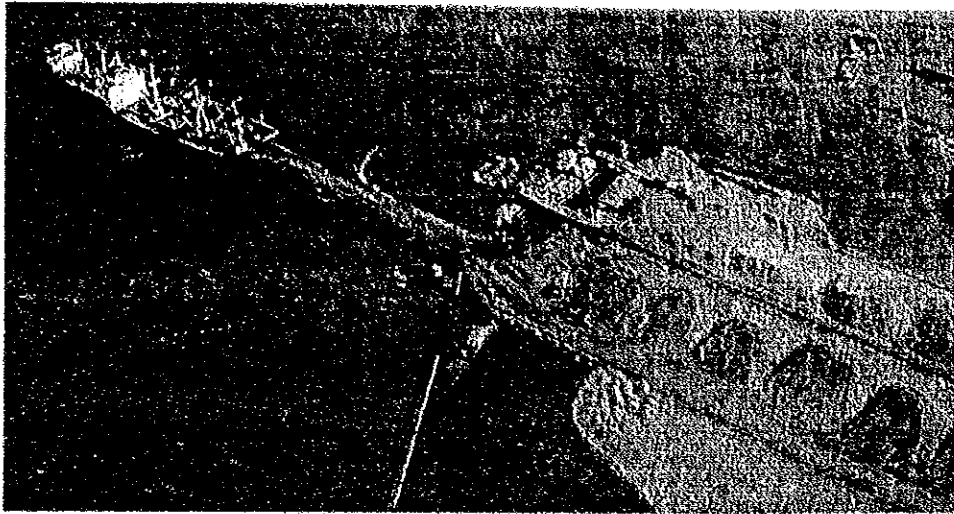


Pomalaa ferronickel plant



Ferronickel ingots at Pomalaa

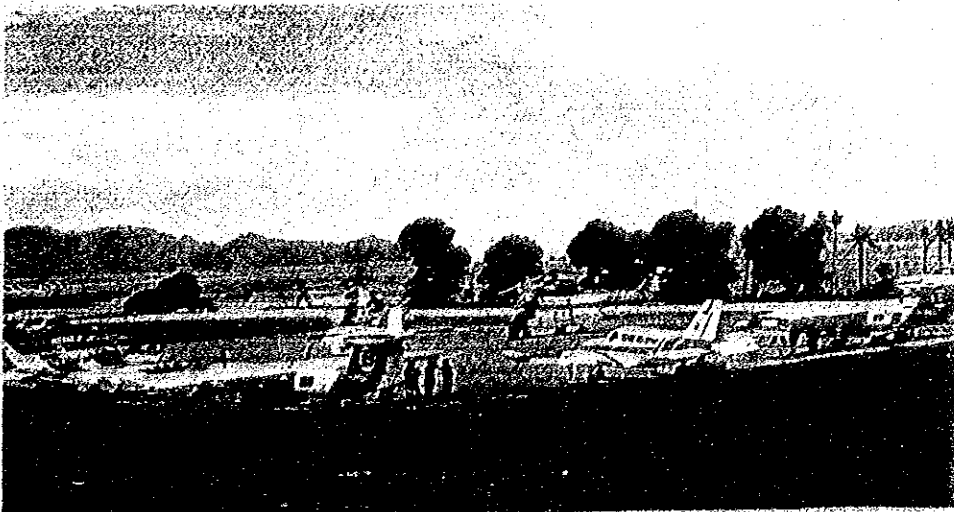




Export harbour of Pomalaa



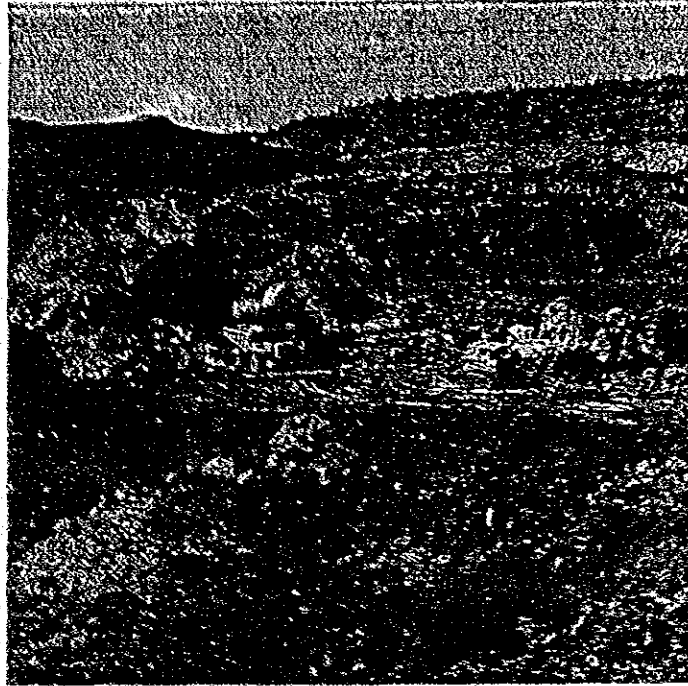
Housing complex in Pomalaa



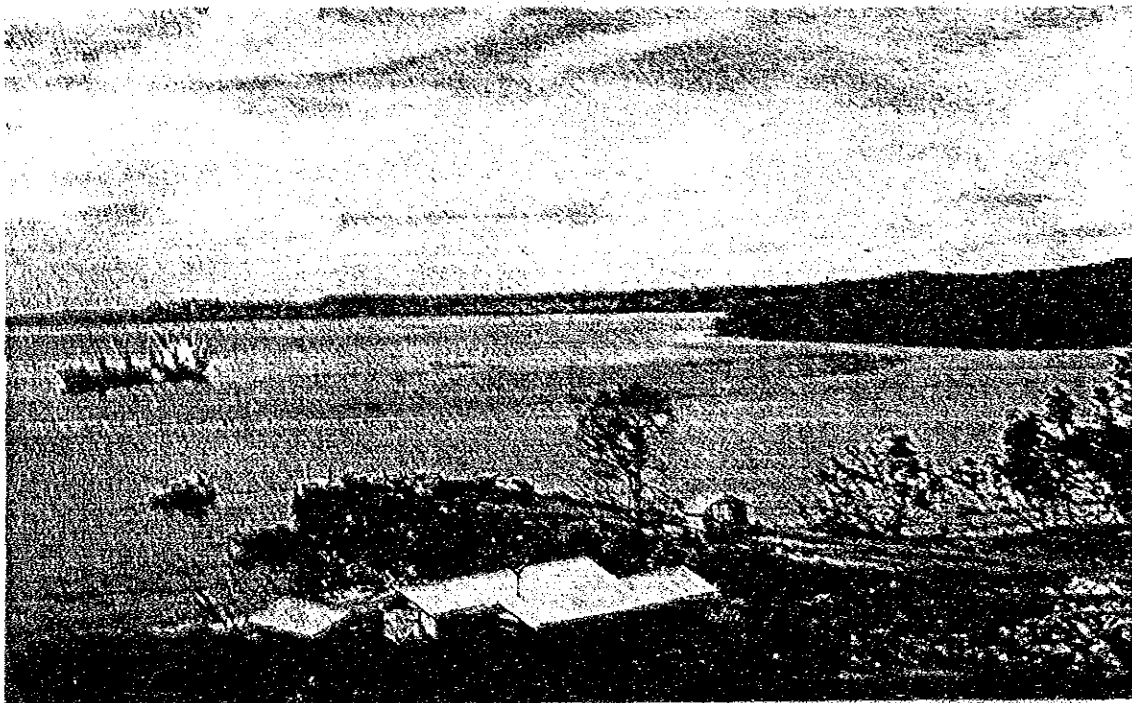
Pomalaa small airport

The production of nickel ore at Gebe Island started in April 1979; construction of the facilities on the island started in the year 1978.

Nickel ore from Gebe Island is primarily exported to Japan; some amount is shipped to Pomalaa to be blended with the lower grade Pomalaa ore used in ferronickel production.



Nickel ore mining at Gebe Island



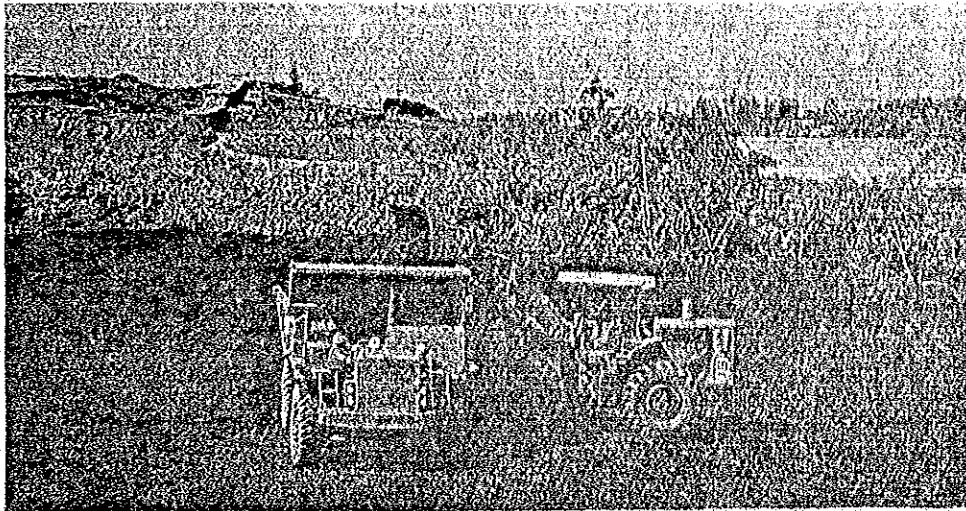
Barge loading Port

### III. BAUXITE MINING

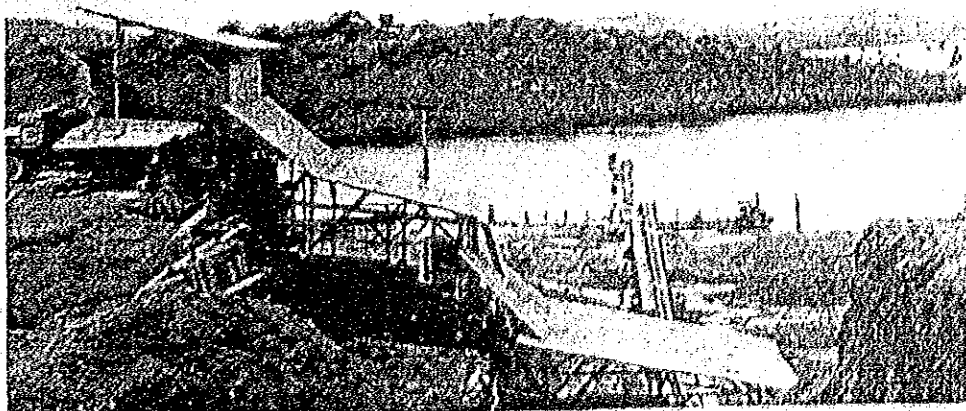
The only commercial undertaking to mine and export bauxite in Indonesia is located at Kijang, Bintan Island, in the province of Riau. Bauxite mineralization in the island was first discovered in 1924, but no commercial production was made before the year 1935, when a Dutch mining concern began to exploit the resources.

After a long period of interruption due to the outbreak of the World War II, mining activities was resumed in 1950. In 1959, however, the operation was taken over by the Government of Indonesia, and it now constitutes one of the production units of ANEKA TAMBANG.

At present mining is executed at several locations on the island of Bintan and some smaller islands surrounding Bintan. Based on a long term contract, export is directed to Japan through a mechanized port of Kijang.

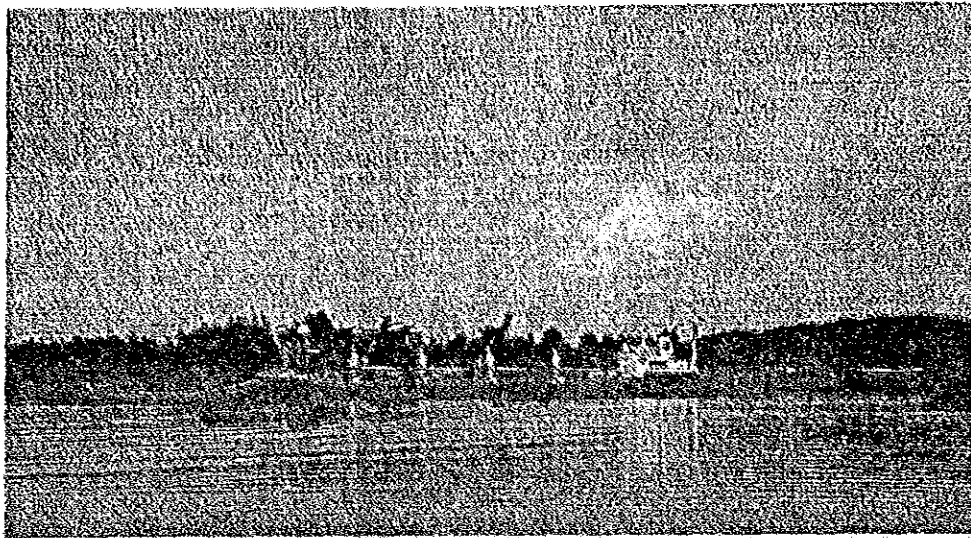


Bauxite mining at Kijang-Bintan Island

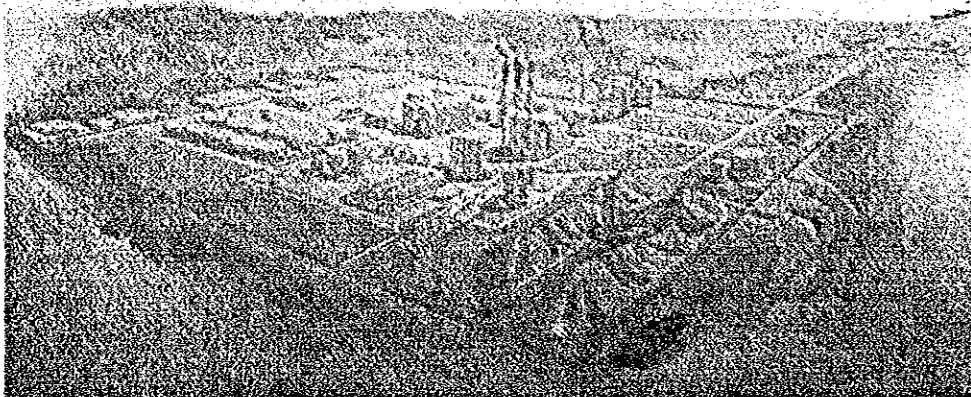


Washing of bauxite at Kijang-Bintan Island

To utilize the non-exportable but abundant low grade bauxite ore, the Government has decided to establish an alumina refinery on Bintan. The designed production capacity is 600,000 tons alumina per year, out of which 450,000 tons is geared to supply the aluminium smelting plant at Kuala Tanjung (Asahan Project), while the rest will be exported.



Loading of bauxite ore for export into a vessel



Planned alumina plant at Bintan Island

The original plan calls for the completion of the alumina refinery construction by 1987. However, due to financial difficulties this project has been rephased since May '83.

#### IV. GOLD AND SILVER MINING

The first gold discovery in the Cikotok area was made in 1930, but mining was not started until 1936, while the cyanidation plant located at Pasir Gombong was commissioned in 1939.

At present underground mining operations are done at Cirotan, Lobak Sembada, Cipicung, Pasir Ela and Ciherang, using cut-and-fill system.

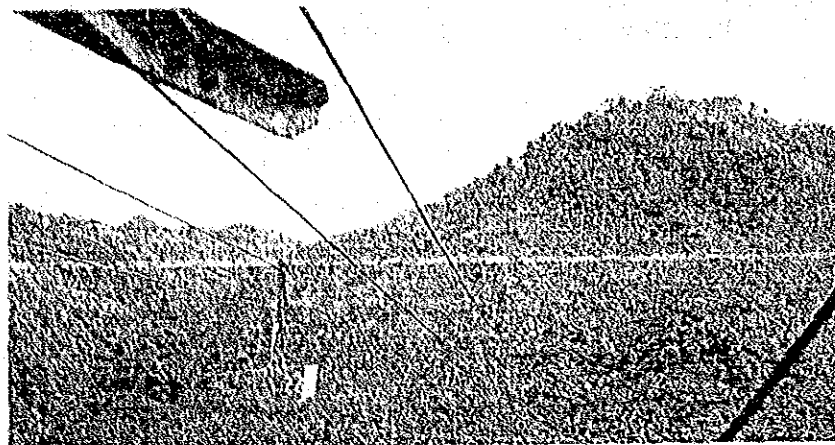
The ore produced is transported to Pasir Gombong plant by cable way, where it is subjected to cyanidation process to produce gold - silver precipitate. The tailing sand is treated by flotation process to produce lead concentrate and zinc concentrate.

The precipitate containing 1,5% gold and 18% silver is smelted and refined into pure gold and silver at the "Logam Mulia" refinery in Jakarta, whereas the zinc and lead concentrate are exported to Japan.

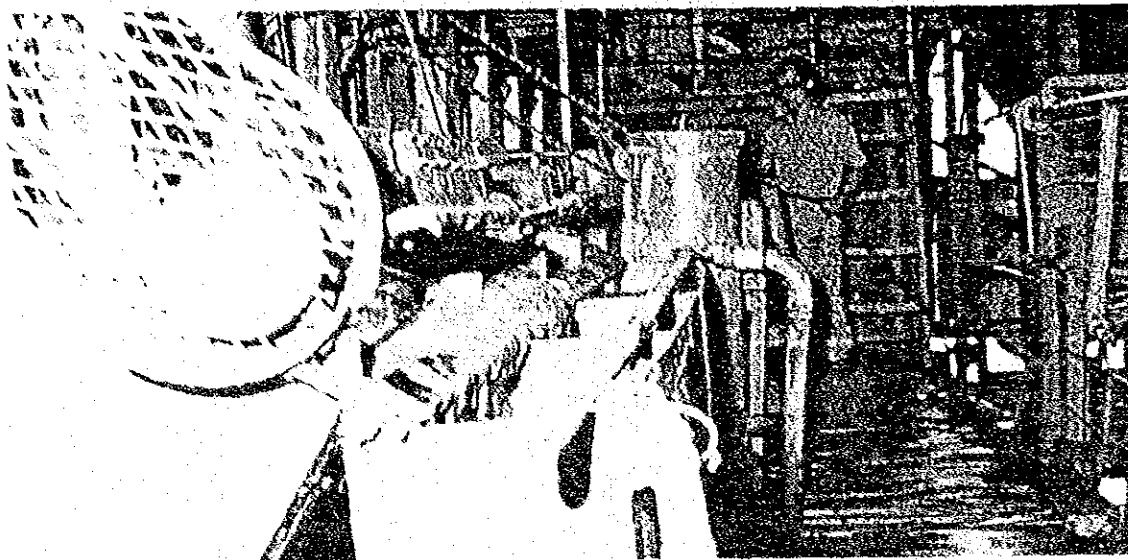


Mining of gold and silver at Cikotok.

Transportation of gold and silver ore by cable way.



Flotation unit at Pasir Gombong Plant



## V. SMELTING AND REFINING OF PRECIOUS METALS

The "Logam Mulia" refinery was established in 1930 and until now is the only authorized refining plant for gold, silver and platinum metals in Indonesia.

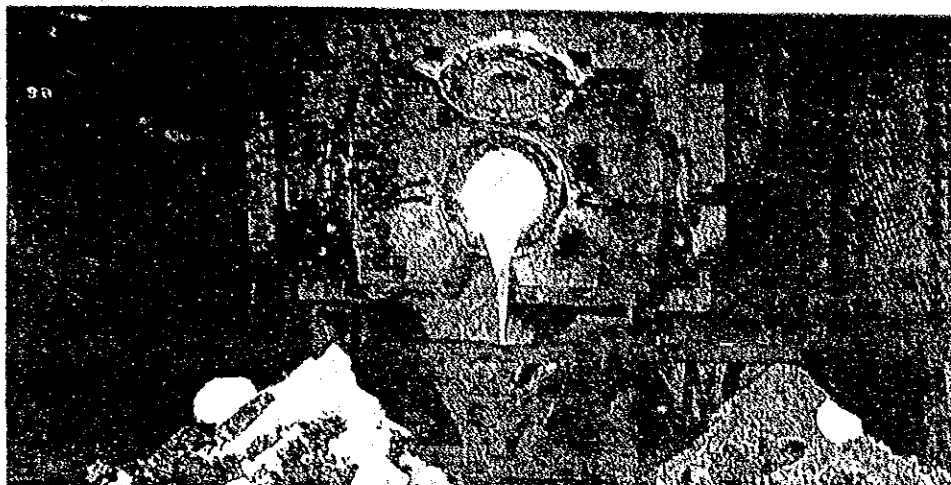
Logam Mulia activities includes refining of gold precipitates from Cikotok mine, refining of scrap bearing gold, silver and platinum from domestic sources, and manufacturing of industrial products made from precious metals as well as non precious metals such as gold and white gold of various purities for jewellery, dental casting alloy, platinum crucible, articles made of anodized aluminium, etc.

## VI. IRON SAND MINING

Mining of iron sand in the Cilacap area, Central Java, was started in 1971.

The product in the form of iron sand concentrate was exported to Japan at a rate of about 300.000 tons per annum.





Gold & silver smelting furnace at Logam Mulia



Electrolysis producing silver crystal



Casting of gold ingots

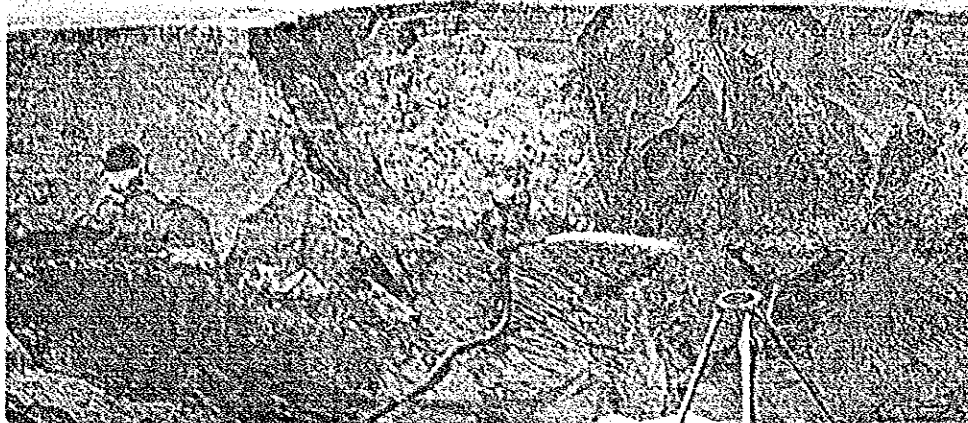
Export of this commodity started to decline in 1978 due to the declining market in Japan. Fortunately, at about the same time domestic demand was developing. The steady and fast growth of domestic cement industry, which require iron sand as additive raw material, has brightened the prospect of resuming the iron sand mining activities to the peak level in medium terms.

Iron sand mining is carried out by hydraulic mining method and concentration is done by using magnetic separators.

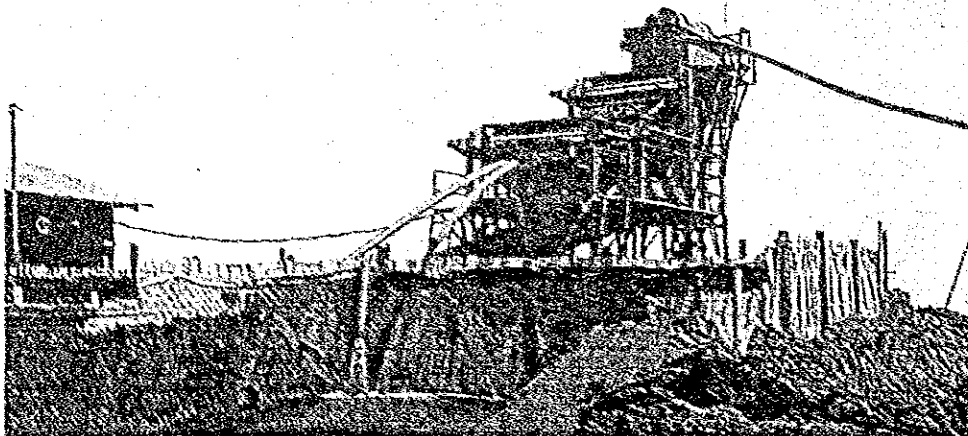
Iron sand reserve is found along the South coast of Java and the biggest reserve is located in the Jogjakarta area between Progo and Bogowonto river, South of Wates. This deposit is being studied as a possible base for a steel making complex.

## VII. DEVELOPMENT

Years of active prospecting and exploration works in various locations in Indonesia have produced promising results. Base metals like copper, lead and zinc have been



Mining of iron sand at Cilacap



Magnetic Separator



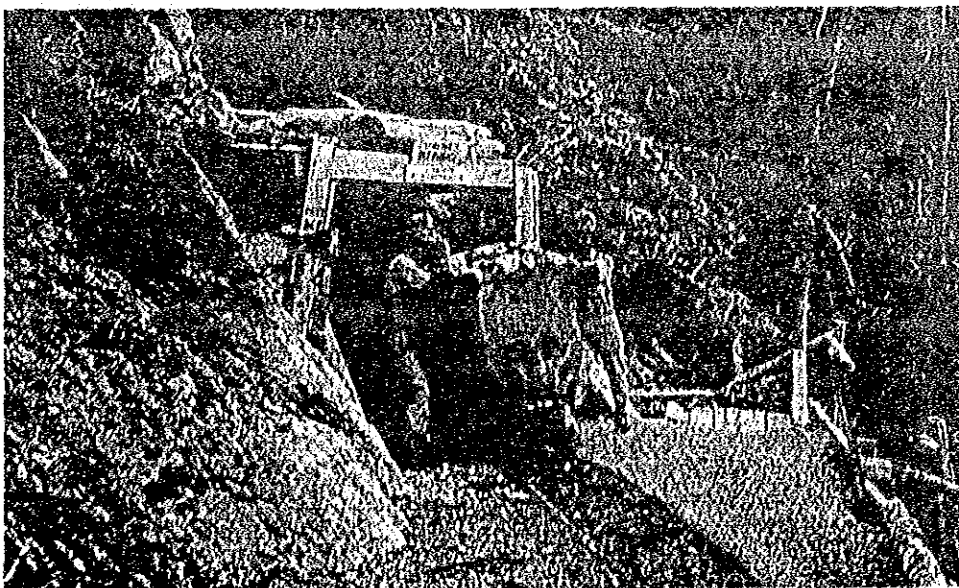
found in South Sulawesi and West Java. Among the prospects, Gunung Limbung and Jasinga areas in West Java, is considered as having potential for future economic development, and is now undergoing a thorough study.

Meanwhile, to speed up the development of mining ventures in Indonesia, joint explorations with foreign companies have also been undertaken, which hopefully would lead to a joint exploitation of our mineral resources.

At present, diamond and gold exploration activities are carried out with a number of foreign companies in West Sumatra, Central Kalimantan, and North Sulawesi.



Location of lead and zinc deposit at G. Limbung-Jasinga Bogor.



Transportation of copper ore out of an exploration tunnel Sangkaropi.

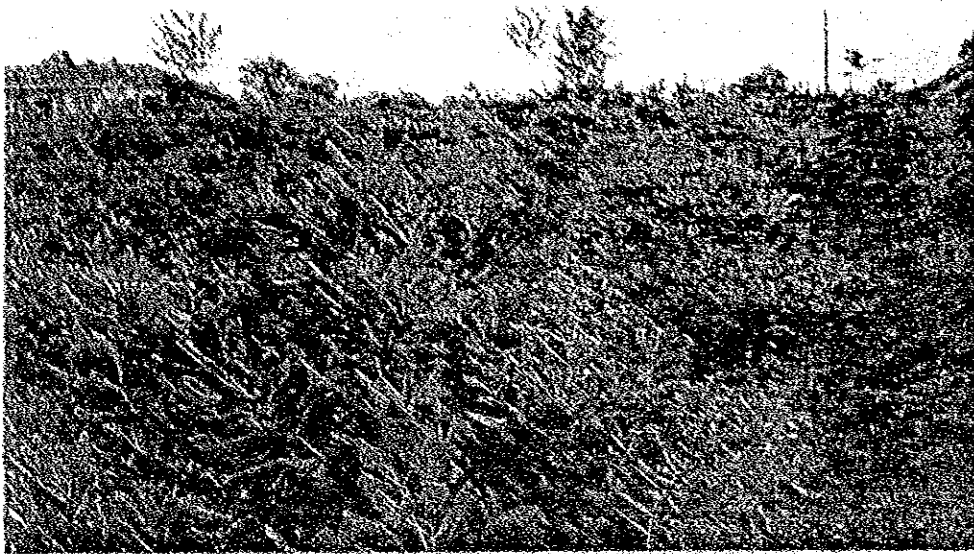
## VIII. RECLAMATION OF EXHAUSTED MINE AREAS

The environmental consciousness drive being actively campaigned by the Indonesian Government, dictates active participation of Aneka Tambang in protecting and preserving natural environment in its own operational areas.

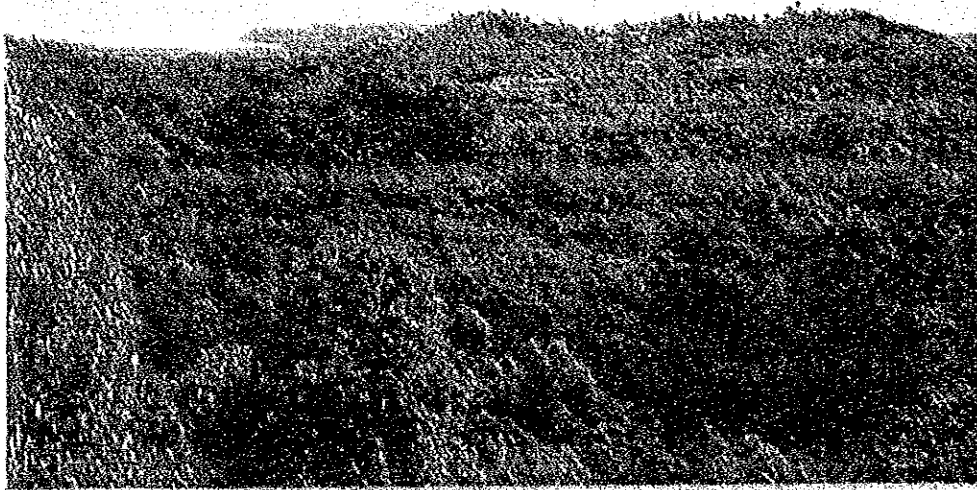
In all production Units of ANEKA TAMBANG replanting activities in the exhausted mine areas are carried out with vegetations suited to the soil conditions in each area.

In the depleted bauxite mine areas, for example, cashew nut trees have been planted successfully; exhausted nickel mine areas have been planted with acasia trees, elephant grass and coconut trees.

Replanting is not merely aimed at reclaiming but also at changing the areas into agricultural areas which can be utilized by retired employees.



Cashew nut plantation on exhausted bauxite mine at Kijang



Clove plantation at gold & silver mine location at Cikotok

IX. SALES FIGURES (1968 — 1984)

YEAR	NICKEL ORE (ton)	FERRO-NICKEL (ton Ni, in Feironickel)	BAUXITE (ton)	IRON SAND (ton)	GOLD (kg)	SILVER (kg)
1968	240,542	—	814,361	—	186	9,613
1969	299,261	—	897,016	—	257	10,590
1970	547,808	—	1,182,239	—	237	8,803
1971	819,803	—	1,237,435	242,743	330	8,876
1972	838,353	—	1,162,692	276,166	339	8,684
1973	727,904	—	1,302,161	258,990	352	9,368
1974	748,192	—	1,274,653	379,271	265	6,475
1975	849,648	—	1,031,158	309,918	321	4,758
1976	977,025	3,403	972,937	284,010	355	3,297
1977	931,964	4,596	1,193,788	257,602	256	2,832
1978	954,369	4,436	983,924	128,502	254	2,506
1979	1,114,469	3,990	1,179,144	71,741	170	1,645
1980	1,297,434	3,851	1,197,228	88,771	262	2,383
1981	1,184,938	5,117	1,090,752	112,707	179	1,932
1982	1,054,891	4,336	731,331	118,431	222	3,052
1983	737,036	5,722	847,409	132,608	259	1,793
1984	829,979	4,910	991,702	124,700	234	1,777

## X. PERSONNEL AND WELFARE OF EMPLOYEES

The number of personnel employed by ANEKA TAMBANG as of 31 December 1984, is as follows :

1. Main Office	: 442 persons
2. Bauxite Mining Unit	: 1,030 persons
3. Nickel Mining Unit Pomalaa	: 2,046 persons
4. Cikotok Gold Mining Unit	: 958 persons
5. Logam, Mulia Processing and Refining Unit	: 161 persons
6. Cilacap Iron Sand Mining Unit	: 199 persons
7. Nickel Mining Unit Gebe	: 851 persons
8. Geology Unit	: 152 persons
9. Gold Exploration Project Kalimantan	: 17 persons
10. Copper Exploration Project Sangkaropi	: 36 persons
11. Aneka Tambang Representative Ujung Pandang	: 52 persons
12. Aneka Tambang Representative Tokyo	: 2 persons
TOTAL	: 5,946 persons



Housing complex of Nickel Mining Unit in Gebe Island



Primary school at Nickel Mining Unit in Gebe Island

In keeping with its social function, the welfare of employees and their families is among the priority list of the management process.

In most production Units, aside from housing, the company provides facilities such as religious services, hospitals, schools, recreational and sport facilities.

These facilities also serve the surrounding community. In addition the company also participate in the Government's program of electrification of villages.

< 資 料 6 >

国立研究科学技術センター (PUSPIPTEK) における  
国際協力の現状



インドネシア共和国 国立研究科学技術センター (PUSPIPTEK) における国際協力の現状  
 National Center for Research, Science and Technology (PUSPIPTEK), Serpong

No	施設				建設の現状				国際協力の現状															
	研究所名	略称	所属	調査	概念設計	施工準備	建設中	完成 (建設中)	ローン	グラント	建物	ローン	グラント	機材	ローン	グラント	研修員受入れ	ローン	グラント	専門家派遣	ローン	グラント	協力内容	
1	材料力学研究所	LUK	BPPT					○	-	-	-	-	-	-	-	西独	-	-	-	西独	-	-	-	-
2	エネルギー研究所 (バンコ設)	LSDE	BPPT					○	-	-	-	-	-	独 西 ア メ リ カ	-	独 ア メ リ カ	-	-	-	西 ア メ リ カ	-	-	-	-
3	空気の力学研究所	LAGG	BPPT				○		-	-	-	-	-	-	-	オランダ	-	-	-	オランダ	-	-	-	西独
4	熱力学研究所	LTMP	BPPT	○					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	フランス
5	プロセス工学研究所	LTP	BPPT	○					-	-	-	-	-	-	-	フランス	-	-	-	フランス	-	-	-	アメリカ
6	防災気象研究所	LMBA	BPPT	○					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	計量研究所 (新設)	KIM	LIPI					○	-	-	-	-	-	西 独	-	西 独	-	-	-	西 独	-	-	-	-
8	応用物理研究所	LFN	LIPI					○	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	応用化学研究所	LKN	LIPI					○	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	エレクトロニクス研究所	LET	LIPI				○		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	フランス
11	冶金研究所	LMN	LIPI	○					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	多目的研究原子炉	RPSG	BATAN				○		-	-	-	-	-	-	-	西 独	-	-	-	西 独	-	-	-	米 仙 米 独 加